

BID DOCUMENT

Plumbing and Electrical works for Basanti Food Court “Near Basanti Colony Flyover” in Rourkela on Percentage Rate Basis.

2021 –22



November – 2021

Rourkela Smart City Limited
1st Floor, RMC, City library Udit Nagar,
Rourkela-769012

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INVITATION FOR BIDS (IFB)
NATIONAL COMPETITIVE BIDDING



Bid Id No. RSCL/ 4228-(iv)/2021 Dt. 05.11.2021
NATIONAL COMPETITIVE BIDDING
(ELECTRICAL WORKS)

	Plumbing and electrical works for Basanti Food court “Near Basanti Colony Flyover” in Rourkela on Percentage Rate Basis.
Date of Invitation of Bid	6/11/2021
Pre- bid	15/11/2021 at 12:30 Hrs
Last date and time for receipt of bids	23/11/2021 at 17:00 Hrs
Last date of Physical Submission of Bid	26/11/2021 at 15:00 Hrs
Time and date of opening of bids	26/11/2021 at 16:00 Hrs.
Place of Sale/Receiving of bids	Online mode only
Officer inviting bids	The Chief Executive Officer, Rourkela Smart City Limited, Rourkela, Odisha
Officer of Accepting bids	The General Manager(E&T), Rourkela Smart City Limited, Rourkela, Odisha

CHECK LIST TO BE ENSURED BY THE BIDDER

S.No.	Particular	Reference to DTCN Clause	Whether		Reference to Page no.
			Yes	No	
01	Cost of tender paper Rs.6,000.00 and GST Rs.800/- (Scanned copy of financial instrument shall be furnished)	No.4 & 5(i)			
02	E.M.D /Bid Security Declaration	No.5(i) & 20			
03	Copy of valid Registration Certificate	No.5 (i) & 21			
04	Copy of PAN Card	No.5 (i) & 21			
05	Turn over certificate	No. 111 (h)			
06	No Relationship Certificate in Schedule – A	No.35			
07	Information regarding current litigation, debarring /expelling of the tender or abandonment of the work by the tenderer (Schedule-D)	No.49			
08	Affidavit (Schedule-E)	No.49			
09	Works Experience: List of projects under execution/ executed that are similar in nature to the work	Schedule-B & Schedule - C			
10	M.O.U. (Memorandum of Understanding duly notarized) with eligible registered PH contractor having valid M.V. license;	No. 8 & Schedule - J			
11	Affidavit for Eligible Class of Contractor e-mail ID & Contact no	Schedule K to Schedule-O			

CONTRACT DATA

A.GENERAL INFORMATIONS

S. No.	Item	Detail
1	Name of Work	Plumbing and electrical works for Basanti Food court “Near Basanti Colony Flyover” in Rourkela on Percentage Rate Basis.
2	Employer	Rourkela Smart City Limited
3	Employer’s Representative	The Chief Executive Officer
4	Estimated Cost	Rs.27,42,863/- (Rs. Twenty Seven Lakhs Forty Two thousand Eight hundred and Sixty Three Only)

B. BID INFORMATION

5	Intended completion period/Time	Four (4) Calendar Months
6	Last Date & time of online submission of Bid	Date: 23/11/2021. Time 17:00 hours
7	Cost of Bid Document	
	i Bank draft amount	Rs.6,000/- + Rs.800/-(GST) i.e. Rs.(6,800/-)
	ii in favour of	RSCL(Smart City Mission Grant Fund)
	iii payable at	Rourkela
8	Earnest Money Deposited	
	i In Form of Bid Security Declaration	As per Annexure-II
	ii In favour of	NA
	iii payable at	NA
	iv Type of instrument	As specified in the bid document
9	Period of submission of original Bid security Declaration and Demand draft towards cost of Bid documents in the office of the Chief Executive Officer, Rourkela Smart City Ltd, Rourkela	Date: 6/11/2021 to 23/11/2021 15:00 Hours
10	Bid validity period	90 days
11	Currency of Contract	Indian Rupee
12	Language of Contract	English
13	Retention Money	5(five)%

Instruction to Bidders (ITB) e- procurement
(Relevant clauses in the DTCN/Bid document shall be superseded)

1. NOTICE INVITING BID AND OBTAINING BID DOCUMENTS:

- 1.1. The authority belonging to the major discipline is competent to invite tender of composite bids. He will also nominate the GM (E & T), Rourkela Smart City Limited, who will deal with all matters relating to the bids in the invitation of bids.
- 1.2. For composite tender, estimated cost of each component should be clearly indicated in addition to combined estimated cost put to tender. The eligibility of bidders will correspond to the combined estimated cost of different components
- 1.3. The contractor shall comply with the provisions of the Apprentices Act 1961, and the rules / amendments issued there under from time to time. If he fails to do so, it will be considered a breach of the contract and the GM (E&T) may at his discretion Without prejudice to any other right or remedy available under law, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation of the provisions of the said Act by him.
- 1.4. The contractor shall be deemed to have satisfied himself as to the correctness and sufficiency of the Tender and of the rates and prices quoted in the Bill of Quantities, all of which shall, except in so far as it is otherwise provided in the Contract, cover all his obligations under the Contract (including those in respect of the supply of goods, materials, plant & services or of contingencies for which there is a Provisional Sum) and all matters and things necessary for the proper execution and completion of the work and the remedying of any defects therein.
- 1.5. The successful bidder shall complete the works by the intended completion date specified in the Contract data.
- 1.6. Throughout these bidding documents, the terms "bid and tender" EMD and Bid Security Declaration and their derivatives (bidder / tenderer, bidding / tendering, etc.) are synonymous.
- 1.7. In case the tender for composite work includes in addition to main work / all other ancillary works such as sanitary and water supply installations drainage installation, sculpture and mural paintings etc. , the bidder apart from being a registered Electrical Contractor of appropriate class must associate himself with agencies of appropriate class those who is eligible to tender for sanitary and water supply drainage, artistic & sculpture works in the composite tender. Intending Employers are not required to produce any documents viz. copy of Registration, PAN at the time of purchase of tender documents but will be required for verification purpose at later stage.
- 1.8. PARTICIPATING IN THE BID IN THE E-PROCUREMENT PORTAL: The Contractor/ Bidder intending to participate in the bid is required to register in the

Portal with some information about the firm/Contractor. This is a onetime activity for registering in Portal. During registration, the contractor has to attach a Digital Signature Certificate (DSC) to his / her unique user ID. The DSC used must be of appropriate class (Class II or Class III) issued from a registered Certifying Authority such as n-Code, Sify, TCS, MTNLe-Mudra etc.

- 1.8.1 To log on to the portal the Contractor/Bidder is required to type his/her username and password. The system will again ask to select the DSC and confirm it with the password of DSC. For each login, a user's DSC will be validated against its date of validity and also against the Certificate Revocation List (CRL) of respective CAs stored in system database. The system checks the unique ID, password and DSC combination and authenticates the login process for use of portal.
- 1.8.2 The tender documents uploaded by the Tender Inviting Officer in Website www.tendersodisha.gov.in, will appear in the section of “Upcoming Tender” before the due date of tender sale. Once the due date has arrived, the tender will move to “Active Tender” Section of the homepage. Only a small notification will be published in the newspaper specifying the work details along with mention of the specific website for details. The publication of the tender will be for specific period of time till the last date of submission of bids as mentioned in the ‘Invitation for Bid’ after which the same will be removed from the list of Active tenders. Any bidder can view or download the bid documents from the web site.
- 1.8.3 Contractor exempted from payment of EMD will be able to participate the tender directly by uploading documentary evidences towards his eligibility for such exemption.
- 1.8.4 If the software application has the provision of payment of cost of tender document through payment gateways of authorized bankers by directly debiting the account of the bidders, bidders will be required to avail on-line payment.
- 1.9 The bidder intending to participate in the bid on-line shall prepare the bid security declaration and demand draft towards cost of bid as per IFB (except for exempted contractors) and upload the scanned copy of the draft and bid security declaration to the portal against the bid where he is participating and the original shall be deposited to the tender inviting officer within the period specified in the “contract data”. If the Bidder fails to deposit the original bid security declaration and demand draft towards cost of bid within the stipulated time his bid shall be rejected and action as per prevailing rule shall be taken.
- 1.10 In the case of any failure, malfunction, or breakdown of the electronic system used during the e-procurement process, the tender inviting officer shall not accept any responsibility for failures or breakdowns other than in those systems strictly within their own control.
- 1.11 Any third party/company/person under a service contract for operation of e-procurement system in the State or his/their subsidiaries or their parent companies shall be ineligible to participate in the procurement processes that are undertaken through the e-procurement system irrespective of who operates the system.

2. ELIGIBLE BIDDERS:

2.1 This Bid is open to all Electrical Contractors having LT Licence holder as per OPWD Code, registered with the State Governments and Contractors of Equivalent Grade/ Class Registered with Central Government/ MES/ Railways for execution of civil works. The Bidders are required to enclose the proof of registration from the registering authority along with the Bid subject only the registration in the portal using his/her DSC for on-line bids.

Contractors not registered with Govt. of Odisha can participate in the e-procurement after necessary enrolment in the portal but have to subsequently register themselves with the appropriate registering authority of the state Govt. before award of the work as per prevalent registration norms of the state.

2.2 All bidders shall provide a statement that the bidder is neither associated, nor has been associated, directly or indirectly, with the Consultant or any other entity that has prepared the design, specifications, and other documents for the Project or being proposed as Project Manager for the Contract. A firm that has been engaged by the Engineer-in-Charge to provide consulting services for the preparation or supervision of the works, and any of its affiliates shall not be eligible to bid.

2.3 If the bidder has a relative employed as an Officer in the rank of an Assistant Engineer/Under Secretary and above in the Government of Odisha in the concerned Department, he shall inform the same in Schedule-G of the bid document mentioning the exact details in a covering letter along with the tender, failing which his bid will not be considered. Also, if the fact of relationship subsequently comes to light, his contract will be rescinded. The bid security declaration or the performance security will be forfeited, and he shall be liable to make good any loss or damage resulting from such cancellation. In case the bidder has no relationship with any of the officers mentioned above he shall have to furnish with his bid an undertaking to that effect.

2.4 He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazetted officer in the concerned Department. Any breach of this condition by the contractor would render him liable for penal action for suppression of facts.

2.5 No Engineer of gazetted rank or other gazetted officer employed in Engineering or Administrative duties in an Engineering Department of the Government of Odisha is allowed to work for contractor for a period of two years after his retirement from Government service, without prior permission of the Government of Odisha in writing. Such a contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of Odisha as aforesaid before submission of the tender for engagement in the contractor's service.

3. QUALIFICATION CRITERIA:

3.1 For submission of Bids through the E-Procurement Portal, the bidder shall up-load the scanned copy/copies of documents listed under clause 3.2 in prescribed format wherever warranted in support of eligibility criteria and qualification information. The L-1 bidder shall have to produce the original documents in support of the scanned copies and statements uploaded in the portal within 5 days of opening of price bid. Bids from Joint ventures are not acceptable.

3.2 The bid shall include following information and documents.

- a) Copy of valid contractor's registration certificate, PAN card, GST Registration should accompany the technical bid.
- b) Copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory.
- c) The contractor shall furnish ownership documents for those machineries which he is planning to deploy for the tendered work.
- d) Details of work under progress as per tender documents.
- e) Details of works executed during the last five years and works in hand (list of on-going works) as per bid documents.

3.3 The Bidders are subject to be disqualified if they have:

- a) Made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or
- b) Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.; and/or
- c) Indulged in unlawful & corrupt means in obtaining bids
- d) Been black listed/their registrations by the competent authority.

4. ONE BID PER BIDDER:

4.1 Each bidder shall submit only one bid for one package. A bid is said to be responsive if accompanied by cost of bid document and appropriate bid security declaration. The system shall consider only the last bid submitted through the E-Procurement portal.

5. COST OF BIDDING:

5.1 The bidder shall bear all costs associated with the preparation and submission of his bid, and the Engineer-in-Charge will in no case be responsible and liable for those costs.

5.2 All the rates and prices in the bid shall cover all taxes, viz. or any other local taxes, ferry, tollage charges and royalties and any other charges except GST

- 5.3 The rate of royalties and taxes prevailing on the date of measurement shall be considered while making deductions in the bills.
- 5.4 The successful bidder shall make his own arrangement for all materials unless otherwise specified in the conditions of contract.

6. SITE VISIT :

- 6.1 Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks contingencies and other circumstances which may influence or affect their bid. A Bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed. The Bidder shall be responsible for arranging and maintaining workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which tools and plant, etc. Will be issued to him by the Government and local conditions and other factors having a bearing on the execution of work.
- 6.2 The bidder, in preparing the bid, shall go through the site Investigation Reports provided in the Contract Data before filling up the Bid document.
- 6.3 The Officer inviting the bid / Engineer-in-Charge will clarify queries on the Contract Data on requisition by the intending Bidder. The bidder may ask question in the e-procurement portal using his DSC; provided the questions are raised before the date mentioned in the home page under critical dates.

B. BIDDING DOCUMENTS

7. GENERAL INSTRUCTIONS:

7.1 The description of the work is as mentioned under Invitation for Bid

7.2 The bids uploaded by the Tender Inviting Officer may consist of general arrangements drawings or typical sections of the project. Bidder may download these drawings and take out the print for detail study. Any other drawings and documents pertaining to the works available with the officer inviting the Bid as well as in the office of the RSCL) as mentioned in the contract data will be open for inspection during working hours on all working days by the bidders. The bidder is required to download all the documents including the drawings for preparation of his bid. It is not necessary on the part of the Bidder to upload the drawings other Bid documents (after signing) while uploading his bid. He is required to upload documents related to his qualification information and Bill of Quantities duly filled in. It is assumed that while participating in the bid, the bidder has referred to all the drawings and documents uploaded by the Officer Inviting the Bids. Seeking any revision of rates or backing out of the bid claiming for not having referred to any or all documents provided in the Bid document by the Officer Inviting the Bids will be construed as plea to disrupt the bidding process and in such cases he will suspend/prohibit/debar/blacklist from participating in bidding in any contract of the State for a minimum period of 180 days and /or Cancellation of Empanelment (registration of from OPWD or any other in state) action will be taken RSCL.

7.3 The bidder is expected to examine carefully all instructions, conditions of contract, contract data, forms, terms, scope of work, technical specifications, bill of quantities, forms, Annexes and drawings in the Bid Document. Failure to comply with the requirements of Bid Documents shall be at the bidder's own risk.

8. CLARIFICATION OF BIDDING DOCUMENTS:

8.1 Bid documents consisting of drawings, plans, specifications, the schedule of quantities of the various items of work to be done and the set of terms & conditions of contract to be complied with by the contractor who intends to bid and other necessary Documents can be seen in the office of the officer inviting the Bid during office hours every day except on Sundays & Public Holidays till last date of sale of tender paper.

8.2 No paper copy of the bid shall be sold.

8.3 The Contract Data to bid shall be filled and completed in the office of Officer inviting bid before issue of bid documents. If the documents are issued to the intending bidder without having been so filled in & completed, he shall request the officer inviting the bid to have this done before he completes and delivers his bid.

8.4 The bidder can seek clarification on the bids which he received earlier than 14 days prior to the deadline for submission of bids. The Employer's response will be uploaded in e-tendering portal before deadline for submission of bid.

8.5 PRE-BID MEETING: As scheduled in the NIT As scheduled in the NIT.

(One request for each interested Participant will be entertained only)

9. AMENDMENT OF BIDDING DOCUMENTS:

- 9.1 Before the deadline for submission of bids, the officer inviting the Bid may modify the bidding documents by issuing addenda.
- 9.2 Any addendum thus issued shall be part of the bidding documents and shall be notified in the website www.tendersodisha.gov.in / notice board and through web site of Rourkela Municipal Corporation www.rmc.nic.in.
- 9.3 To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Officer inviting the Bid if also happens to be the Engineer-in-Charge with the permission of the higher authority may, at his discretion, extend as necessary the dead line for submission of bids.

C. PREPARATION OF BIDS

10. LANGUAGE OF THE BID:

10.1 All documents relating to the Bid shall be in the English language. Bids submitted in any other language shall be summarily rejected.

11. DOCUMENTS COMPRISING THE BID:

11.1 Following documents will be deemed to be part of the bid even if not submitted with the bid.

- i. Invitation for Bids (IFB)
- ii. Instructions to bidders (ITB)
- iii. Conditions of Contract
- iv. Contract Data
- v. Specifications
- vi. Drawings

11.2 All the volumes/documents shall be provided in the portal by the Officer inviting the bid. The bidder shall carefully go through the document and prepare the required documents and up load the scanned documents in Portable Document Format to the portal in the designated locations of Technical Bid. He will fill up the percentage rate in the BOQ down loaded for the work in designated Cell and up-load the same in designated locations of Financial Bid. Submission of document shall be effected by using DSC of appropriate class.

A. Cost of "Bid document" & "Bid Security Declaration" shall comprise

- i. Cost of Bid Document
- ii. Bid Security Declaration in prescribed Format.

B. "Technical Bid" shall comprise.

- i. Declaration under the Official Secret Act, 1923
- ii. Qualification Information and supporting documents,
- iii. Certificates, undertakings, affidavits,

C. "Financial Bid" shall comprise".

- i. Priced Bill of Quantities

12. PROPOSAL BY THE BIDDER:

12.1 In the E-Procurement Portal, an intelligent Bill of Quantity in Microsoft Excel format shall be made available to the bidder.

12.2 Deleted

12.3 In case of percentage rate tender, the bidder will only fill in the designated cell and activate "less" or "excess" to indicate how much his price offer is excess or less (Up to two decimal Place) than the estimated amount.

- 12.4 The bidder shall bid for the whole works as described in the Bill of Quantities.
- 12.5 Bidders shall submit offers that fully comply with the requirements of the bidding documents, Minutes of meeting of the Pre-Bid meeting, Including the Conditions of Contract basic technical design as indicated in the drawing and specification. Conditional offer or alternative offers will not be considered in the process of bid evaluation.
- 12.6 All duties, taxes, excluding GST and other levies including Building and other Construction Workers Welfare Cess @ 1% payable by the contractor under the contract, or for any other cause shall be included in the rates, prices by the bidder. GST, purchase tax, turnover tax or any other tax on material in respect of this contract shall be payable by the Contractor and Government will not entertain any claim whatsoever in respect of the same.
- 12.7 The contractor shall be deemed to have satisfied himself as to the correctness and sufficiency of the Tender and of the rates and prices stated in the Bill of Quantities, all of which shall, except in so far as it is otherwise provided in the Contract, cover all his obligations under the Contract (including those in respect of the supply of goods, materials, plant & services or of contingencies for which there is a Provisional Sum) and all matters and things necessary for the proper execution and completion of the work and the remedying of any defects therein.
- 12.8 The contractor shall conform in all respects, by giving all notices and paying all fees, with the provisions of:
- i. Any national or State Statute, Ordinance, or other Law, or any regulation, or bye-law of any local or other duly constituted authority in relation to the execution and completion of the works and remedying of any defects therein, and
 - ii. The rules and regulations of all public bodies and companies whose property rights are affected or may be affected in any way by the works.

12.9 FOR COMPOSITE BIDS: DELETED.

13. CURRENCIES OF BID AND PAYMENT:

13.1 The estimated unit rates and the prices are in Indian Rupees.

14. VALIDITY:

- 14.1 Bids shall remain valid for a period not less than 90 days or the period mentioned in the Contract Data, after the deadline date for submission of bid as specified in the notice inviting the Bids. A Bid valid for a shorter period shall be rejected by the Engineer-in-charge as non-responsive.
- 14.2 In exceptional circumstances, prior to expiry of the original time limit, the Officer inviting the Bid may request the bidders to extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing or by cable or by e-mail.

15. BID SECURITY DECLARATION:

15.1 The Bidder shall furnish, as part of his Bid, a Bid security declaration as per format of Annexure II. The bidder shall scan all the written pages of the bid security declaration and upload the same to the system in designated place. The successful lowest bidder will produce the original of all scanned documents for verification within 5 days of opening of the tender (Price Bid) In the eventuality of failure on the part of the successful bidder to produce the original documents, he will be lost her Empanelment (registration of OPWD) and / or suspend/prohibit/debar from participating in bidding in any contract of the State for a minimum period of 180 and will be blacklisted by the competent authority. In such a situation, successful L-2 bidder will be required to produce his original documents for consideration of his/her tender at the negotiated equal to L-1 bidder.

15.1.1 Deleted

15.2. The Bid shall be declared non-responsive and shall be rejected if submitted without an acceptable Bid Security Declaration and not secured as indicated in Sub-Clauses 15.1.

15.3. Combined bid security Declaration for more than one work is not acceptable.

15.4. In the case of Government Undertakings, Co-operatives Societies, Diploma or Degree holders in Engineering who are registered with the Government of Odisha, the rules framed by government from time to time about Cost of Bid documents, Bid security Declaration , performance security will apply.

15.5. Deleted

15.6. Deleted

15.7. The Bidder may be lost her Empanelment (registration of OPWD) and / or suspend/prohibit/debar/blacklist from participating in bidding in any contract of the State for a minimum period of 180 days.

15.7.1. If the bidder withdraws the bid after opening of the bid but within the period of validity.

15.7.2. If the Bidder seeks any revision of rates or backs out of the bid claiming for not having referred to any or all documents provided in the Bid by the Officer Inviting the Bids.

15.7.3 In the case of a successful bidder, if the bidder fails within the specified time limit to

15.7.3.1 Sign the Agreement; or

15.7.3.2 Furnish the required Performance Security including additional performance security if any

16. FORMAT AND SIGNING OF BID:

- 16.1. The bidder can download the tender of his choice and save it in his system and undertake the necessary preparatory work off-line and upload the completed tender at his convenience within the final date and time of submission. The bidder shall only submit single copy of the required documents and Price Bid in the portal. In the Financial bid, the bidder cannot leave any figure blank. He has to only write the figures; the words will be self-generated. The Bidders are advised to up-load the completed Bid document well ahead of the last date & time of receipt to avoid any last moment problem of power failures etc.
- 16.2 The Bidder shall go through the Bid carefully and list the documents those are asked for submission. He shall prepare all documents including cost of Bid Document, Bid Security Declaration, Declaration form, price bid etc and store in the system.
- 16.3. The bidder shall log on to the portal with his DSC and move to the desired tender for up-loading the documents in appropriate place one by one simultaneously checking the documents. Once the Bidder makes sure that all the documents have been up-loaded in appropriate place, he clicks the submit button to submit the bid to the portal.
- 16.3.1 Tender cannot be pre-opened and cannot be submitted after due date and time. Therefore, only after satisfying that all the documents been uploaded, the Bidder should activate submit button.
- 16.3.2 . In the e-procurement process, each process is time stamped. The system can identify each individual who has entered into the portal any bid and the time of entering into the portal.
- 16.3.3 The Bidder should ensure clarity of the document up-loaded by him to the portal, especially the scanned documents by taking out sample printing. Non-submission of legible documents may render the bid non-responsive. However, the Officer inviting the Bids if so desires, can ask for legible copies for clarification within a stipulated period of 7 days, provided such document in no way alters the Bidder's price bid. If the Bidder fails to submit Such documents with in the stipulated date, his bid shall be evaluated on it's own merit.

D. SUBMISSION OF BIDS

17. SECURITY OF BID SUBMISSION:

17.1 All bid data uploaded by the Bidder to the portal will be encrypted by the DSC of the opener(s). The system shall require all the mandatory forms and fields filled up by the contractor during the process of submission of the bid/tender.

17.2 The Bid shall be received in encrypted format by the system which can only be time.

18. DEADLINE FOR SUBMISSION OF THE BIDS:

18.1. The online bidding will remain active till the last date and time of the bid submission. Once the date and time (Server date and time) is over, the bidder will not be able to submit the bid. The date & time of bid submission shall remain unaltered even if the specified date for the submission of bids declared a holiday for the Officer inviting the Bid.

18.2. The officer inviting the bid may extend the deadline for submission of bids by issuing an amendment in accordance with Sub-Clause 9.3, in which case all rights and obligations of the officer inviting the bid & Engineer-in-Charge and the bidders previously subject to the original deadline will then be subject to the new deadline.

19. LATE BIDS:

19.1. The system shall reject submission of any bid through portal after closure of the receipt time. For all purpose the server time displayed in the e-procurement portal shall be the time to be followed by the bidder and concerned officers.

20. MODIFICATION AND WITHDRAWAL OF BIDS:

20.1 In the E-Procurement Portal, it is allowed to modify the bid any number of times before the final date and time of submission. The bidder shall have to log on to the system and resubmit the documents as asked for by the system including the price bid. In doing so, the bids already submitted by the bidder will be removed automatically from the system and the latest bid only will be admitted. But the bidder should avoid modification of bid at the last moment to avoid system failure or malfunction of internet or traffic jam or power failure. If the bidder fails to submit his modified bids within the designated time of receipt, the bid already in the system shall be taken for evaluation.

20.2 In the E-Procurement Portal, withdrawal of bid is allowed. But in such case he has to write a letter with appropriate reasons for his withdrawal addressed to the Officer inviting the bid and upload the scanned document to portal in the respective bid before the closure of receipt of the bid. The system shall not allow any withdrawal after expiry of the closure time of the bid.

E. OPENING AND EVALUATION

21. OPENING OF THE BID:

21.1 Bid opening dates are specified during tender creation or can be extended vide corrigendum. These dates are available in IFB, tender document as well as the home page of portal. Bid opening can be done by the authorized users which are defined during the tender publication / approval stage. The bids are encrypted using their public keys and can be decrypted only on or after the Bid Opening due date. The bid opener's private key will be required to open the bids and all the openers have to log on to the portal during that time.

21.1.1. The bidders who participated in the on-line bidding can witness opening of the bid from any system logging on to the portal with the DSC away from opening place. Contractors are not required to be present during the bid opening at the opening location if they so desire.

21.1.2. Each activity is date and time stamped with user details. For time stamping, server time is taken as the reference.

21.2. In the event of the specified date of bid opening being declared a holiday for the Officer inviting the Bid/Engineer-in-Charge, the bids will be opened at the appointed time on the next working day.

21.3. In case bids are invited for more than one package, the order for opening of the "Bid" shall be that in which they appear in the "Invitation for Bid".

21.4 During bid opening, the covers containing original demand draft towards Cost of bid in the form specified in the Invitation for Bid, received after last of receipt of bid and before opening of the bids shall be opened and declared. The original copy of the Bid Security declaration in the form, mention Annex-II and period of validity in conformity with clause 15 shall be checked and announced. The list of bidders who have submitted the original copy of the cost of Bid and Bid Security Declaration shall be prepared and announced.

21.4.1 Combined bid security Declaration for more than one work is not acceptable. If the bid security declaration has not been furnished in the form specified in Clause 15, the bid will be declared non-responsive and rejected.

- 21.5 The Bid openers; who have been pre-defined shall log on to the portal with their respective DSC. Unless all the Officers who have been declared as Opening officers, log on the portal with their DSC the Tender cannot be opened.
- 21.5.1 The Opening Officers will systematically check the scanned demand draft towards cost of the bid document and the scanned document of Bid security declaration with that of the original submitted. If found in order, they will continue opening of all other documents in the system provided under Technical Bid.
- 21.5.2. The bids accompanied with appropriate bid cost and valid bid security declaration will be taken up for evaluation with respect to the qualification Information and other information furnished in Part - I pursuant to Clause 3.
- 21.5.3. Immediately on receipt of these clarifications, the Evaluating Officers; predefined in the system for the bid, will finalize the list of responsive bidders. They will log on to the site with their DSC and record their comments on the Technical evaluation page in the system. The Officer Inviting the Bid if also the accepting authority, shall log on to the system with his digital signature and check technical evaluation. He can either accept or pass on to the evaluating officers for re-evaluation. Upon acceptance of technical evaluation by the Accepting authority in the system, the system shall automatically generate letter to all the responsive bidders and the system shall forward the letter to all the responsive bidder that their technical bid has been evaluated responsive with respect to the data/information furnished by him and the letter shall also intimate him the date & time of opening of financial bid. The system shall also inform the non-responsive bidders in their email ID that their bid has been found non-responsive.
- 21.6 The Technical evaluation of all the bids will be taken up as per the information furnished by the Bidders. If any of the information/ statements/documents/ /certificates furnished by the bidder is found to be false/fabricated/bogus, his registration in the portal shall be blocked and the bidder is liable to be blacklisted.
- 21.7 After technical evaluation of the bidders and selection of the qualified bidders, the financial bids of the technically qualified bidders shall be opened on the due date of opening. Members of the bid opening committee log on to

the system in sequence and open the financial bids for the technically qualified bidders. The opening of financial bid by the opening officer using their DSC shall decrypt the financial bids.

21.7.1 Opening of price bid and evaluation of lowest bidder is subject to satisfaction of other qualification information asked for in the bid pursuant to Clause-3.

21.7.2 The Officer inviting Bid shall ensure that all the Bidders are individually intimated about the date, time & venue of opening of the financial bid along with the responsiveness of the Technical Bid.

21.7.3 The Financial Bid will be opened on the notified date & time in the presence of bidders or their authorized representative who wish to be present.

21.7.4 At the time of opening of "Financial Bid", the names of the bidders whose bids were found responsive in accordance with Sub-Clause 24.1 will be announced. The bids of only those bidders will be opened. The remaining bids will be rejected.

21.7.5 The responsive bidders names, percentage rates, any discounts and withdrawals, and such other details as the officer inviting the tender may consider appropriate, will be announced by him or his authorized representatives at the opening.

21.7.6 Special conditions and/or rebate/discount offer if any uploaded to the system shall be declared and recorded first.

21.7.7 The Financial bid of the bidders shall be opened one by one by the designated officers. The system shall auto-generate the Comparative statement.

21.7.8 The Bidder can witness the principal activities and view the documents/summary reports for that particular work by logging on to the portal with his DSC from anywhere.

22. PROCESS TO BE CONFIDENTIAL:

22.1 Information relating to the examination, clarification, evaluation, and comparison of bids and recommendations for the award of a contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful bidder has been announced. Any effort by a bidder to influence the officer inviting the bid, processing of bids or award decisions may result in the rejection of his bid.

23. CLARIFICATION OF BIDS:

23.1 To assist in the examination, evaluation, and comparison of bids, the officer inviting the bid may, at his discretion, ask any bidder for clarification of his rates including breakdowns of unit rates. The request for clarification and the response shall be in writing or by cable or by e-mail, but no change in the bid price or substance of the bid shall be sought, offered.

23.2 Subject to sub-clause 23.1, no bidder shall contact the officer inviting the bid on any matter relating to his bid from the time of the opening to the time the contract is awarded. If the bidder wishes to bring additional information to the notice of the officer inviting the bid, it should do so in writing.

24. EXAMINATION OF BIDS AND DETERMINATION OF RESPONSIVENESS:

24.1 During the detailed evaluation of "Technical Bids", the officer inviting the bid will determine whether each bid:-

24.1.1 Whether the Bid security Declaration is submitted in proper format.

24.1.2 Has submitted legible documents for evaluation

24.1.3 Meets the eligibility criteria defined in Clause 3 and;

24.1.4 Is substantially responsive to the requirements of the bidding documents.

24.2 During the detailed evaluation of the "Financial Bid", the responsiveness of the bids will be further determined with respect to the remaining bid conditions, i.e., priced bill of quantities, technical specifications and drawings.

24.3 A substantially responsive "Financial Bids" is one, which conforms to all the terms, conditions, and specifications of the bidding documents, without material deviation or reservation. A material deviation or reservation is one

24.3.1 Which affects in any substantial way the scope, quality, or performance of the works.

24.3.2 Which limits in any substantial way, inconsistent with the bidding documents, the right of the officer inviting the bid or the bidder's obligations under the contract or

24.3.3 Whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids.

24.4 If a "Financial Bid" is not substantially responsive, it will be rejected by the officer inviting the bid, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

24.5 On opening of the price bid the system shall arrange the financial bids in order of their value (L1 first, followed by L2, L3) for subsequent evaluation. The evaluation status (Sheet) will be visible to all the participating bidders after opening on their respective logins. Each activity is recorded in the system with date and time stamping.

25. EVALUATION OF BIDS:

25.1 If the officer inviting the Bid in his opinion judges that the price quoted by the lowest qualified bidder is high or a special condition imposed by the bidder is to be withdrawn, the bidder shall be invited for negotiation by the officer inviting the Bid or by an officer authorised by him in writing.

F. AWARD OF CONTRACT

26. AWARD CRITERIA:

- 26.1 The officer inviting the bid will award the contract to the bidder whose bid has been determined to be substantially responsive to the bidding documents and who has offered the lowest evaluated price.
- 26.2 On acceptance of the tender, the Contractor shall name in writing his accredited representative(s) who would be responsible for taking instructions from the Engineer-in-Charge.
- 26.3 Competent Authority reserves to himself the right of accepting the whole or any part of the bid and the bidder shall be bound to perform the same at the rate quoted.
- 26.4 The successful bidder has to subsequently register themselves with the appropriate registering authority of the state Govt. before award of the work as per prevalent registration norms of the state before signing of the agreement.

27. OPTIONS IF THE BIDDER BACKS OUT FROM BIDDING PROCESS:

- 27.1 In case the 1st lowest Bidder or even the next lowest Bidder withdraw in series one by one, thereby facilitating a particular Bidder for award, then they shall be penalized with Appropriate action i.e. Cancelled the (registration of OPWD) and / or suspend/prohibit/debar/blacklist from participating in bidding in any contract of the State for a minimum period of 180 days the bidder as per Guiding of OPWD/Govt. of Odisha Guiding.

- 27.2 The bidding process shall be deemed to be complete after the issue of letter of acceptance. If the bidder fails to sign the agreement within the stipulated period mentioned under clause 29.2, his bid security shall stand forfeited.

28. RIGHT TO ACCEPT OR REJECT ANY OR ALL BIDS:

- 28.1 The competent authority on behalf of Rourkela Smart city Limited, does not bind him to accept the lowest or any other tender and reserves to him the authority to reject any or all the tenders received without assigning any reason.
- 28.2 All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidder shall be summarily rejected.

29. NOTIFICATION OF AWARD AND SIGNING OF AGREEMENT:

- 29.1. In the E-Procurement Portal, the system shall generate the template of award letter and the Officer Inviting the Bid shall mention the amount of Performance Security and additional security required to be furnished in the letter and intimate the bidders in his e-mail ID. The issue of the letter of acceptance shall be treated as closure of the Bid process and commencement of the contract.
- 29.2 The bidder shall within 15 days of issue of letter of acceptance, furnish the Performance security & additional Performance security (if any) in the form & the work programme & shall sign the agreement in prescribed format, failing which the Engineer-in-Charge shall without prejudice to any other right or remedy available in

law, be at liberty to either he will suspend/prohibit/debar/blacklist from participating in bidding in any contract of the State for a minimum period of 180 days or Cancellation of Empanelment (registration of from OPWD) action will be taken or both. The agreement will incorporate all agreements between the officer inviting the bid and the successful bidder. If L1 bidder does not turn up for agreement after finalization of the tender, then he will suspend/prohibit/debar/blacklist from participating in bidding in any contract of the State for a minimum period of 180 days and /or Cancellation of Empanelment (registration of from OPWD) action will be taken . In that case, the L2 bidder, if fulfils, required criteria would be called for drawing agreement for execution of work subject to the condition that L2 bidder negotiates at par with the rate quoted by the L1 bidder otherwise the tender will be cancelled.

In case a contractor is black listed, it will be widely published and intimated to all departments of Government and also to Govt. of India agencies working in the state.

(Amendment to Para-3.5.14 Note-I of OPWD Code Vol.-I by inclusion).

29.2.1 Following documents shall form part of the agreement.

29.2.1.1 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 & documents leading thereto & required amount of performance security including additional performance security as per sub clause 29.2 hereof.

29.2.1.2 Standard Bid Document P.W.D. Form P-1

29.3 The letter to proceed with the work shall be issued by Engineer-in-charge only after signing of the agreement. The notification of award will constitute the formation of the contract subject only to the furnishing of performance security and additional performance security in accordance with the provisions of the agreement.

29.4 On acceptance of the composite bids by the competent authority the letter of award will be issued by the Engineer-in-Charge of the major component of the work.

29.5 Upon signing of the agreement by the successful bidder, the Engineer-in-Charge will promptly notify the other bidders that their bids have been unsuccessful.

30. CORRUPT OR FRAUDULENT PRACTICES:

30.1. The Engineer-in-Charge will reject a proposal for award if he determines that the bidder recommended for award has been engaged in corrupt or fraudulent practices in competing for the contract in question. He will report to the Officer Inviting Bid / next higher authority.

30.2 Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable for rejection.

DETAILED TENDER CALL NOTICE

Sealed percentage rate bids are invited in double cover system from the Electrical Contractors having LT License registered with the State Government and contractors of equivalent Grade / class registered with Central Government / MES / Railways having registration for Electrical and P.H works for execution of E.I. / P.H. works on production of definite proof from the appropriate authority in prescribed form to be eventually drawn in P.W.D. FORM P-1 for the work/Project: "Plumbing and electrical works for Basanti Food court "Near Basanti Colony Flyover" in Rourkela on Percentage Rate Basis." an estimated cost of Rs.27,42,863/- (Rs. Twenty Seven Lakhs forty two thousand Eight hundred and Sixty Three Only)" Contractors not registered with Govt. of Odisha can participate in the e- procurement after necessary enrolment in the portal but have to subsequently register themselves with the appropriate registering authority of the state Govt. before award of the work as per prevalent registration norms of the state.

- a) This tender is of composite nature and consisting of Civil, Electrical and PH works.
 - b) This detailed Tender Call Notice along with the Pre-Bid Meeting minutes, clauses mentioned herein shall form a part of the contract and agreement.
2. The Bid documents are available on official website of Government: <https://www.tendersodisha.gov.in> & www.rmc.nic.in, from 6.11.2021 17:00 Hrs to 23.11.2021 17:00Hrs. The last date and time of submission of Bid is as per contract data.
 3. The Technical Bid documents (Cover-I) will be opened by the assigned officer in the office of Chief Executive Officer, RSCL at 16:00 Hours on 26.11.2021, in the presence of the bidders or their authorized representatives who wish to attend. After evaluation of the documents contained in Cover-I, the Cover-II containing price bid/s of the technically responsive bidder/s will be opened. The date, time and place of opening the price bid will be intimated to the eligible qualified bidders through system generated E-mails.
 4. The cost of Bid documents in shape of demand draft issued from any Nationalized / Scheduled bank may be prepared in the name of RSCL (Smart City Mission Grant Fund), and payable at Rourkela for Rs.6,800/- towards tender paper cost. The online bid must be accompanied with scanned copies of demand draft towards cost of tender paper.
 5. The bid is to be submitted in two covers.
 - i. Cover-I is to contain scanned copy of Bid Security declaration and Cost of bid document, Registration Certificate, PAN, Profit Loss statement, GST Registration Certificate, List of similar nature of works, work in hand, affidavit, turn over certificate and all other documents required as per the relevant clauses of this DTCN. Before award of final contract, such bidders will have to produce the GST clearance certificate. ii) The similar nature of work are of following types: One or more civil engineering project (s) in any one year during last five years.
 - ii. Cover-II is to contain the PRICE BID duly filled in and signed by the bidder.
 6. Furnishing scanned legible copy of Original Registration certificate, PAN card & GST Registration Certificate along with the Technical Bid is mandatory otherwise his/

her bid shall be declared as non responsive and thus liable for rejection.

7. Deleted
8. Deleted
9.
 - i. The contract will be drawn in P.W.D. P-1 contract form and will constitute all electrical and PH works.

The contract shall be drawn & signed by Chief Executive Officer on behalf of Rourkela Smart City Limited.
 - ii. The entire works of the Agreement shall be supervised measured and check measured by the Engineer in Charge.
10. If an individual makes the application, the individual should sign (with DSC) above his full type written name and current address.
11. If the application is made by proprietary firm, it shall be signed (with DSC) 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 (with DSC) 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 (with DSC) 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 (Construction work) in all respects within Four (4) 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 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, 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). Design,

20. The bid must be accompanied by Bid security declaration accepting, that if the bidder withdraw or modify its bid during the period of validity .i.e. not less than 90(Ninety) days from the bid due date or if the bidder is awarded the contract and fail to sign the contract or to submit a performance security and Addition Performance Security. Tender Not accompanied with Scanned copy of Bid security declaration shall be declared as non-responsive and thus liable for rejection. The bid security Declaration should remain valid minimum of 45(Forty-five)days beyond the bid validity period
21. The tender should be accompanied with the Scanned copies of the valid Registration certificate of Class of Contractor , GST Registration Certificate and PAN card which are mandatory, otherwise his/her bid shall be declared as non-responsive and thus liable for rejection.
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. **Deleted.**
25. The Engineer-in-charge 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 Engineer-in-charge will pay the contractor in consideration of the execution and completion 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/Bank Guarantee of Nationalised Bank /Schedule Bank of India counter guaranteed by local Branch at Rourkela with validity of One year / duly pledged in favour of the Chief Executive Officer Rourkela Smart City Limited. Rourkela & payable at Rourkela and in no other form, shall be 2% of the value of the tendered amount and sign the agreement in the P.W.D. form No. P-1 (Schedule XLV No. 61) for the fulfilment of the contract in the office of the Chief Executive Officer and payable at Rourkela 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 fulfilment 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 either he will suspend/prohibit/debar/blacklist from participating in bidding in any contract of the State for a minimum period of 180 days or Cancellation of Empanelment (registration of from OPWD) or both. 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 .O.R.No.202 W.F.D. dt.06.03.98 respectively the E.M.D. will be forfeited 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, Octroi and all other taxes except prevailing 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 Civil portion 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 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 to protect 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 levelling 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 Engineer In Charge 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 to instructions in complete shape. Incomplete tender is liable for rejection.

35. No Relation Certificates.

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 Rourkela Smart City Limited. or Assistant/Under Secretary & above in the 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. Payment for variation in price – As per latest guideline of OPWD after schedule Completion Period

36(a) (i) REIMBURSEMENT / RECOVERY DUE TO VARIATION IN PRICE OF MATERIALS OTHER THAN (STEEL, CEMENT, BITUMEN, PIPES & P.O.L.).

36(a) (ii) REIMBURSEMENT / RECOVERY OF DIFFERENTIAL COST DUE TO VARIATION IN PRICES OF PRINCIPAL MATERIALS (STEEL, CEMENT, BITUMEN, PIPES & P.O.L) NOT ISSUED BY DEPARTMENT, AFTER SUBMISSION OF TENDER: As per latest guideline of OPWD after schedule Completion Period.

36(b) REIMBURSEMENT / REFUND DUE TO STATUTORY RISE IN COST OF MINIMUM WAGES BY GOVERNMENT: As per latest guideline of OPWD after schedule Completion Period.

36(c) REIMBURSEMENT / REFUND DUE TO VARIATION IN PRICES OF P.O.L (Fuel And Lubricant) COMPONENT: As per latest guideline of OPWD after schedule Completion Period.

36(d) ADJUSTMENT FOR PLANT AND MACHINERY SPARES COMPONENT

36(e) APPLICATION OF ESCALATION CLAUSE: Contract price shall be adjusted for increase or decrease in rates and price of Labour, Cement, Steel, Bitumen, Pipes, POL & other material component in accordance with the principles and procedure as per formula to be finalized by Government in Works Department latest Guideline after schedule Completion Period.

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 conform 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. Centring & 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 scaffolding, centering and shuttering made for the work and can reject partly or fully such structures, if found defective in their opinion. Any eventually such as loss of lives or property 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 Performa enclosed in a separate sheet of Schedule-C.
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-E and information in Schedule-D.
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 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 Cuttack or 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 may be selected by the Chief Executive Officer, Rourkela Smart City Limited. 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.
53. List of tool & plants in running condition in possession of contractor is to be furnished in a separate sheet.
54. It is the responsibility of the contractor to procure and store explosive required for blasting operation if necessary. 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, Octroi 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 RSCL 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. Deleted.
58. 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.
59. No extra payment will be made for removing spreading and consolidating salvaged metals and materials.
60. 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.

61. Performance Security:

61.1 If the rate quoted by the bidder is less than 15% of the tendered amount, then such a bid shall be rejected and the tender shall be finalized basing on merits of rest bids. But if more than bid is quoted at 14.99% (Decimals up to two numbers will be taken for all practical purpose) less than the estimated cost, the tender accepting authority will finalize the tender thorough a transparent lottery system where all bidders / their authorized representatives, the concerned CEO and CFO will remain present.

(Amendment to Appendix-IX, Clause-36 of OPWD Code Vol.-II by inclusion).

61.2 Additional performance security shall be obtained from the bidder when the bid amount is less than the estimated cost put to tender. In such an event, the bidders who have quoted less bid price/rates than the estimated cost put to tender shall have to furnish the exact amount as per mentioned in below table i.e.

S.No	Range of Difference between the estimated cost put to tender and Bid amount	Additional Performance Security to deposited by the Successful Bidder
i	Below 5%	No Additional Performance Security
ii	From 5% and above and below 10%	50% of (Difference between Estimated cost put to tender and Bid Amount)
iii	From 10% and above	150% of (Difference between estimated cost put to tender and Bid Amount)

as Additional Performance Security in shape of Demand draft/ Bank Guarantee from Nationalised Bank, Schedule Bank for validity of one year/ Term Deposit Receipt of Schedule Bank/ Nationalized Bank pledged in favour of the Chief Executive Officer, Rourkela Smart City Limited and payable at Rourkela before signing the Agreement. The additional performance security in any other form will not be accepted. 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.

RSCL has already been appointed Project Management Consultant to supervise of "Plumbing and electrical works for Basanti Food court "Near Basanti Colony Flyover" in Rourkela on Percentage Rate Basis." the work and his role & responsibility as follows :

- Project Planning and Construction Supervision
- Supervision Manual
- Design, drawings and tender specifications
- Material Testing Quality Control
- Environmental Protection and Safety during Construction
- Certification of Interim and final payments
- Contract Administration
- Operation & Maintenance Manual Approval
- As Built Drawing approval
- Certification in Defect Liability Period
- Any Contract Dispute and assist in case of Arbitration.

The contractor has to assist and obey the technical assistants and guidance's of the consultant.

62. 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 Engineer in Charge.
63. 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.
64. Bailing out of water from the foundation, pipeline trenchess. 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 levelling 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.
65. 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 dt .25.11.57.
66. The Contractor will have to submit to the PMC monthly return of labour both skilled and unskilled employed by him on the work.
67. 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/PMC of the respective wing before they are used on the work.
68. 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.
69. The Tenderer should furnish along with their tender 1. A list of works, which are at present in their hand Schedule-F 2. List of work executed (Schedulele-C) in the prescribed proforma(s) enclosed herewith in appropriate place of bid document.
70. All reinforced cement concrete works should be finished smooth Extra charges for plastering if required to any R.C.C. structures like roof slab, Columns, Chajjas, fins, parapets, shelves etc. shall not be paid.
71. Deleted
72. Deleted
73. 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.
74. 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 Govt. of Odisha /Govt. Of India accredited Laboratory, at the cost of the Contractor with no extra cost to the Department.
75. 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 12 months after completion of work or if any, imperfection becomes apparent to the work within 12 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.

76. The K. B. Bricks should be well burnt and of good qualities. The bricks should be approved by the Engineer-in-Charge before use in the work and should conform to the minimum strength and other criteria as per National Building Code. Flyash bricks can also be used. Prior test and approval has to be taken for the brick vendors.
77. 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.
78. 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.
79. 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.
80. 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.

81. 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/PMC has the right to prescribe other required test if any as will be considered from time to time.
82. 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.
 83. Schedule of quantities is accompanied in Cover-II (Price Bid). 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.
 84. 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 Engineer in Charge 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 Engineer in Charge is final and binding on the contractor.
85. 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.
86. Wastage of bars and unnecessary lapping will not be considered for measurement and payment as per OPWD Code.
87. 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 Engineer in Charge with their bills, falling which the amount towards royalties of different materials as utilized by them in the work will be recovered from their bills and deposited in the revenue of concerned department.
88. Trial Boring - The foundation level as indicated in the body of the drawings are purely Tentative and for the general guidance only. The RSCL 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.
89. Any defects, shrinkage or other faults which may be noticed within 12 (Twelve) months from the completion of the Construction 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 RSCL will deduct retention money which will be Retention Money (5%) five percent from each running bill after correction if any by RSCL + Additional percentage to be deducted & withheld from each payment in voice after correction, if any by RSCL for repair/replacement of the work during defect liability period of 365 days from the date of completion of original work. Performance Security or additional Performance security will be release after the Completion of Defect Liability Period (DLP).
90. 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 RSCL 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.

91. 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.
92. Where it will be found necessary by RSCL, 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 Rourkela Smart City Corporation Limited 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 Rourkela Smart city Limited and shall not be removed from the site of work without written permission of the Engineer In Charge and to be submitted to the Engineer-in charge every month.
93. 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.
94. 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.
95. The rates quoted by the contractor shall cover the latest approved rates of SOR excluding GST i.e., 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.
96. 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.
97. The contractor shall make requisition of claim book from the date of commencement of the work from the RSCL 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 far as possible regarding the quantities as well as the total amount claimed. The claim book must be submitted by the contractor regularly by 10th and 16th days of each month for orders of the Engineer-in-Charge or competent authority. Claims not made in this manner 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 Rourkela Smart city Limited 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.
98. 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. of Odisha /Govt. Of India accredited Laboratory 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.

99. 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.

100. 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 Blacklisting 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.

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

S.No.	Particular
1	Notice Inviting tender
2	Instruction to the Bidder
3	Conditions of Contract
4	Contract data
5	Specifications
6	Drawings
7	Pre-Bid Meeting Minutes

102. **ELIGIBILITY CRITERIA:**

I.

To be eligible for qualification, applicants shall furnish the followings. Non-furnishing of the following particulars shall be treated as ineligible. The facility for exemption of ISD, either in full or in part, as per instruction/guidelines of Govt. of Odisha / OPWD Code/Govt. of India/direction of Hon'ble Courts in India (with specified limitation and liberty) can be availed by intending and eligible class/category of Bidder (Contractors with Physical Disabilities/Engineer Contractors/ ST or SC Contractors/Such other Agency(s) conferred with this exemption facility if any). However this facility availed by any bidder for the above mentioned work shall be treated as genuine and admissible / Acceptable subject to submission of required documentary evidence/support in hard copy as described in DTCN and subsequent Verification of the same by RSCL..

II. Scanned copy of required Bid security declaration as per the Clause No. 5 (i) and Clause No.20 of DTCN.

- III. Scanned copy of demand draft towards cost of tender paper as per Clause No.4 and 5(i) of DTCN.
- IV. After the date & time of receipt of bid is over, the original Bid security and Demand draft towards cost of Bid documents shall be submitted in the office of the undersigned on or before date & time of opening of Bid as specified at Contract data above, and as per date mentioned in contract Data during office hours on working days failing which the bid will be rejected.
- V. Scanned copy of valid Registration Certificate, PAN card along with the tender documents and the originals of all scanned documents & VAT clearance certificate in form VAT 612/GST Clearance Certificate of the successful lowest bidder only are to be produced within 5(five) days after opening of Cover-II of the tender in the office of the Chief Executive Officer, RSCL otherwise his/her bid shall be declared as non-responsive he will suspend/prohibit/debar/blacklist from participating in bidding in any contract of the State for a minimum period of 180 days and /or Cancellation of Empanelment (registration of from OPWD) action will be taken by the competent authority. In such a situation, successful L-2 bidder will be required to produce his original documents for consideration of his tender at the negotiated rate equal to L-1 bidder
- VI. License criteria as per Clause No.8 of DTCN and Schedule-H need to be furnished
- VII. **Joint Ventures are not accepted**

1 Bidder/ Firm should furnish list of similar works executed during last five years stating the Agreement No., date of commencement and completion, actual date of completion duly certified by the employer. The certificate to that effect must be obtained from an officer not below the rank of Executive Engineer concerned with the work under report. The bidder must have completed /Substantial Completed (80% of awarded cost) any one or more Electrical Project(s) in any one year during last five years up to value of **Rs. 27.43 Lakhs.(Rs. Twenty Seven Lakhs and Forty three thousand).**

Bidder should submit all the credentials along with all experience certificates. Copy of Completion Certificate / Work order /Agreement any other document in support of successful completion of job along with Reference of person under whom jobs are executed. Substantial Completion shall be based on 80 (eighty) percent value wise or more works completed under the contract and Completed value must be equal or more of **Rs. 27.43 Lakhs.(Rs. Twenty Seven Lakhs and Forty three thousand).**

2 The Bidder should have annual turnover of Civil Engineering works equal to the estimated cost of the Project i.e. **Rs. 27.43 Lakhs (Rs. Twenty Seven Lakhs and Forty three thousand).** in any one year during last five (5) financial years.

Turnover of previous year will be escalated @10% per financial year (on compound basis) shall be considered on the value of "annual turnover of the proceeding years. The cost of completed / substantial Completed similar nature of work shall be given additional weightage of percentage per year to bring them to current price level to account for price escalation as illustrated below:

Year	Turnover/Similar work	Effective cost executed work at previous completed financial year's price level
2016-17	E	1.61 x E
2017-18	D	1.46 x D
2018-19	C	1.33 x C
2019-20	B	1.21 x B
2020-21	A	1.10 x A

The Turn over need to be certified with ‘UDIN’ by a registered Chartered Accountant

Note: 1. Technical Bud must be accompanied by the annual turnover Certificate from Qualified Chartered Accountant with ‘ICAI’ with UDIN “ from the Bidder for the last 5 (five) financial years, preceding the year in which the bid is submitted i.e..

2016-17	2017-18	2018-19	2019-20	2020-21

- I. Scanned copy for information regarding current litigation, debarring / expelling of the applicant or abandonment of work by the applicant in schedule “D” and scanned copy of affidavit to that effect including authentication of tender documents in schedule “E” & furnish the original affidavit in Schedule-E within 5 (five) working days of opening of Cover-II as per clause 49.
- II. No Relationship Certificate in Schedule – A
- III. List of projects under execution in Schedule-F
- IV. List of projects executed that are similar in nature to the work as per Schedule-C
- V. Affidavit of eligibility from schedule –K to O
- VI. Certificate of employment of unemployed Engineering Graduate as per format Schedule-G for ‘LT’ Class and above Regd. Contractor
- VII. Undertaking of Bidder as per format Schedule G.
- VIII. Declaration of relation in the Dept. if any in Schedule I
- IX. MOU with PH Contractor in Schedule –J
- X. List of equipment on Owned/lease basis in Schedule K
- XI. Affidavit for SC/ST Bidder in format Schedule-L
- XII. Affidavit for Physically Handicapped Bidder in format Schedule-M
- XIII. Affidavit for Engineering Contractor in format Schedule-N
- XIV. Affidavit for Bidder not registered in EPFO in format

Schedule-O

- XV. Bid Security Declaration (Vide Works Department Office Memorandum "OM No.07556900052021 (pt)-5984/ w dated 27-04-2021- Annex-IV.
- XVI. BID CAPACITY Declaration:- (Vide Works Department Office Memorandum No.6300 dtd. 16.06.2011) :- **Not Applicable**

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.

- ❖ **Note:2** Bidder must be submit Photographs / Video evidences of the completed works and lighting work in CD form along with Bid document.

103. Time Control :- (Vide Works Department Office Memorandum No.24716 dtd.24.12.2005 and No.8310 dtd.17.05.2006) Progress of work and Re-scheduling programme.

a)

- i. The 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, 1/2 of the whole of the work before 1/2 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 show the effect of Variations and Compensation Events

c) **Extension of the Completion Date.**

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 Municipal Commissioner (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**

Deleted

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 Municipal Commissioner shall be conclusive evidence), 20% of the value of left over work will be realized from the contractor as penalty.

104. 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.
105. 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.
106. 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) Misbehaviour/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.
107. 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.
108. 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 rate for individual items only and the percentage excess or less shall be added or subtracted from the gross amount of the bill.

APPROVED
Chief Executive Officer
Rourkela Smart City Ltd.

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

SCHEDULE - A
CERTIFICATE OF NO RELATIONSHIP

/We hereby certify that I/We* am/are* related / not related(*) to any officer of Rourkela Smart City Limited 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

A. Brief Company profile

SL.NO.	PARTICULARS Name of Bidder	DESCRIPTION OR DETAILS
1	Name of Bidder	
2	Legal status of Bidder (Individual ,Firm, Company, Pvt.. Ltd., LLP etc.)	
3	Main business of the Bidder	
4	Registered office address	
5	Incorporation date and number	
6	GST Registration Certificate (State And Central)	
7	PAN details	
8	Primary Contact Person (Name, Designation, address, mobile number, fax, email)	
9	Secondary Contact Person (Name, Designation, address, mobile number, fax, email)	
10	EMD/Bid Security Declaration details	

B. Certificate of Incorporation

(To be submitted by sole Bidders)

C. Financial Turnover

(To be submitted by Sole Bidder)

The financial turnover of the company is provided as follows as per Clause no 102 of DTCN

	2016 – 17 (Y5)	2017-2018 (Y4)	2018-19 (Y3)	2019-20 (Y2)	2020-21 (Y1)
Annual Turnover					

Copy of audited financial statements or declaration from the appointed Chartered Accountant to be provided as proof of the financial turnover with UDIN no. on its certificate.

SCHEDULE – C

WORK EXPERIENCE

LIST OF SIMILAR NATURE OF PROJECTS EXECUTED AS PER CLAUSE NO 102 OF DTCN

i.

Project Code	Name of Employer	Name of location and name of work	Contract price in Indian Rupees/Agreement no.	Major Items of works	Date of starting the work as per Agreement	Stipulated date of completion of the work as per Agreement	Actual date of completion of the work	Reasons for delay in starting/completion if any
	1	2	3	4	5	6	7	8
A								
B								
C								
..								

ii.

S.No	Projects Code	Year 1 Total Receipt from Project	Year-2 Total Receipt from Project	Year-3 Total Receipt from Project	Year-4 Total Receipt from Project	Year-5 Total Receipt from Project
1	A					
2	B					
3	C					
..	..					
Total		Total of Year 1 st	Total of Year 2 nd	Total of Year 3 rd	Total of Year 4 th	Total of Year 5 th
Escalation		1.10	1.21	1.33	1.46	1.61
Total (After Multiplying with escalation)						

Note: 1. The above information is to be certified by the Engineer in Charge / Employer not below the rank of Executive Engineer vide Completion Certificate.

Signature of the Tenderer

Date.

SCHEDULE – D

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 : given 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.	

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 – E
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 authorise(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:

Original Affidavit sworn before Notary Public or Executive Magistrate

Schedule-F

EXISTING COMMITMENTS AND ON-GOING WORKS:

i.

Project Code	Name & Description of works	Place & State	Contract No.	Name & Address of Employer	Value of Contract (In Cr.)	Stipulated Period of Completion	Value of works * remaining to be completed (In	Anticipated date of completion
A								
B								
C								

ii.

S.no	Projects Code	Year 1 Total Receipt from Project	Year-2 Total Receipt from Project	Year-3 Total Receipt from Project	Year-4 Total Receipt from Project	Year-5 Total Receipt from Project
1	A					
2	B					
3	C					
..	..					
Total		Total of Year 1	Total of Year 2	Total of Year 3	Total of Year 4	Total of Year 5
Escalation		1.10	1.21	1.33	1.46	1.61
Total (After Multiplying with escalation)						

Schedule-G

Certificate of Employment of Unemployed Graduate
Engineer/Architecture/Diploma Holder

(For Above 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:

S.No.	Name of Engineering Personnel appointed for supervising Contractor's work with Address	Qualification	Date of Appointment	Monthly Emoluments	Whether full time engagement and continuous	if they are superannuated/retired/dismissed or removed personnel from State Govt./Central Govt./PSU/Pvt. Companies or any one ineligible for Government Service
1	2	3	4	5	6	7
2						
3						
4						
5						
6						
7						

Schedule-H

UNDERTAKING

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 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.
4. I/We have visited the site and have fully acquainted with the local condition regarding the materials, labour and factors pertaining to work for completion in all respects before submitting the tender.
5. I/We have carefully studied the conditions of the Construction, specification, contract condition and all other documents relating to this work and agree to execute the same accordingly.
6. I/We solemnly pledge that I/We shall sincerely discharge my/our duties as responsible contractor and complete the work within the prescribed time limit. In case there is deviation from the Construction Programme, I/We shall abide by the decision of Engineer-In-Charge for revision of programme and arrange for the labours, materials, equipments etc accordingly.
7. In the event of award of the work to me/us, I/We undertake the entire responsibility for the structural stability to reconstruct/replace the whole or part of the Component of the structure in the event of failure or improper functioning /Improper Construction within a period of one year from the date of completion without asking extra payment from the account of department.
8. I/We undertake that I/We shall not claim any escalation of cost on account of taxes from any account in connection with work with execution of the work till the actual completion period and shall not be entertained by Rourkela Smart City Limited,
9. In case of violation of contents of department's tender documents in shape of extra conditions or in any form, my offer/tender shall be rejected by the department without any intimations to me/us.

Signature of the Tenderer

Date:

SCHEDULE -I
RELATIONSHIP DECLARATION

To,

Chief Executive officer,

Rourkela Smart City Limited

Subject: (Name of Work"..... 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:			
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.			
S.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

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 . license registration No..... valid up to

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 PH. 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 PH. works of above said matter.

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

WITNESS

W₁ –

W₂ –

Schedule-K

Information (Machineries owned/possessed on lease/hire) Details of machinery possessed owned / leased/ hired

SL No	Name of the Machineries	No of Machineries	Owned/Hired/Leased
1	Mobile crane and Heavy	01	
2	Cable drum Jack 5T/10T and	02	
3	Cable pulling Rollers and	100 Nos	
4	Electrical hand tools and LT	02 Set	
5	Welding machine Set and Mechanical Hand Tools	01 Set	

NB. Scan copies of Owned or leased or hired receipts/Agreements of the above machineries must be uploaded into Technical Cover.

Schedule-L
AFFIDAVIT
(Applicable for SC/ST Bidders)

1. I, Sri/Smt/Ms.....,Son/Daughter/Wife of, hereby declare that;
 - a. I am a registeredClass ST/SC Contactor under Govt. of Odisha
Or
 - b. The Partnership Firm/Private Ltd. Company named/titled, as "....." is a registered SC/ST Contractor under Govt. of Odisha within the ambit specified in Works Department Resolution No. 27748 dt. 11.10.77 and I, Sri/Smt/Ms....., Son/ Daughter/ Wife of, is authorized signatory on behalf of the Firm/Company (scanned authorization copy with my signature duly certified and attested/identified has been submitted on-line with our tender).
[Tick (a) or (b) above whichever is applicable and fill up accordingly.]
2. As per Works Department, Govt. of Odisha Resolution No.27748 dt. 11.10.77, I/My Firm am/is entitled for exemption of 50% ISD and accordingly, I/My Firm have/has submitted tender for the work.
3. I/My Firm hereby submit willingness to avail price preference as ST/SC category Civil Contractor as entitled in the aforesaid resolution.
4. Necessary documentary evidence(s) as prescribed in the Tender Notice at * in support of my/our aforesaid claim for exemption of ISD have/has been duly up-loaded on-line/submitted along with my/our tender for the aforesaid work.
5. In addition to those, other documents and original(s), as required by CEO, RSCL to sustain my/our aforesaid claim shall be submitted by me/us within a week from the date of instruction/intimation of CEO,, RSCL through telephone/letter/e-mail failing which my/our tender shall be liable for rejection .
(*)-Strike out which is not applicable.

(Deponent)
(Signature of the Tenderer/Authorised Signatory in case of
Partnership Firm/Company with Seal of the
Firm/Company) . Original Affidavit sworn before Notary Public or
Executive Magistrate

Schedule-M

AFFIDAVIT

(Applicable for Contractors with Physical Disabilities)

1. , Sri / Smt / MsSon / Daughter / Wife of
....., hereby declare that I am a registeredClass Contactor with Physical Disabilities within the ambit prescribed in Works Department, Odisha- Resolution No.23934 dt.8.11.91
2. As per the said Resolution, I am entitled for exemption of ISD and accordingly , I have submitted tender for the work.
3. Necessary documentary evidence(s) as prescribed in the Tender Notice at in support of my aforesaid claim for exemption of ISD have/has been duly up-loaded on-line/submitted along with my tender for the work.
4. In addition to those, other documents and original(s), as required by CEO, RSCL to sustain my aforesaid claim shall be submitted by me within a week from the date of instruction/intimation of CEO, RSCL through telephone/letter/e-mail failing which my tender shall be liable for rejection.

(Deponent)

Original Affidavit sworn before Notary Public or Executive Magistrate

Schedule-N

AFFIDAVIT

(Applicable for Engineer Contractors Intending to Avail Exemption of ISD as per OPWD Code)

1. I, Sri/Smt/Ms..... hereby declare as the Contractor/as the authorized signatory on behalf of the Contractor,"....."(Strike out whichever is not applicable) do hereby solemnly affirm and state as follows.
2. That, I/we am/are a registered Class Engineer Contractor
3. That, I/we herewith claim exemption of ISD during the Year..... For participation in the tender for this work.
4. That, I/we have not exhausted the facility available to me/us an Engineer Contractor during the year..... for exemption of ISD as per Works Deptt. Guideline & OPWD Code.
5. That, I/we shall ensure production of my/our valid Original Contractor's Registration Certificate (license) after or during opening of bids (as per direction of CEO, RSCL for the above work for verification and also for subsequent entry of exemption of ISD (if selected as the contractor for this work and availed the exemption of ISD in my/our license as per direction of CEO,RSCL, within such time as directed by him failing which action, as decided by RSCL, may be taken against me/us and appropriate steps may be taken by RSCL to facilitate execution of the tendered work

(*)- Strike out which is not applicable

(Deponent)

(Signature of the Tenderer /Authorised Signatory in case of Partnership Firm/Company with Seal of the Firm/Company)

Original Affidavit sworn before Notary Public or Executive Magistrate

Schedule-O

Affidavit

(Applicable for the Bidder not registered under EPF)

I, Sri/Smt/ Ms.....hereby declare as the Contractor /as the authorised signatory on behalf of the Contractor(Strike out whichever is not applicable) do hereby solemnly affirm and state as follows.

1. That as on date, I/We am/are not registered with RPFC(Regional Provident Fund Commission) and solemnly affirm that, I/We shall follow the "Employees Provident Fund and Misc Provision Act, 1952 & Rules /Schemes" made there under, in case the work is awarded to me/us
2. That I/We shall submit, after execution of work and before payment of any bill, the detail list of labours, such as
 - a) Name:
 - b) Father's name:
 - c) Place of Permanent Residence:
 - d) Statement of W ages paid to them till the completion of the Work
3. The RSCL Authority will be at liberty to deduct 26% of the labour component amount of the Contract & shall retain it as an additional security with RSCL.
4. That. In case I/We submit the EPF Registration Certificate, then the said additional security shall be released to me /us by RSCL without any interest subject to fulfilment of other Compliances/conditions.
5. That , this affidavit is required to be produced before the authority of Rourkela Smart City Limited for tender purpose.

That the facts stated above are true to the best of my /our knowledge.

(Deponent
(Signature of the Tenderer/Authorised Signatory in case of Partnership Firm/Company with Seal of the Firm/Company)

Original Affidavit sworn before Notary Public or Executive Magistrate

ANNEXURE-I
FORM OF AGREEMENT

(First page to be filled up and signed in non-judicial stamp paper of worth Rs.100/-)

This contract made on Dt.....between Rourkela Smart City Limited (RSCL) , hereinafter called " the employer" and(name and address of the selected bidder), hereinafter called "the Contractor"

Whereas, the employer is desirous that the Contractor shall execute;
"Plumbing and electrical works for Basanti Food court "Near Basanti Colony Flyover" in Rourkela on Percentage Rate Basis."

vide Bid Reference no...../Dt.....,(hereinafter called "the work") and the employer has accepted the bid of the Contractor for execution and completion of such works and rectifications of defects , if any, at an accepted tender/contract price of Rs.....(Rupees) only.

Now, therefore, it is hereby agreed upon by RSCL and the Contractor as follows:

1. In this contract, words and expressions shall have the same meanings as are respectively assigned to those in this DTCN and the Contract form as a whole. The DTCN and agreement shall be deemed to form and be read as construed as part of this contract with a view to maintaining the sanctity of this contract for successful execution and completion of the work unless otherwise clarified/redefined at a later stage during the Contract remains in force including the defect liability period.
2. In consideration of the payments to be made by the employer, the Contractor hereby covenants with the employer to execute and complete the work and rectify the defects therein, if any , in conformity with the provisions of this contract.
3. The employer hereby covenants to pay the Contractor in consideration of the execution and completion of the work and for rectification of defects , if any , wherein the contract price or such other sum, as may become payable under the provisions of the contract and in the manner prescribed under this Contract.
4. The following documents shall be deemed to form, read and construed in conjunction with other portions/clauses/conditions of this contract and DTCN.
 - I. DTCN invited for the work including the Short Notice
 - II. Contractor's Bid and negotiation correspondence , if any
 - III. Letter of Acceptance/Letter of Intent for the Work(LOA/LOI)
 - IV. Notice to proceed with the work (Work Order) to be issued by RSCL and subsequent instructions of RSCL to the selected Bidder subject to confirmation of the same, if required , by RSCL through written notice to the selected bidder.
 - V. P1 Agreement which includes Items, Quantities, Rates and Amounts of the work to be duly signed by RSCL and the Contractor.
 - VI. Copy of agreements drawn by the contractor with electrical Contractor vide scope of work of DTCN for Electrical Works.
 - VII. Instruction/intimation of RSCL for execution of extra work/item/quantity

- found essential for the work and corresponding rates not covered in the agreement/DTCN /Financial Bid and also curtailment/exclusion of any items of the Financial Bid from execution.
- VIII. Drawing, design, work programme or part thereof submitted by the contractor and duly approved by RSCL with or without modification.
- IX. Letter/ Intimation/ Instruction(including physically and over telephone) of RSCL for repair/replacement/ defect rectification, if any, with respect to modified quality/specification for such repair/ replacement/ defect rectification work and allowed time to accomplish the same either during the execution of the work or during the defect liability period of 365 days from the officially declared /notified/noted date of completion of the whole work including additional/curtailed items/ quantities of the work as per direction of RSCL. RSCL reserve the right to declare/ note the date of completion of the original work and date of expiry of defect liability period which will be binding upon the Contractor.

In witness whereof , the aforesaid two parties have entered into this contract on the date mentioned above.

Binding Signature of Employer signed by.....
(for and on behalf of Rourkela Smart City Limited-Employer)

Binding Signature of Contractor signed by.....
(authorised signatory in case of firm/company with applicable authorisation letter/declaration attached to this Contract)

In presence of witnesses

1. Name:

Address:

Tel No:

Signature

2. Name:

Address:

Tel No:

Signature

Signature of Contractor
(Authorised Signatory with Seal)
(Authorised Signatory with Seal)

Signature of Employer
(Authorised Signatory with Seal)

APPENDIX - II
Form of Bid Security Declaration

(Refer DTCN Clause 20)

Letter head of the Bid –

Date

Name of the Project: "Plumbing and electrical works for Basanti Food court "Near Basanti Colony Flyover" in Rourkela on Percentage Rate Basis."

Bid No.

To

Chief Executive Officer,

Rourkela Smart City Ltd.

Udit Nagar, Rourkela

(Insert complete name and address of the Authority/Employer/Tender Inviting Authority)

We, the undersigned declare that:

1. We understand that, according to your conditions, bids must be supported by a Bid Security Declaration.
2. We accept that the Authority/Employer/Tender Inviting Authority shall cancel our Empanelment (registration of OPWD) and / or suspend/prohibit/debar/blacklist from participating in bidding in any contract of the State for a minimum period of 180 days, if we are in breach of our obligation(s) under the bid conditions, because we:
 - (a) Have withdrawn out Bid prior to the expiry date of the bid validity specified in the letter of Bid or any extended date provided by us; or
 - (b) Having been notified of the acceptance of our Bid by the Employer prior to the expiry date the bid validity in the Letter of Bid or any extended date provided by us,
 - (i) Failure of use to furnish the Performance Security and Additional Performance Security, if required in accordance DTCN/Terms of the Bid Document, or
 - (ii) Fail to agree to the decisions of the contract negotiation meeting or
 - (iii) Failure refuse to execute the Contract.
3. We understand this Bid Security Declaration shall expire, if we are not the successful Bidder, upon the earlier of your notification of the name of the successful Bidder through award of contract;

or

(ii) after the expiry date of the Bid validity.

Name of the Bidder _____

Name of the person duly authorized to sign the Bid on behalf of the Bidder _____

Title of the person signing the Bid _____

Signature of the person named above _____

Date signed _____ day of _____

- In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder- NA
- Person signing the Bid shall have the power of attorney given by the Bidder attached to the Bid. (In case of Partnership firm/Company/LLP/ Cooperative society

Annexure-III

All Financial Transaction Related to the Project must be abide with the Following Instruction

As per Govt. of Odisha Finance Department No. 32921 /F Dt.11.12.2020 or any amendment "Selection of Banks for handling business and deposits of State Public Sector Undertakings (SPSUs) and State Level Autonomous Societies (SLASs) for the years 2020-21 followings banks have been selected for handling Business & Deposits (Copy attached) for Ref.:-

Public Sector Banks		Private sector banks	
1	Canara Bank	11	ICICI Bank
2	Punjab National Bank	12	Axis Bank Ltd.
3	State Bank of India	13	HDFC Bank
4	Union Bank of India	14	Bandhan Bank
5	Bank of India	RRBs & OSCB	
6	Bank of Baroda		
7	UCO Bank		
8	Indian Bank	15	Odisha Gramya Bank
9	Indian Overseas Bank	16	Utkal Grameen Bank
10	Central Bank of India	17	Odisha State Co-Op. Bank

Annexure-IV

FORM OF BANK GUARANTEE [Performance Security/Additional Performance Security]

To

_____ [name of Authority]

_____ [address of Authority]

WHEREAS _____ [name and address of Contractor]

(hereafter called the "Contractor") has undertaken, in pursuance of Letter of Acceptance (LOA) No. _____ Dated _____ for construction of _____ [name of the Project] (hereinafter called the "Contract").

AND WHEREAS the Contract requires the Contractor to furnish an {Performance Security/ Additional Performance Security} for due and faithful performance of its obligations, under and in accordance with the Contract, during the {Construction Period/ Defects Liability Period} in a sum of Rs. cr. (Rupees crore) (the "**Guarantee Amount**")¹.

AND WHEREAS we, through our branch at (the "**Bank**") have agreed to furnish this Bank Guarantee (hereinafter called the "**Guarantee**") by way of Performance Security.

NOW, THEREFORE, the Bank hereby, unconditionally and irrevocably, guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful performance of the Contractor's obligations during the {Construction Period/ Defects Liability Period} under and in accordance with the Contract, and agrees and undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Contractor, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.
2. A letter from the Authority, under the hand of an officer not below the rank of General Manager of Rourkela Smart City Ltd., that the Contractor has committed default in the due and faithful performance of all or any of its obligations under and in accordance with the Contract shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Contractor is in default in due and faithful performance of its obligations during and under the Contract and its decision that the Contractor is in default shall be final and binding on the Bank, notwithstanding any differences between the Authority and the Contractor, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.
3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the

¹ Guarantee Amount for Performance Security and Additional Performance Security shall be calculated as per Contract.

liability or obligation of the Bank under this Guarantee.

4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.
5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Contract or to extend the time or period for the compliance with, fulfillment and/ or performance of all or any of the obligations of the Contractor contained in the Contract or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Authority against the Contractor, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Contract and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.
6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Contract or for the fulfillment, compliance and/or performance of all or any of the obligations of the Contractor under the Contract.
7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.
8. The Guarantee shall cease to be in force and effect on ****[§]. Unless a demand or claim under this Guarantee is made in writing before expiry of the Guarantee, the Bank shall be discharged from its liabilities hereunder.
9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.
10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorized to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given

[§]Insert date at least 12 (Twelve) Month from the date of issuance of this Guarantee (in accordance with Clause 29 of the DTCN).

by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.

11. This Guarantee shall come into force with immediate effect and shall remain in force and effect for up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Contract.
12. This Guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.
13. This guarantee shall also be operable at our..... Branch at Rourkela, from whom, confirmation regarding the issue of this guarantee or extension / renewal thereof shall be made available on demand. In the contingency of this guarantee being invoked and payment thereunder claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation
14. Bank Detail of Rourkela Smart City Ltd.

S.No.	Particulars	
1	Name of Bank	State Bank of India
2	Name of Branch	Udit Nagar Branch
3	A/c No	36450132867
4	Type of A/c	Saving Bank A/c
5	IFSC	SBIN0007474

Signed and sealed this day of, 20..... at

SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by:

(Signature)

(Name)

(Designation)

(Code Number)

(Address)

Annexure-IV

Format for Power of Attorney for signing of BID (Refer Clause Annexure-II)

Know all men by these presents, We..... (name of the firm and address of the registered office) do hereby irrevocably constitute, nominate, appoint and authorize Mr./ Ms (name), son/daughter/wife of and presently residing at, who is presently employed with us/ the Lead Member of our Joint Venture and holding the position of....., as our true and lawful attorney (hereinafter referred to as the “Attorney”) to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our BID for the **“Plumbing and electrical works for Basanti Food court “Near Basanti Colony Flyover” in Rourkela on Percentage Rate Basis.”** Project proposed or being developed by the Rourkela Smart City Ltd. (the “Authority”) including but not limited to signing and submission of all applications, BIDs and other documents and writings, participate in Pre-BID and other conferences and providing information/ responses to the Authority, representing us in all matters before the Authority, signing and execution of all contracts including the agreement and undertakings consequent to acceptance of our BID, and generally dealing with the Authority in all matters in connection with or relating to or arising out of our BID for the said Project and/ or upon award thereof to us and/or until the entering into of the EPC Contract with the Authority. AND we hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE,, THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS DAY OF 2.....

For
(Signature, name, designation and address) of
person authorized by Board Resolution (in case of
Company)/ partnership deed (in case of :
Partnership firm & LLP)/ Copy of PAN (in case of
Individual “ “Copy must enclosed”

Witnesses

- 1.
- 2.

Accepted

.....

(Signature)

(Name, Title and Address of the Attorney)

(Notarised)

(Person identified by me/ personally appeared before me/)

Attested/ Authenticated*

(*Notary to specify as applicable)

(Signature Name and Address of the Notary)

Seal of the Notary

Registration No. of the Notary

Date:.....

SCOPE OF WORK AND TECHNICAL SPECIFICATION

1. SCOPE OF WORK

1.1 Broad Scope of Work.

The broad scope of work shall include Supply, installation, testing & commissioning of electrical works and plumbing works for Basanti Food Court near Flyover per Specifications, Engineering Standards and construction Drawings.

1.3 Safety

- Contractor has to take care of all safety measures as per Owner / Engineer-in-charge's HSE requirements. Local barricading shall be provided around the other work areas, where main barricading of 15m was not provided. No extra payment shall be made for the local barricading works provided for protection.
- Proper management of loose earth, mud, water, oily material is to be ensured to avoid making the area messy and slippery.
- Working area needs to be properly cordoned off and proper care is to be taken so that surrounding equipment, instruments etc. are not damaged during the construction.
- An experienced safety engineer shall be deployed to site to ensure that the construction work is carried out in a safest manner and shall work in coordination with Owner / Engineer-in-charge's safety Engineer. Following codes shall be followed as applicable as per direction of engineer.

CONSTRUCTION SAFETY	IS 3696 (Part 1):1987 Reaffirmed 2017	Safety code of scaffolds and ladders: Part 1 Scaffolds(first revision)
CONSTRUCTION SAFETY	IS 3696 (Part 2):1991 Reaffirmed 2017	Safety code of scaffolds and ladders: Part 2 Ladders(first revision)
CONSTRUCTION SAFETY	IS 7969:1975 Reaffirmed 2017	Safety code for handling and storage of building materials.
CONSTRUCTION SAFETY	IS 8989:1978 Reaffirmed 2015	Safety code for erection of concrete framed structures.

1.4 Co Operation with other Contractors

The contractor shall provide all facilities and give complete co-operation for the execution of various other works, if required to be carried out simultaneously by other agencies. While his own work is in progress, the co-ordination will be affected in consultation with the Engineer-in-Charge of the work. Other contractors are also likely to work in the same area during the construction stage.

1.5 Traffic Interference & Inconvenience to The Public

The contractor shall conduct his operations so as to interfere as little as possible with the traffic. When interference to traffic is inevitable, notice of such interference shall be given to the Engineer-in-Charge well in advance (at least 2 days). The contractor shall take all precautionary and other measures, such as providing warning signals, temporary diversions, etc., all as directed by the Engineer-in-Charge. The contractor shall exercise full care to ensure that no damage is caused by him or his workmen, during the operations, to the existing water supply and power lines. The cost of any such damage and risks arising out of this shall be entirely borne by the contractor.

1.6 Preamble to Bill of Quantities

- (a) The Bill of Quantities shall be read in conjunction with the Instructions to Bidders, Conditions of Contract, Technical Specifications, and Drawings.
- (b) The quantities given in the Bill of Quantities are estimated and provisional, which may be varied, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the rates and prices tendered in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix within the terms of the Contract.
- (c) General directions and descriptions of work and materials are not necessarily repeated or summarized in the bill of Quantities. The contractor shall refer to the relevant sections of the contract documentation before entering rates or prices against each item in the Bill of Quantities.
- (d) The method of measurement of completed work for payment shall be in accordance with the Particular Specifications, guidelines issued by Bureau of Indian Standards as per order of precedence and also as per the method mentioned in the contract and standard specification.
- (e) Unless stated otherwise, all rates and prices entered in the Bills of Quantities shall be deemed to include the following:
 - Labour and all costs in the connection with the execution and maintenance of the work.
 - The supply of materials, goods, storage and all costs in connection therewith including wastages, shrinkage and delivery to site.
 - Sampling and testing materials and goods, checking workmanship, providing, storing, packing and transporting samples to and from the place of testing.

- Fixing, erecting, installing or placing of material and goods and excavated materials, including stacking, storing, loading, transporting and unloading.
- All Temporary works.
- Construction, maintenance of temporary access roads within the sites and any roads required for the access to any part of the site for the purpose of carrying out the Works , taking into account that the access roads under the Contractor’s maintenance control will also be used by the Employer and his staff vehicles.
- Construction , maintenance and removal , if required , of temporary Sites drainage on the Site and for ensuring that all drains are kept clear of debris and blockages at all times.
- Safety
- Survey, Investigation, design and drawings.
- All general obligations, liabilities and risks involved in the execution and maintenance of the works set forth or reasonably implied in the documents on which the Bid is based.
- Establishment charges, overheads and profits.
- Co-operating with other Contactors.

The price for transportation included in any of the items in the Bills of Quantities are to include for all labour and equipment required for unpacking , loading , conveying , unloading , storing and multiple handling of all and every item to be transported.

2.1 SCOPE OF SUPPLY

2.2 Contractor's Scope of Supply

All materials (consumables & non-consumables), tools tackles etc. as required for satisfactory completion of the job shall be supplied by the contractor. Prior approval from Owner/ Engineer In-charge shall be obtained prior to use of all material at site.

3.0 SPECIFICATIONS

The works shall be performed conforming to the Indian Standard codes, P.H.D & P.W.D. specifications of the State Government. Wherever such specifications are not available, CPWD specifications, relevant references, manuals etc. shall be followed as directed by Owner.

The successful bidder shall have to prepare and submit 'As Built Drawings' depicting the exact construction carried out on site, in soft and hard copy format

TECHNICAL SPECIFICATIONS

(Plumbing Works)

For

General

The works shall be performed conforming to the Indian Standard codes, P.H.D & P.W.D. specifications of the State Government. Wherever such specifications are not available, CPWD specifications, relevant references, manuals etc. shall be followed as directed by Owner.

Scope of Works

Scope of work includes

1. Coordination with PHE Department for taking water connection in the name of employer including deposit of required security money, cost of materials, meters etc. complete.
2. Installation submersible pump including required electrical works, panels etc
3. Laying of required dia uPVC pipe to each shops including all necessary fittings etc.
4. Supply and installation of over head water tanks

Recommended Make

1.	uPVC pipe	Astal, Phinolex, Supreme, Prince, Oriplast, Jain and equivalent approved by employer
2.	Pump	KSB, Kirloskar, Laxmi and equivalent approved by employer
3.	Valves	Leader / Zoloto / Kirloskar Brothers Ltd, Sant / Leader

TECHNICAL SPECIFICATION OF ELECTRICAL WORKS

1.0 SCOPE OF WORK

1.1 The scope of work covers the design, detailed engineering, preparation of construction drawing, manufacture, acceptance testing at manufacturer's works or at any accredited agency, supply, packing, forwarding and delivery from manufacturer's works/ place of storage to erection site including transit insurance, unloading, storage at site, moving from place of storage to place of installation, assembly, cleaning/ lubricating, touch up painting, erection, testing, commissioning, performance demonstration & O&M for 5 years and handing over of the following systems/ equipment on Item rate basis of the Identified Basanti Food Court for Rourkela Smart City Limited (RSCL).

The scope of work broadly includes;

- 1.1.1 Power supply for the Basanti Food Court shall be through nearest LT line.
- 1.1.2 Illumination of Food Court Area.
- 1.1.3 OLDB(Outdoor LDB) with Inbuilt Capacitor, Metering Energy Distribution Board, Outdoor High Mast DB, Indoor SPN MCB DB and Junction Box for power supply distribution.
- 1.1.4 Point Wiring for indoor lighting points like Shops, guard room, restaurant etc.
- 1.1.5 LV Power and Control Cabling System.
- 1.1.6 3ph LT Tariff meter to be provisioned for all OLDB.
- 1.1.7 Civil works including Foundation for the LT Panels, High Mast etc.
- 1.1.8 Earthing & Lightning Protection System.
- 1.1.9 Construction Power supply arrangement.
- 1.1.10 Civil works cost for the electrical items has been considered under civil BOQ
- 1.1.11 Liaison with Govt. Authorities for power supply arrangement and other necessary statutory approvals.
- 1.2 CONTRACTOR shall ensure that design of equipment shall be as per specification requirements.
- 1.3 CONTRACTOR shall submit Quality Assurance Plan within 15 days after finalization of order. The QAP shall be discussed between RSCL and the CONTRACTOR before the QAP is finalized.
- 1.4 The CONTRACTOR shall carry out detailed engineering including schematic lighting solution and prepare construction purpose drawings to make its own estimate of ratings & quantities in accordance with the design criteria provided in the technical specification and data sheets, for entire system including illumination system, electrical equipment, cabling system, earthing, and civil works required for completion of works.
- 1.5 The above drawings with plans, elevations, sections or any details (as required) shall be submitted to RSCL or its representative for approval.
- 1.6 3D rendered views of the proposed illumination plans shall be provided for approval for the entire project before supply and execution of the same.
- 1.7 Light fixtures selected by the CONTRACTOR shall be submitted to RSCL for approval.
- 1.8 The CONTRACTOR shall submit detailed electrical load calculation, sizing calculation of electrical equipment and explanation on how the fixtures identified are energy efficient before supply and execution of work.
- 1.9 CONTRACTOR shall take due care of the site Seismic conditions while designing all equipment/ components used in lighting and electrical systems covered in this specification. CONTRACTOR shall furnish list of design parameters considered in design to fulfill the above requirement.
- 1.10 Design and detailed engineering of the materials procured by CONTRACTOR is included in scope. CONTRACTOR shall submit each document/ calculations of system which is included in scope to RSCL or its representative for final review/ approval. All design documents/ calculations prepared by CONTRACTOR shall be duly signed by CONTRACTOR and stamped. Documents submitted without fulfillment of this requirement will not be considered as

- a submission and will be rejected.
- 1.11 Design documents/ calculations prepared by Sub-CONTRACTOR shall be approved by CONTRACTOR and stamped copy of approval along with no-deviation sheet from Sub-CONTRACTOR shall be submitted by the CONTRACTOR to RSCL or its representative for final review/ approval. Documents submitted without fulfillment of this requirement will not be considered as a submission and will be rejected.
- 1.12 Expert or manufacturer supervision for Sub-CONTRACTOR supplied material shall be provided by BIDDER and included in offer.
- 1.13 CONTRACTOR shall be solely responsible for any shortages or damages in transit for his supply scope, handling and/ or in storage of any materials and erection of the equipment, supply of erection tools at site. CONTRACTOR shall ensure that it will not affect any activity or project schedule. Any demurrage, wharf age and other such charges claimed by the transporters, railways etc. shall be to the account of the CONTRACTOR.
- 1.14 Obtaining approval including load sanction/ load release from TPWOCL shall be in the scope of CONTRACTOR. All the statutory fees for the above approvals shall be borne by RSCL. Such payments shall be reimbursed to the CONTRACTOR upon submission of stamped receipts to the RSCL. The approvals will include consent for commencement of work and obtaining permission to charge/commission.
- 1.15 All the cost towards liaison with statutory Bodies for seeking all necessary statutory approvals and other activities involving Govt. Agencies viz., drawing approval, testing and commissioning et. shall be borne by the CONTRACTOR.
- 1.16 The CONTRACTOR shall also liaison with Govt. Bodies if required like TPWOCL, PWD, CEIG, RMC etc. for obtaining required permission to work.
- 1.17 CONTRACTOR's scope shall also include all civil works and structural works required for installation of all electrical equipment/ systems such as equipment foundations, Pole foundations and all excavation and backfilling works including those for lighting, earthing, cabling systems etc.
- 1.18 BIDDER should visit site and get ascertained regarding the complete scope of work before submission of Bid.
- 1.19 This specification is the minimum requirement and should be read in conjunction with relevant latest specifications, requirements, rules and regulations of the Local Authority. Any additional requirements as per Local Authority or latest Standards shall be considered by BIDDER
- 1.20 All SAFETY considerations in design and manufacturing for safe operation & maintenance and safe practices during installation at site shall be in the scope of the CONTRACTOR. Cost towards accomplishing the same shall be included in the BID price and no extra claim shall be entertained later.
- 1.21 Equipment furnished/ supplied under this scope of works shall be complete in every respect with all mountings, fittings, fixtures, and standard accessories normally provided with such equipment and / or needed for erection, completion and safe operation of the equipment as required by applicable codes though they may not have been specifically detailed in the Technical Specification. Materials and component not specifically stated in the specification but which are necessary for commissioning and satisfactory operation shall be deemed to be included in the scope of specification and shall be supplied without any extra cost. All similar standard components/ parts of similar standard equipment provided shall be inter-changeable with one another.
- 1.22 The CONTRACTOR shall be responsible for the selection and design of appropriate equipment to provide the best co-ordinated performance of the entire system. The design of various components, sub-assemblies and assemblies shall be so done that it facilitates easy field assembly and maintenance.
- 1.23 The material supplied by the CONTRACTOR shall be subject to approval of the designated Authorities of RSCL. Samples of the Supply material under the scope of works shall be inspected by RSCL or their representatives either at site or at Manufacturer's works and

approve them for supply and execution. Notwithstanding any approval/ instruction given otherwise, if the RSCL, during random check up, finds any nonconformance with the quality of material supplied by the CONTRACTOR with respect to the technical specifications, RSCL shall have the Authority to reject the entire lot/ batch of that particular material and ask to replace without any cost and time impact to RSCL.

- 1.24 During the construction at site, it shall be the CONTRACTOR's responsibility to take care of the safety and security of its person and material at site. The CONTRACTOR shall be self-reliant with all the requirements including tools and tackles for digging, filling, erecting, lifting, etc. and consumables required for construction like electricity and water at his own cost.
- 1.25 The CONTRACTOR shall carryout the installations in a safe and responsible manner without any inconvenience or danger to public. The CONTRACTOR shall take care not to damage any public/ private property by mistake or by intention during the course of work with its actions and shall be well insured to compensate the owner in case any such incidence happens.
- 1.26 CONTRACTOR shall plan and carry out all supply, installation, testing and commissioning of the entire electrical system conforming to the approved drawing, technical specification and good engineering practices.
- 1.27 Even if all components of a system included in this specification are not explicitly identified and/ or listed herein, these shall be supplied under this contract to ensure completeness of the system and facilitate proper operation and easy maintenance. Any and all other works not indicated above but necessary/ required to complete the job in all aspects, are included in the CONTRACTOR's scope.
- 1.28 RSCL reserves the right to issue addendum to the technical specification to indicate modification/ changes in the requirements, if so required at a later date.

2.0 DESIGN CONCEPT

- 2.1 The design concept of lighting system as a whole is based on providing visually and aesthetically improved illumination; providing safe, reliable & stable power and efficient performance of electrical system.
- 2.2 The design standard described herein is in accordance with latest BIS standards and National Lighting Code 2010.
- 2.3 The design standards described herein are generally in compliance with the Central Electricity Authority Regulations 2010, latest Indian Standards, State Electricity board standards and code of practices already established in the country.
- 2.4 The design ambient temperature for all electrical equipment shall be 45°C.

3.0 POWER DISTRIBUTION ARRANGEMENT

- 3.1 The power supply for the Basanti Food Court shall be through nearest LT line.
- 3.2 Tariff metering is to be provided as per the latest guidelines and specification of the TPWOCL.
- 3.3 All power supply arrangement up to tariff meters is considered in the Contractor Scope.
- 3.4 Outdoor LDB with inbuilt Capacitor are installed to provide 415V to MEDB, Outdoor high mast DB etc. MEDB shall cater to the Shop & restaurant power supply, etc. Indoor SPN MCB DB shall cater the load of shop. Outdoor High mast shall be cater lighting fixture of high mast.
- 3.5 Cabling system shall comprise of 1.1 kV grade, XLPE insulated, multi-stranded Al/ Cu, GI round wire/ flat strip armoured power cable. All the Cables shall be laid buried underground at minimum depth of 750mm from FGL.
- 3.6 Internal point wiring is to be done as per Odisha PWD building norms.
- 3.7 The size of the cable provided shall not be less than 2.5 Sq mm.
- 3.8 Three-way Junction boxes of IP67 has been considered for the distribution of the power to the load points.

4.0 DESIGN CRITERIA

4.1 ILLUMINATION SYSTEM

- 4.1.1 Latest version of related IS Standards and National Lighting Code 2010 (NLC) shall be referred for designing Illumination for different areas.
- 4.1.2 Lighting design shall be performed using Dialux Software version 4.12 or its latest version.

4.1.3 The illumination shall be designed creatively for enhancement and improvement of the look and feel of the various elements of the project area aesthetically and visually. This criteria for such illumination cannot be defined in terms of standard values or factors as specified in the standards for all elements however certain elements like pathway / walkway, Riverfront area etc shall be designed as per required standards as specified.

4.1.4 While designing the lighting system major principles of designs to be followed are as follows

- (a) Lighting Lux Level.
- (b) Luminance Distribution.
- (c) Direction of Incidence of Light and Shadow effect.
- (d) Free Public movement.
- (e) Hazard free space for Visitors and Pedestrians.
- (f) Daytime Appearance of the Installation - It is very important to ensure that the luminaire positions determined for night time lighting are aesthetically appropriate and do not spoil the view of the site during the day.
- (g) Glare - It is necessary to eliminate direct and/or reflected glare which could disturb visitors and pedestrians.
- (h) Accessibility for Maintenance - For periodical maintenance, lamp replacement, cleaning of luminaires and readjustment of disturbed luminaires should be as easy as possible. Care shall be taken during the designing stage to make the installation accessible and ensure easy handling of luminaires.
- (i) No Light Pollution including the Night sky.

4.1.5 Lighting Design

- (a) Following factors shall be considered while arriving at the utilization factor to determine the number of fixtures for each area.
 - (i) Maintenance Factor
 - a. Indoor Area Lighting with LED Luminaire: :0.8
 - b. Outdoor Area Lighting with LED Luminaire: 0.8
 - (ii) Uniformity factor shall be considered as per National Lighting code 2010.
 - (iii) The illumination levels given in below table shall be considered for the illumination of the respective area.

504 Table 1: LUX Requirement

Sr. No.	Area	Illumination Level (Lux) - Average values
1	Internal Roads/ Entry-Exit points	15 Lux
2	Kiosk / Vending shops	250 Lux
3	Toilet Block/ Public Toilet	100 Lux
4	Parking area	50-100 Lux

4.1.6 Selection Of Luminaries-

- (a) Selection of the luminaries for Area lighting shall be done on the basis of specifications provided in Datasheet.
- (b) CONTRACTOR shall submit the detail lighting plan and take prior approval from RSCL or its representative after award of contract.
- (c) CONTRACTOR shall provide better options for lighting concept and LED luminaries

with optimized cost.

4.2

CABLE SIZING

4.2.1

The CONTRACTOR shall ensure that cable and wires associated with the power distribution and control systems, point wiring and all other installations throughout the Works are adequately rated for their use. Following main aspects shall also be considered while deciding the final size of the cables

- a) Supply voltage and frequency.
- b) All cables shall be selected to carry the corresponding full load current under site conditions.
- c) Route length and disposition of cables.
- d) Maximum allowable temperature rise under normal full load condition based on the material of cable insulation (XLPE/ PVC).
- e) For Cables emerging from LTDB, fault clearing time shall be considered as 0.5 second.
- f) For Cables emerging from MCCB / MCB outgoing, fault clearing time shall be considered as 0.01 second.
- g) CONTRACTOR shall note that, the above fault clearing times are minimum to be considered & fault clearing time shall be according to Power system.
- h) Appropriate de-rating factors as per cable manufacturer's catalogue and enlisted below shall be considered for sizing the cable:
 - Ambient Air Temperature (minimum 45° C).
 - Ambient ground temperature (minimum 40° C to be considered)
 - Laid in Air / ducts/ directly in ground etc.
 - Depth of cable burial (minimum 750 mm for LT)
 - Thermal Resistivity of Soil (minimum 150°C Cm/ W to be considered)
 - No. of cables in a group-touching each other or separated by a distance
 - Any other de-ration factors as applicable & as per Manufacturer's catalog.
- i) The number of light fixture controlled by a single feeder pillar outgoing circuit shall be limited based on the voltage drop at the farthest light fixture. The cumulative voltage drop at that point shall not exceed by 5%.
- j) Cables up to & including 4.0 sq.mm shall be Cu multi-stranded conductor with galvanized steel round wire armoured & balance cables shall be Al multi-stranded conductor with galvanized steel round wire/ flat strip armoured.
- k) Control cables shall be Cu multi-stranded conductor with galvanized steel round wire/ flat strip armoured. For multi core cables above 7 cores, minimum two spare cores shall be considered.

4.3 **PANEL SIZING**

4.3.1 All Panels shall be indoor / outdoor type having incoming sectionalisation and outgoing switchgears as specified. The design shall be cubical type The degree of enclosure protection shall be IP 42 for indoor and IP55 for outdoor as per IS: 13947 (Part-I). All LT Panels except for PCC shall conform to FORM 3B whereas PCC shall conform to FORM 4B as per IS 61439. The LT Panels shall be as per the standards IEC 61439.

4.3.2 Rating shall be suitable for carrying full load current of the equipment.

4.3.3 It shall be suitable for short circuit rating for 1sec duration.

4.3.4 The bus-bars shall be sized considering the following criteria:

- I. Sleeves made of insulating material on all bus bars.
- II. Design ambient temperature 45 Deg C.
- III. Final temperature of the bus-bars complying with requirements of IS 8623-1993(Reaffirmed 2004) & IEC 60947-2007-Amd 2014.
- IV. Bus bars being inside the panel; De- rating for enclosure and ventilation.
- V. Bus bar suitability for carrying rated current continuously.
- VI. Configuration of bus bars and Proximity effect.
- VII. The main bus shall be designed based on the load rating as well as the actual fault level for specified duration at the location of the Panel/ board with 10% tolerance.
- VIII. Earth bus of the panel shall be sized suitable for the above fault level for the same duration.

4.4 **FAULT LEVEL CALCULATIONS**

Fault level at the secondary of the transformer and at 415V LT panels shall be calculated based on the transformer rating and impedances of transformer and connecting cables.

4.5 **EARTHING SYSTEM**

4.5.1 The safety earthing shall be on the basis of following codes and standards

- IS 3043 -2018; Code of practice for Safety Earthing.
- CEA guidelines - 2010

4.5.2 The fault levels considered shall be as follows:

System	Fault level in kA
a) 415V System	*25 kA for 1 sec

(*) CONTRACTOR to design on the basis of actual impedance & adequacy calculations for sufficiency of earth conductor size shall be provided.

4.5.3 Following factors shall be considered for sizing the earthing conductor:

- Design Ambient Temperature : 45°C
- Allowable temperature rise of steel welded joints : 500°C
- Fault Clearing Time : 1 Sec
- Overall earthing resistance : ≤ 1 Ohms

4.6 **Lightning Protection**

4.6.1 The need for lightning protection system shall be established by calculating the risk factor value of each building, structure etc. as per methodology/ procedure prescribed in IS/IEC 62305 - 2010. This will be provided for building(s) whose risk factor is exceeding the limiting values. The Risk factor shall be evaluated for Level 3 risk.

4.6.2 Based on the calculation, if found necessary, air termination system comprising of horizontal roof conductors shall be provided. The horizontal mesh shall be provided as per IEC 62305 - 2010 above the roof. The down conductors for this system shall be fixed and run along the outer surface of the building and connected to the earth electrodes.

4.6.3 The function of the air-termination systems of a lightning protection system is to prevent that direct lightning strikes damage the volume to be protected. They must be designed to avoid uncontrolled lightning strikes to the building / structure to be protected. Air-termination systems can consist of the following components and can be combined with each other as required;

- Roof conductor / rods / Meshed conductors / Air termination
- Down conductors
- Earth termination

4.6.4 All connection between the conductors shall be welded/brazed type. Metallic pipe, conduit, structures shall be bonded to lightning protection conductors to prevent the side flashover. But no metallic pipe, conduit, structure shall be used as air termination conductor or down conductor.

4.6.5 Earth pits provided for down comers of lightning protection will be connected with general earth pits through earth strips below ground to reduce the overall earthing resistance of the grid.

4.6.6 Level-2 Lightning Protection System as per IS/IEC- 62305 has been considered for following Building-

- Shop
- Restaurant
- Guard Room

4.7 **Point Wiring**

4.7.1 The internal lighting installation shall be installed using single core of 1.5mm², PVC insulated FRLS copper wires enclosed in non-metallic PVC flexible conduit. The non-metallic PVC flexible conduit shall be of minimum 20mm size. The contractor shall size the required size of conduit considering 70% occupancy by wires. Lighting in external areas shall be installed using multi-core armoured cable of suitable sizes. The wiring shall be using multicore cable such that alternate fixtures are on different phases.

4.7.2 The 6A and 16A outlets installation shall be installed using 2.5mm² and 4mm², PVC insulated FRLS copper wires respectively enclosed in MS conduit. Necessary plug sockets as per requirement and applicable standards shall be provided.

4.8 **CIVIL DESIGN**

4.8.1 All the Civil foundation design shall be suitable for the Seismic requirement of Rourkela as per latest IS as the city of Rourkela falls in the Seismic Zone-II.

4.8.2 The design shall be considering the maximum wind speed as per IS 875-1987(Reaffirmed 1997).

4.8.3 Proposed flood light pole foundation shall be designed according to condition of soil post soil test.

4.8.4 The Grade of concrete to be used shall not be less than design Mix M30 and grade of reinforcement steel shall be Fe 500.

4.8.5 As per BOQ, DWC HDPE Pipe of appropriate length shall be embedded to draw the cable from the power cable.

4.8.6 Minimum requirement for Civil Foundations for the Lighting Pole of height 6 m are as follows;

- (a) Depth of the foundation considered is 1200 mm minimum.

- (b) Plan dimensions of footing considered is 900mm x 900mm having depth D=200 mm Minimum.
- (c) Steel in foundation base in both directions considered is T 10 @ 150 mm c/c.
- (d) Size of base plate considered is 250 mm X 250 mm having thickness 12 mm.
- (e) Four anchor bolts of 16mm dia and 700 mm total length.
- (f) Grade of concrete to be used considered is M20 (1:1.5:3) and grade of reinforcement steel considered is Fe 500 or Fe415.
- (g) As per BOQ, DWC HDPE Pipe of 1m length shall be embedded to draw the cable.
- (h) This foundation design of pole will be applicable for all types of soils i.e. soft soil, medium soil and hard soil.
- (i) As per BOQ, DWC HDPE Pipe of 1m length shall be embedded to draw the cable from the power cable.
- (j)

5.0 TECHNICAL SPECIFICATION

5.1 LIGHTING LUMINARIES

5.1.1 Applicable Standard

505 Standard for LED Luminaries

Sr. No.	Brief Title	IS/IEC Code
1.	Testing procedure of photometric testing for LED luminaires	LM 79
2.	Testing procedure on the lifespan of LEDs	LM 80
3.	National Lighting Code	SP72-2007
4.	Method of Measurement of Lumen Maintenance of Solid State Light (LED) Sources	IS:16105-2012
5.	Method of Electrical and Photometric Measurements of Solid-State Lighting (LED) Products	IS:16106-2012
6.	Limits of Harmonic Current Emissions	IS 14700-3-2-2008
7.	DC or AC supplied electronic control gear for LED modules performance requirements	IEC 62384-2006
8.	Lamp control gear: particular requirements for DC or AC supplied electronic control gear for LED modules	IEC 61347-2-13-2014
9.	Environmental Testing: Test Z- AD: composite temperature/ humidity cyclic test	IEC 60068-2-38-2009
10.	Electro Magnetic compatibility (EMC)- Limits for Harmonic current emission— (equipment input current ≤ 16 A per phase)	IEC 61000-3-2-2018
11.	EMC Immunity requirement	IEC 61547-2009
12.	LED modules for general Lighting-Safety requirements	IEC 62031-2018

13.	Classification of degree of protections provided by enclosures (IP Codes)	IEC 60529-1989,Amd 2013
14.	Fixed general purpose luminaries	IEC 60598-2-1-1979
15.	General Lighting - LEDs and LED modules – Terms and Definitions	IS:16101-2012 / IEC TS 62504-2011
16.	LED Modules for General Lighting Part 1 Safety Requirements	IS:16103(Part1)-2012
17.	LED Modules for General Lighting Part 2 Performance Requirements	IS:16103(Part2)-2012
18.	Safety of Lamp Control Gear, Part 2 Particular Requirements Section 13 D.C. or A.C. Supplied Electronic Control gear for Led Modules	IS:15885(Part2/Sec13)-2012

5.1.2 Environmental Conditions

The average atmospheric condition during the year is mentioned below. The equipment shall be designed to work in such environmental conditions:

- (a) Maximum ambient air temperature: 45° C
- (b) Minimum ambient air temperature: 5° C
- (c) Max. Relative humidity: 90%
- (d) Atmosphere: Dusty and Humid
- (e) The equipment shall be suitable to sustain and work in the humid and dusty atmosphere of Rourkela.

5.1.3 Luminary/Fixture Description

- (a) All Luminaires shall be UL/CE/BIS certified, robust & sturdy, manufactured out of Quality raw material/ inputs with proper Quality checks at each step designated to last long in the kind of application they are selected to work.
- (b) All selected Luminaires shall be minimum IP65 protected except indoor luminaires and certified for IK 07.
- (c) All RGB luminaires shall be manufactured from well binned LEDs to provide and maintain same Colour consistency over long duration of operations.
- (d) The Luminaires shall offer Flicker free output for long duration.
- (e) All Luminaires shall be Suitable to operate at auto-switching input voltage for 100 – 240 VAC, 50 Hz power supply with the tolerances as mentioned in the data sheet.
- (f) The luminaire light output (lumen) shall be constant and shall be able to withstand allowable supply source voltage variations/ fluctuations, spikes.
- (g) The entire fixture shall consume rated wattage as per data sheet maximum at full output.
- (h) The LED luminaries shall be single, self-contained device with integral electronic control gear, without requiring on-site assembly for installation.
- (i) Fixture shall have lens options.
- (j) All the Luminaire shall be complete with necessary accessories & mounting arrangements.
- (k) The Luminaries shall have housing as mentioned in datasheet.
- (l) The LED system should be digitally driven using noise-shaping pulse width modulation (PWM) techniques and use integral and differential nonlinear control.
- (m) LED fixture shall merge line voltage with control data and deliver them to the fixture over a single standard cable from the power and data interface to ensure minimum

- cabling work to aesthetic and safety purpose.
- (n) A microprocessor-controlled SSL driver shall be provided that efficiently and accurately will condition and manage power output to LED systems directly from line voltage.
 - (o) The Luminaries Housing shall be suitable for termination of 3C X 2.5 sqmm copper conductor PVC insulated flexible Cable with Double Compression Cable Glands
 - (p) All the connecting wires inside the Luminaire shall be low smoke halogen free, fire retardant cable.
 - (q) Luminaires should conform to the IS standards for Safety & Performance and test certificates as per IS 16107-2012 should be provided by the manufacturer. In case of luminaires are imported, the CONTRACTOR shall conform to test parameters as per equivalent standards.
 - (r) The electrical component of the LED and LED driver must be suitably enclosed in sealed unit to function in environment conditions mentioned earlier.
 - (s) Design of the thermal management shall be done in such a way that it shall not affect the properties of the diffuser.
 - (t) All LED fixtures shall undergo a minimum 24-hour burn-in test during manufacturing.
 - (u) The LED fixture shall be operated at constant and carefully regulated current levels. LEDs shall not be designed to be driven beyond their specified nominal voltage and current.
 - (v) High-power LED fixtures shall be thermally protected using metal core board, gap pad, and/or internal monitoring firmware thermal management techniques.
 - (w) LED fixture housing shall be designed to transfer heat from the LED board to the outside environment.
 - (x) The equipment should be compliant to IEC 60598-1, IEC 62031 and IEC/ PAS 62612 depending on the type of luminary.
 - (y) All the material used in the luminaries shall not contain any toxic material and fire retardant confirming to relevant standards.
 - (z) The control gear shall comply to the provisions of IEC 61347-2-13-2014, IEC 62031-2018 and IEC 62384-2006 as appropriate.
 - (aa) LED luminaries, should conform to the various National / International standards for safety & performance. Manufacturer should provide test reports as per LM 79 & LM80. The test report from NABL accredited laboratory shall be submitted along with the technical proposal/ Bid for LED as well as Luminaires.
 - (bb) Outdoor LED fixtures shall meet lumen maintenance standards as per LM-80, pass water ingress testing, and pass general endurance testing.
 - (cc) All hardwired connections to LED fixture shall be reverse-polarity protected and shall provide high-voltage protection in the event that connections are reversed or shorted during installation.
 - (dd) In Rourkela the switching surges are expected in the power supply system. Appropriate surge protection shall be provided by the CONTRACTOR for all the Luminaires offered by it. Such protections can either be provided centrally at the Feeder Pillar or at each individual luminaire level or a combination of both, as may be decided by the CONTRACTOR. No claim for failure of Luminaires, on account of voltage surges other than Lightning surges, will be considered.
 - (ee) The Luminaires shall be suitable for operation within the input supply voltage range specified. The driver of the light should be able to sense and cut-off power to the light in case of phase-to-phase/ 440 V fault. No claim in this regard shall be considered.
 - (ff) The lighting fixtures offered shall comply with the data sheet.
 - (gg) The luminaire shall have a warranty period of 5 years.
 - (hh) The CONTRACTOR shall develop and submit as built drawings of entire electrical system and operational manuals for all the fixtures installed to RSCL or its representative after the completion of work.

- (ii) All Luminaries under CONTRACTOR’s supply scope shall be guaranteed against quality (including any component failure and deterioration/appearance of corrosion symptoms. This shall also cover any fading (reduction)/ deterioration of reflector coating). In such case the defective luminaire shall be replaced without any cost. In case identical defects are observed on more than 5% of particular type of luminaire (installed quantity), then the complete lot of supplied/ installed luminaires of similar type shall be replaced free of charge).
- (jj) Offer shall include comprehensive technical details of the luminaires being offered. The details must be sufficient to take in to consideration maximizing of energy efficiency and minimizing overall power consumption.

5.2 **DISTRIBUTION BOARDS**

5.2.1 Applicable Standards:

The design, manufacture and performance of equipment shall conform to the latest standards specified below,

Sr. No.	Brief Title	IS/IEC Code
1.	Metal Enclosed Switchgear	IS 3427-1997 (Reaffirmed2002)
2.	Miniature Circuit Breakers	IS 8828-1996 (Reaffirmed2006)
3.	Low Voltage Fuses	IS 13703-1993 (Reaffirmed2004)
4.	Control Switches & Push button	IS 6857-1972
5.	Current Transformer	IS 2705-1992 (Reaffirmed 2002)
6.	Voltage Transformer	IS 3156-1992 (Reaffirmed 2002)
7.	Indicating instruments	IS 1248-2003

5.2.2 OLDB, MEDB, High mast DB shall be Outdoor type, Steel Support/foundation mounting, Weatherproof, double door, single front, compartmentalized enclosure with locking facilities.

5.2.3 OLDB, MEDB shall be Outdoor type, Steel Support/foundation mounting, Weatherproof, double door, single front, compartmentalized enclosure with locking facilities.

5.2.4 OLDB, MEDB shall be made of Galvanised sheet steel enclosure. All the panel shall be Outdoor type with permanent rain canopy and shall be dust, damp and vermin proof. All feeder pillars shall conform impact resistance of IK7 and above and shall be minimum IP55.

5.2.5 OLDB, MEDB shall be provided with compartmentalized enclosure. One separate compartment shall be for Incomer, incoming cable and Busbar. One separate compartment for outgoing MCB’s. One separate compartment for outgoing terminals and cables.

5.2.6 OLDB, MEDB shall be of sheet steel enclosed and shall be fully dust and vermin proof, with canopy. The sheet steel used shall be cold rolled and min 2 mm thick. The gland plate shall be min 2mm thick.

5.2.7 The fabricated enclosure shall not have any welds or bolt heads apparent from outside. All

fabrication work like cutting, drilling, punching, shearing & welding etc. related to the enclosure shall be complete before proceeding to 7 tank process. The fabricated body shall be thoroughly cleaned and treated by chemical agents as required to produce a smooth surface free of scales, grease and rust.

- 5.2.8 The LT Panel (OLDB) shall consist of Incoming Four Pole (FP) MCCB with Thermal magnetic OL, SC and E/F release, phase indicating lamps. Metering shall be done as per TPWOCL specification.
- 5.2.9 The LT panel (OLDB) shall have cable entry at the bottom suitable for terminating double compression glands for minimum 1 Run of 3.5 C X 50 sq.mm Aluminum conductor, XLPE insulated armoured cable at the incoming terminal. The LT MEDB shall have cable entry at the bottom suitable for terminating double compression glands for minimum 1 Run of 3.5 C X 16 sq.mm Aluminum conductor, XLPE insulated armoured cable at the incoming terminal and minimum 3 core 2.5 sq.mm. CU conductor, XLPE insulated armoured cable at the outgoing terminal.
- 5.2.10 The Indoor LDB shall be a 2+4way 240V MCB DB comprising of Incoming of 1 no DP MCB+RCCB, phase indicating lamps and the Outgoing shall have at least 6 nos DP MCBs
- 5.2.11 There shall be balance distribution of load among the panels. Load on each circuit shall be equally distributed.
- 5.2.12 All MCCB/MCBs/ RCBOs/RCCBs shall be comply with the relevant IS and IEC standards. It shall be current limiting type and shall provide a cut off in, < 10 ms for prospective currents during faults. It shall be provided with fixed thermal overload, short circuit and earth fault release as appropriate. The breaking capacity of the MCB shall be 10KA for 1 sec.
- 5.2.13 Both the doors shall have panel type lock with keys in duplicate as per the requirements of the RSCL.
- 5.2.14 LT panel (OLDB) provided shall be of uniform height and shall be mounted/wall at Floor in electrical room (Indoor). All the LTDB and outdoor panels provided shall be of uniform height and shall be mounted with the bottom of the panel at minimum 500mm above the Finished Ground or Floor level as the case may be supported with metal structure and foundations.
- 5.2.15 A danger notice board written in English, Hindi and Odia shall be made of 2mm thick GI plate and shall be provided on the front door of the feeder pillar.
- 5.2.16 The power and control components are as listed below;
- Copper bus bar with SMC support insulators shall be provided for power distribution within the feeder pillar. The size of phase and neutral shall be equal.
 - All connecting power & control wiring shall be carried out with stranded copper conductor PVC insulated wires. Minimum size of control wiring shall be 1.5 sq. mm and power wiring shall be 4 sq. mm.
 - An Aluminium / GI Earth bus shall be run at the bottom of the Feeder Pillar which shall be connected to the earth leads at the two extreme ends for connecting the GI earthing strip from the electrode.
- 5.2.17 The LTDBs and outdoor panels shall be mounted on prefabricated Galvanised Steel Support structure duly fastened with a concrete foundation with M20 concrete suitable to sustain the local geological conditions, seismic conditions and max wind speed requirements.
- 5.2.18 Painting:
- (a) All sheet steel work shall be paint through 7 tank electrostatic powder coating process in accordance with the required procedure and with the applicable standards. The DB enclosures shall be powder coated with shade as per RAL-7032.
 - (b) The final finished thickness of paint film on sheet steel enclosure shall not be less than 80 microns. Finished painted appearance of equipment shall present an aesthetically pleasing appearance, free from dents and uneven surfaces.

5.2.19 Earthing

- (a) Al/ GI earth bus bars of adequate size shall be provided for the entire length of the panel. The framework of the enclosure shall be connected to this earth bus. Provisions shall be made for connection from this earth bus to the main earthing bus bar coming from the earth pit on both sides of the DBs.
- (b) The earth continuity conductor of each incoming and outgoing feeder shall be connected to this earth bus bar. The armour of cables shall be properly connected with earthing clamp and the clamp shall be ultimately bonded with the earth bus bar.

5.2.20 Cable Entry:

- (a) The DBs shall have provisions of cable entry from bottom. The removable cable gland plate shall be provided to make entry dust and vermin proof.
- (b) The DBs shall have provisions for fixing the multi-core cable glands.
- (c) The cable glands support plates shall be 3 mm thick.
- (d) Cable entries to the DBs shall be from the bottom unless otherwise specified. Cable gland shall be double compression screwed type and made of brass.

5.2.21 Molded Case Circuit Breakers (MCCB)

- (a) The MCCBs shall conform to IEC 60947 & the latest applicable standards.
- (b) All MCCBs shall be of fixed type unless otherwise specified in the specifications elsewhere.
- (c) MCCBs shall be of four pole with neutral construction arranged for simultaneous four/three-pole manual closing and opening and for automatic instantaneous tripping on short circuit.
- (d) The ON, OFF and TRIP positions of the MCCB shall be clearly indicated by using LED indications.
- (e) MCCBs shall be with ICS = ICU = 100%
- (f) MCCB shall be capable of withstanding the thermal stresses caused by overloads and the mechanical stresses caused by the peak short circuit current of value associated with the switch gear rating.
- (g) All the MCCBs shall be of current limiting type and shall provide a cut off in 4-8 milli seconds for prospective currents during faults.
- (h) All the MCCBs shall be provided with rotary operating handle with door interlock.
- (i) MCCB terminals shall be shrouded and designed to receive cable lugs for cable sizes relevant to circuit ratings.
- (j) All MCCBs shall be provided with additional 2 NO + 2 NC contacts, exclusively for Purchaser's use.

5.2.22 Power & Control Wiring Connections:

- (a) Terminals for both incoming and outgoing cable connections shall be suitable for 1.1kV grade Al/ Cu conductor XLPE armoured cable and shall be suitable for connections of solder less sockets for the cable size.
- (b) Both control and power terminals shall be properly shrouded. Power terminals shall be of stud type.
- (c) 20 % spare terminals shall be provided on each terminal block. Sufficient terminals shall be provided on each terminal block so that not more than one out going wire is connected to per terminal.
- (d) Suitable barriers of enclosures shall preferably separate terminals strips for power and control from each other.
- (e) Wiring inside the modules for power, control, protection and instruments etc shall be done with use of 1.1 kV grade, multi stranded Cu, PVC FRLS wiring.
- (f) Wires for connection to the door shall be flexible. All conductors shall be crimped with solder less sockets at the ends before connections are made to the terminals.

- (g) Particular care shall be taken to ensure that the layout of wirings is neat and orderly. Identification ferrules shall be filled to all the wirings terminations for ease of identification and to facilitate checking and testing.
- (h) Washers shall be used for all Copper and Aluminum connections.
- (i) Final wiring diagram of power and control circuit with ferrule nos shall be submitted along with the DBs as one of the documents against the contract.

5.2.23 Terminals:

- (a) The outgoing terminals and neutral shall be brought to a cable alley suitably located and accessible from the panel front.
- (b) The current transformer for instruments metering shall be mounted on the disconnecting type terminal blocks. No direct connection of incoming or outgoing cables to internal components of the distribution board is permitted; only one conductor may be connected in one terminal.

5.2.24 Current Transformers:

- (a) Current transformers shall be of cast resin type. Insulation Class shall be Class 'E' or better.
- (b) Unless otherwise specified, the minimum performance requirement of current transformers is as follows:
 - Measuring CTs -Burden as per requirement with 20% buffer, accuracy class 1.0.
 - Current transformer (CT) shall have polarity markings indelibly marked on each transformer and at the lead terminations at the associated terminal block
 - CT shall be able to withstand the thermal and mechanical stresses resulting from the maximum short circuit current
 - Test links shall be provided in both secondary leads of the CTs to easily carry out current and phase angle measurement tests.
 - Identification labels giving type, ratio, output and serial numbers shall be provided.

5.2.25 Indicating Lamps shall be, Clustered LED type and of low watt consumption.

5.2.26 Junction Box

- (a) 3 way junction boxes with terminals shall be provided for branching and terminating lighting cables when required for Landscape area lighting.
- (b) The junction boxes shall be dust and vermin proof and shall be made up of Thermoplastic with removable cover plate, two earthing terminals each with nut, bolt and washer. Boxes shall be additionally weather proof. The Junction Box shall have ingress protection of IP67.
- (c) The boxes shall have provision for wall, column, pole or structure mounting or buried underground and shall be provided with cable/conduit entry knock outs, terminal blocks, as required.
- (d) The terminal blocks, with specified number of terminals, shall be mounted securely on brackets welded to the back sheet of the box. The terminals shall be 1100 V, grade, one piece construction complete with terminals, insulation barriers, galvanised nuts, bolts and washers and provided with identification strips of PVC. The terminals shall be made of Copper alloy and shall be of box clamp type.

5.3 **CABLING SYSTEM**

5.3.1 All the LV Power cables shall be 1100V grade, multi-stranded, Al / Copper conductor, XLPE insulated, extruded inner & outer PVC sheath compound type ST2 and galvanized steel strip armoured cables.

5.3.2 All cables shall conform to IS 7098 –Part I-1988 (Reaffirmed 2003) and all armouring shall conform to latest version of IS: 3975-1999.

5.3.3 For all LT power and control cables, double compression glands with aluminium lugs for Aluminium

- cables and tinned Copper lugs for Copper cables shall be used in indoor and outdoor application.
- 5.3.4 The termination shall be inclusive of miscellaneous items such as clamps, cleats, cable tags, cable markers etc.
- 5.3.5 In general cable installation works shall be carried out in accordance with IS 1255 – 1983 (Reaffirmed 1996).
- 5.3.6 For Underground cables, all cables shall be laid in HDPE and DWC pipes laid by excavation. The top of the pipe shall be at least 1000mm below the finished ground level. There should not be any joints between two lighting fixtures.
- 5.3.7 Separate cables shall be provided for Pathway lighting, tree lighting and area lighting. The cables shall be laid in HDPE pipe of size not less than 40 mm by excavation 750mm below finished ground level.
- 5.3.8 The Cables for Pathway/ Walkway lighting shall be laid in the Conduit.
- 5.3.9 LTDB incoming cables shall be provided in Double walled corrugated pipes (DWC) of size not less than 110 mm by excavation 750mm below finished ground level.
- 5.3.10 Cables within the Landscape area shall be laid buried in DWC pipe not less than 40mm dia. The cables shall be looped between the fixtures with the help of Junction box.
- 5.3.11 Cable Glands
- Double compression type cable glands with rubber hoods shall be used for the termination of all the power and control cables. Cable glands shall be brass casting, machine finished and Nickel-plated to avoid corrosion and oxidation. Rubber components used in cable gland shall be of neoprene.
 - For single core cables, gland shall be with brass ring.
 - Cable glands shall be with metric threads.
 - Cable glands shall be conical (& not flange type).
 - All glands shall be provided with rubber hoods.
- 5.3.12 Cable Lugs
- Cable lugs shall be of tinned Copper, solder less crimping type for Cu cables & Al lugs for the Al cables.
 - The current rating of the lugs shall be same as that of the respective cable conductors.
 - Ring type cable terminations shall be used.
 - Insulated lugs are not acceptable for any cable terminations.
 - Bi-metal strip/ Bi-metallic lug shall be used whenever two different metals are to be connected together.
 - Fork terminals shall be used for luminaries& decorative switch/ socket. Pin terminals may be acceptable during execution only in case other terminals/ lugs cannot be accommodated.
 - Reducer / wire pin terminals shall be avoided for MCB terminations. MCB terminations shall be with 'long palm terminals.
 - All terminations in Feeder Pillars / enclosure for earthing & neutral busbars / terminals shall be with ring type terminals.
 - All earthing terminations shall be with ring type lugs only.
 - All control & interlock cable terminations shall be with ring type lugs.
 - Anticorrosion/ anti-oxidation compounds shall be used for crimping lugs. This shall especially be ensured for Al cable terminations & any bimetallic terminations (Cu cable termination using tinned Copper lugs).
- 5.3.13 If termination is done with crimping tool employing crimping die then forming dies shall be used to make the sector shaped conductor into a round conductor before crimping the lugs on the conductor. The lug must not be crimped directly on the sector conductor. Before crimping the lug, the conductor shall be thoroughly cleaned and special jelly applied over it to prevent further oxidation.
- 5.3.14 Point Wiring
- Point wiring work shall include the, PVC conduit, joints, connectors, conduit

accessories, FRLS PVC insulated stranded copper conductor wires and earthing wires, pull boxes, ceiling rose, clamps, cleats, hardware, accessories, anchor fasteners, modular switch boards with cover plates, switches, sockets, box, blank plates, receptacles and all other necessary accessories as per specifications etc.

- (b) Wiring shall be done in wire colour codes. Colour code of wire for Phases, Neutral and Earth shall be separate. The necessary connector if found required for looping of wires from one switchboard to another switchboard shall be included in the scope.
- (c) Lighting fixtures and toilet exhaust fans shall be grouped on the single circuit wherever required. However, separate circuits shall be used for receptacles wiring.
- (d) Wires of the different phases shall not be laid in the same conduit.
- (e) Switchboard shall be recessed mounted.
- (f) The switch boxes, receptacle boxes etc. shall be made up of 16 SWG sheet steel.
- (g) The wire and cable indicated below for distribution of the power are the minimum requirement. The CONTRACTOR shall arrive at the actual size based of the design criteria mentioned above.
- (h) Point wiring in the Shops, Electrical room, Admin office, Ticket & information centre and Public Toilet block shall be done as per the following points,
 - Point Wiring for the luminaries from the DB to the switchboard and from the switchboard to the luminaries shall be done with 750V grade min 2.5 Sq.mm (2Nos.-Ph.+N) & 1.5 Sq.mm (for earthing of socket) PVC insulated, multistrand Cu conductor flexible wires running through 25mm inner dia.1.6mm thick, black stove enamelled painted PVC conduit running concealed/exposed in false ceiling and concealed on brick wall
 - Point Wiring for the 6A Raw power socket from the DB shall be done with 750V grade 2.5 Sq.mm (2Nos.-Ph.+N) & 1.5 Sq.mm (for earthing of luminaire) FRLS PVC insulated, multistrand Cu conductor flexible wires running through 25mm inner dia.1.6mm thick black stove enamelled painted PVC conduit running concealed/exposed in false ceiling and concealed on brick wall.

5.4 **EARTHING SYSTEM**

5.4.1 Applicable Standard:

The general design shall be on the basis of following codes and standards (their latest amendments) in line with design criteria & specification requirements.

- (a) IS 3043-2018 –Code of practice for Safety Earthing
- (b) Central Electricity Authority (CEA) Regulations – 2010
- (c) National Building Code 2016

The maximum values of earth fault current for the design of the earthing system shall be calculated as per the design criteria.

5.4.2 The design basis for designing earthing conductor is indicated under design criteria for electrical system.

5.4.3 GI Pipe electrodes shall be provided for all the equipment and system earthing.

5.4.4 The earth plate shall be buried in specifically prepared earth pit 3 mtr. below ground with alternate layers of charcoal and salt, 40 NB GI pipe with funnel with a wire mesh for watering and bricks masonry block CI Cover complete as per IS 3043-2018 with necessary length of double Copper earth flat bolted with lug to the plate complete connected to the transformer neutral with end socket as per direction and duly tested by earth tester conforming to IS as per drawing and specifications complete with 600 x 600 x 3.15 mm Copper earth plate or as specified by CEIG.

5.4.5 Earth electrodes shall be of heavy duty galvanized mild steel pipe of not be less than 40 mm NB or as specified by CEIG. The earth electrode shall be complete with alternate layers of charcoal/

- coke, salt and Black cotton soil; GI pipe with meshed funnel for watering; brick masonry block and CI Cover, with necessary test link conforming to IS 3043-2018 or as specified by CEIG.
- 5.4.6 The minimum spacing between two adjacent earthing pits shall not be less than 3000mm and shall be kept 1500 mm away from footings of the structure.
- 5.4.7 Earthing chamber shall be of RCC/ brick chamber of 600 mm x 600 mm, with hinged cast Iron chequered cover plates. The covers shall have holes for handling. Earthing pits (chambers) shall be painted Green and the earth-pit number shall be marked on it.
- 5.4.8 Two separate earth pit shall be provided to outdoor feeder pillars with earth flat. Size of the flat shall be determined with respect to fault level.
- 5.4.9 GI Pipe electrodes shall be provided 2 No. for every high mast and stone column lights as per IS 3043 - 2018 or better. Electrode shall be connected to the equipment by two runs of GI strip laid in HDPE/ DWC pipes. Size of the flat shall be determined with respect to fault level.
- 5.4.10 Minimum 6/8 SWG GI wire shall be carried along with the cable in the HDPE pipe laid for Indoor LDB to earth pit.
- 5.4.11 Wherever earthing conductor passes through HDPE pipe, sleeves shall be provided. Both ends of the sleeve shall be sealed to prevent the passage of water through the sleeves.

5.5 **HIGH MAST**

- 5.5.1 The scope of the high mast lighting shall covers the manufacture transport, installation, testing & commissioning of the complete high mast lighting system, using raising & lowering type of high mast ,towers, including the civil foundation works.

5.5.2 **Structure**

The High mast shall be of continuously tapered, polygonal cross section, 20 sided, presenting a good and pleasing appearance, assured performance, and reliable service. The top height of mast shall be not less than 15 m. The plate thickness shall be 3 mm for bottom and 3 mm for top section for wind speed in Rourkela as per relevant standard.

5.5.3 **Construction**

The mast shall be capable of safely withstanding the wind speed as laid down by IS: 875/1987 (Part III). The mast shall be fabricated from steel plates confirming to BS EN 10025 or equivalent having minimum yield strength of 355 N/Sq. mm and silicon content in steel shall be less than 0.06%, cut and folded to form 20 sided polygonal sections and welded with automatic sub merged arc welding machine. The high mast shall be delivered only in not more than two sections and shall be joined together by slip stressed-fit method at site. No site welding or bolted joint shall be done on the mast. The High mast shaft shall have only one longitudinal weld without any circumference weld. The minimum overlap distance shall be 1.5 times the diameter at penetration. The mast shall be provided with full-penetrated flange, which shall be free from any laminations or inclusions. The welded connection of the base flange shall be fully developed to the strength of the entire section. The base flange shall be provided with supplementary gussets between the bolt holes to ensure elimination of helical stress concentration. For the environmental protection of the mast, the entire fabricated mast shall be hot dip galvanized, internally and externally as per BS EN ISO 1461. The deflection of the mast is to be limited to 1/40 of the height at 2/3 of the design wind speed.

A door reinforced with welded steel section, vandal resistant, weather proof with Allen bolts and pad locking facility of dimension 1200 mm x 250 mm shall be provided at a height 2 times the width of door from the base of mast to provide clear access to base compartment equipments winch, motor, cable, connector etc;

5.5.4 **Dynamic Loading for the Mast**

The mast structure shall be suitable to sustain an assumed maximum reaction arising from a

wind speed as laid down by IS: 875/1987 (Part III) and shall be measured at a height of 10 metres above ground level. The design life of the mast shall be minimum of 25 years. Wind excited oscillations shall be damped by the method of construction and adequate allowance shall be made for the related stresses.

5.5.5 Foundations & Foundation Bolts

Foundation bolts set shall comprise minimum 6 nos. 24 mm diameter, 850 mm long, 6.8 grade bolts, anchor plate 8 mm thick and template. The exposed portion of the bolts and nuts washers shall be hot dip galvanized. Foundation shall be designed for the reaction arising out of the dynamic loading of the high mast for the actual safe soil bearing at site. RCC foundation shall be with M20 grade concrete.

5.5.6 Lightning Finial, Earthing and Earthing Terminals

Suitable earthing terminals using 12 mm diameter galvanised bolts shall be provided at a convenient location on the base of the Mast. Two earth pit pipe type as per IS 3043 shall be provided for each mast for lightning protection and earthing one for each. One lightning finial is to be provided on top of mast.

5.5.7 Raising and lowering mechanism:

Winch:

The double drum winch shall be completely self sustaining without the need for brake shoe, springs or clutches and self-lubricating type by means of an oil bath. The worm gear ratio shall be 53:1 and safe working load 350 Kg. The drums are to be grooved to provide perfect seat for stable and tidy rope lay and arrangement for distortion free rope end termination.

The winch shall have provision to operate manually by a handle or electrically through power tool. The capacity, operating speed, safe working load, recommended lubrication and serial number of the winch shall be marked on each winch.

The winch shall be type tested through reputed institutions as consultants and the type test report shall be submitted along with offer. A test certificate is to be submitted along with supplies.

5.5.8 Head Frame

The hot dip galvanized head frame is to be designed as a capping unit of the mast is of welded steel construction and provided with guides and separators between the ropes and cable. The LM6 Aluminum pulley's with bush bearing mounted through stainless steel shaft shall be suitable to accommodate wire ropes and multi core trailing cable. The head frame shall be provided with guides and stops with PVC buffer for the docking of luminaries carriage. The pulley assembly shall be covered by a hot dip galvanized canopy.

5.5.9 Stainless Steel Wire Ropes:

The stainless steel wire ropes shall be in AISI 304 grade, 7/19 construction with central core in the same material of 8mm diameter. The breaking load of each rope shall not be less than 2900 Kg giving a factor of safety of over 5 for the system at full load as per the TR-7. The end construction of rope for the winch drum shall be fitted with talurit and for two continuous ropes the end termination in luminary's carriage shall be with stainless steel thimble and copper splicing and for others with stainless steel thimble and bull dog grips.

5.5.10 Power Tool for the Winch:

Three phase, single speed, 6 pole high-powered motor of rating suitable to lift the load mounted on adjustable plate to adjust the length of winch motor coupling chain is to be provided in base

compartment.

Mechanical torque limiter is to be mounted on motor shaft to stop transmission of motion from motor to winch in case of excess load and thus prevent the damage to winch and breakage of rope.

5.5.11 Electrical System, Cable and Cable Connections

The multi core trailing cable from base compartment to junction box at luminaries carriage shall be 1.1 KV grade EPR insulated, PCP sheathed copper conductor with male female connectors of size minimum 5 core x 2.5 sq. mm. There shall be two nos. cables per mast. Wiring from junction box to luminaries is to be done using 3 core 1.5 sq. mm PVC insulated, PVC sheathed, copper conductor flexible cable.

Suitable arrangement is to be provided in the base compartment to receive and terminate incoming power cable and MCB in a box for isolation of incoming power supply.

5.5.12 Aviation Obstruction Lights:

Two number Low intensity LED Aviation Obstruction Lights shall be provided on luminaries carriage where ever required.

5.5.13 Incoming Power Cable:

1.1 KV grade, XLPE insulated, PVC sheathed, Aluminum conductor, armoured cable for power supply shall be provided from feeder pillar to the base compartment of the high mast. Cable shall be taken to the base compartment of the high mast through the provision made in the foundation.

5.5.14 Documents to be submitted:

Structural calculations and foundation bolt calculation for the high mast.

Foundation design and drawing for the high mast.

Sample and test report of the signage material being used.

Area lighting calculation in Dialux.

6.0 MAKE LIST

Sr. No	Description	Approved Make
1	High Mast Pole	Valmont/ Neozone/ Transrail
2	LED Chip	Cree, Osram, Nichia, Philips Lumileds or Equivalent
3	Lighting Fixtures	Philips/ Ligman/ Wipro/ Bajaj/ Havells/Lighting Technology or Equivalent
4	Cable	KEI/ POLYCAB / Universal / RPG/ Equivalent
5	Gland/Lugs	As per OPWD Approved list or Dowells, Commet, Connectwell or Equivalent
6	Earthing Material	As per OPWD Approved list
7	MCCB , MCB, RCCB, RCBO and other Switchgears	Schneider, Siemens, ABB. L&T, MDS, Hager, Havells, C&S or Equivalent

8	Time Switch	L&T GIC, Siemens, Schneider, Legrand, Hager, ABB, Havells, C&S or Equivalent
9	Energy meter, MFM	L&T (Quasar) or Equivalent
10	Contactora and other switchgears	L&T, Siemens, Schneider, ABB or Equivalent
11	HDPE/ DWC Pipe	Astral, Duraline, Alcorr or Equivalent
12	Junction Box	Hensel or Equivalent
13	LT Panels	As per OPWD Approved list

Note:-

- (i) RSCL shall decide the above makes of the materials. The CONTRACTOR has to comply with the approved makes given in the tender document.
- (ii) The CONTRACTOR shall offer the equipment of makes mentioned above. Other makes are subjected to Client approval before procurement.
- (iii) Samples from all the approved makes shall be offered for selection.

7.0 LIST OF DRAWING AND DOCUMENTS

- 7.1 Following list of the documents and drawings shall be submitted to RSCL or its representative with Bid documents
- (a) SLD of Power distribution
 - (b) Lighting Design & Calculations (Dialux IES Files shall be provided along with PDF)
 - (c) Bill of quantity of identified fixtures.
 - (d) UL/CE/BIS certification of selected luminaries.
 - (e) Test report of luminaries as per LM79 & LM80.
 - (f) NABL accredited test report of luminaries.
- 7.2 Following list of the documents and drawings shall be submitted to RSCL or its representative after award of contract,
- 7.3 **Calculations**
- (a) Electrical Load List and demand Calculations
 - (b) Earthing Calculations for Electrical System
 - (c) Cable schedule with Sizing Calculations
 - (d) Lighting Calculations (Dialux IES Files shall be provided along with PDF)
- 7.4 **For Light fixtures and luminaries**
- (a) Illumination Concept for each element
 - (b) Lighting Calculations for each Area - Dialux calculations, visualizations and glare control lumen maintenance. (Software Files shall be provided along with PDF)
 - (c) Type of Fittings, Soft Copy of Catalogues, Data Sheet, Polar Diagrams, Cone Diagrams, IES Files of the luminaries should be submitted
 - (d) Pictorial formations / digital renders themes/ Views from all angles and close ups using 3D software.
 - (e) Lighting layout of area as per application.
 - (f) Rendered view of identified fixtures.
 - (g) Bill of Quantities.
 - (h) UL/CE/BIS certification of selected luminaries.
 - (i) Test report of luminaries as per LM79 & L80.
 - (j) NABL accredited test report of luminaries.
- 7.5 **For Electrical equipment**
- (a) Single Line Diagram for Power Distribution
 - (b) Equipment Sizing calculations.
 - (c) Cable layout, Earthing layout.
 - (d) Bill of Quantities
- 7.6 **MDB/LTDB/ Outdoor Panel/ LDB**
- (a) GA Drawing
 - (b) Type test Certificate for Short Circuit withstand capacity
 - (c) Type test certificate for IP protection
 - (d) Door open view of Distribution boards
 - (e) Data sheet of major Equipment's
 - (f) Wiring Diagram
 - (g) Bill of Quantities
 - (h) Makes Of Components offered
 - (i) Foundation drawings and supporting arrangement drawing
- 7.7 **High Mast**
- (a) Structural calculations and foundation bolt calculation for the high mast.
 - (b) Foundation design and drawing for the high mast.
 - (c) Sample and test report of the signage material being used.
 - (d) Area lighting calculation in Dialux.

7.8 Construction Drawings of the following

- (a) Cable schedule
- (b) Circuit distribution scheme
- (c) Cable routing drawing
- (d) Equipment Layout
- (e) Power Distribution Scheme
- (f) Switch Board Schedule
- (g) Point Wiring Drawing for Lighting and power
- (h) General arrangement of equipment Layout of the shops / rooms/ Landscape area/ Pathways/ Walkways.

8.0 DATA SHEET

- (a) High Mast:

Height of mast	12.5 Meter
No. of sections	2
Material construction	S 355 grade as per BS-EN10 025
Base dia. and top diameter (A/F)	Top : 150 mm,Bottom : 360 mm
Plate thickness	Top : 3 mm,Bottom : 3 mm
Cross section of Mast	20 side polygon.
Standard for of galvanization	As per BS EN ISO 1461
Size of opening and door at base	1050 x 225 mm
Diameter of base plate	520 mm
Thickness of base plate	25 mm
Max.wind speed	50m/s as per IS : 875 (Part - III)
Diameter of carriage ring (mm)	450 mm (ID)
Construction	6 Arm, Welded, 2 sections
Load carrying capacity	6 Luminaire
Type / SWL of winch	Double drum, SWL 350 Kg
Method of operation	Integral Motor
Motor capacity	0.75 HP
No of speeds	6 Pole, Single speed
Number of ropes	Two continuous

9.0 PRE COMMISSIONING TESTS ON ELECTRICAL SYSTEM EQUIPMENT TO BE CARRIED OUT AFTER INSTALLATION:

9.1 PRE-COMMISSION TESTS:

Pre-commissioning tests in the specification requirements for various equipment but not limited to following shall be carried out by CONTRACTOR in presence of Purchaser/ Purchaser's representative. Commissioning shall be carried out only after obtaining satisfactory results, acceptable to Purchaser/ Purchaser's representative.

9.2 LT Distribution Boards:

- (a) IR Values of power & control circuits.
- (b) Interlocks circuits
- (c) Indication / Panel space heater circuit

9.3 Power and Control Cables:

- (a) IR Values before Hipot
- (b) Hipot Test - Measurement of leakage current
- (c) IR Values after Hipot

9.4 Lighting System:

- (a) Visual inspection for operating problems
- (b) System activation -burning in the lamps for 100 Hrs
- (c) Measuring light level & reflectance.

9.5 Earthing System:

- (a) Earthing resistance of each electrode.
- (b) Overall earthing resistance of the system for a group which is interconnected.

PROCEDURE UNDER E-TENDERING INSTRUCTIONS TO APPLICANTS

DEFINITIONS:

- a) Tender portal: The e-Procurement Portal of Government of Odisha introduced for the process of e-Tendering which can be accessed on <https://www.tendersodisha.gov.in>.
- b) Use of valid Digital Signature Certificate of appropriate class (Class II or class III) issued from registered certifying authorities (CA) as stipulated by Controller of Certifying Authorities (CCA), Government of India such as n- Code, Sify, TCS, MTNL, e-Mudhra is mandatory for all users.
- c) For all purpose, the server time displayed in the e-Procurement portal shall be the time to be followed by all the users.

Words in capital and not defined in this document shall have the same meaning as in the Request for Proposal (“BID”).

1. PARTICIPATION IN BID:

1.1 PORTAL REGISTRATION:

The Contractor/Bidder intending to participate in the bid is required to register in the portal using his/her active personal/official e-mail ID as his/her Login ID and attach his/her valid Digital signature certificate (DSC) to his/her unique Login ID. He / She has to submit the relevant information as asked for about the firm/contractor. The portal registration of the bidder/firm is to be authenticated by the State Procurement Cell after verification of original valid certificates/documents such as (i) PAN and (ii) Registration Certificate (RC) / VAT Clearance Certificate (for procurement of goods) /GST Certificate of the concerned bidder. The time period of validity in the portal is at par with validity of RC/ VAT Clearance/GST Certificate. Any change of information by the bidder is to be re authenticated by the State Procurement Cell. After successful authentication bidder can participate in the online bidding process.

1.2 Bidders participating through Joint Venture shall declare the authorized signatory through Memorandum of Understanding duly registered and enroll in the portal in the name and style of the Joint venture Company. It is mandatory that the DSC issued in the name of the authorised signatory is used in the portal. For participating in the tender, the authorized signatory holding Power of Attorney shall be the Digital Signatory. In case the authorized signatory holding Power of Attorney and Digital Signatory are not the same, the bid shall be considered non-responsive.

1.3 Any third party/company/person under a service contract for operation of e- Procurement system in the State or his/their subsidiaries or their parent companies shall be ineligible to participate in the procurement process that are undertaken through the e-Procurement system irrespective of who operates the system.

2. LOGGING TO THE PORTAL:

The Contractor/Bidder is required to type his/her Login ID and password. The system will again ask to select the DSC and confirm it with the password of DSC as a second stage authentication. For each login, a user’s DSC will be validated against its date of validity and also against the Certificate Revocation List (CRL) of respective CAs stored in system database. The system checks the unique Login ID, password and DSC combination and authenticates the login process for use of portal.

3. DOWNLOADING OF BID:

The bidder can download the tender of his choice and save it in his system and undertake the necessary preparatory work off-line and upload the completed tender at his convenience before the closing date and time of submission.

4. CLARIFICATION ON BID:

The bidder may ask question related to tender online in the e-procurement portal within the period of seeking clarification. The Officer inviting the bid /Procurement Officer-Publisher will clarify queries related to the tender.

5. PREPARATION & SUBMISSION OF BID

5.1 Detailed BID may be downloaded from Tender Portal for detail study and preparation of his bid and the Application may be submitted online following the instructions appearing on the screen.

5.2 The following shall be the form of various documents in the Application:

A. Only Electronic Form (to be uploaded on the Tender Portal)

- (a) Power of Attorney for signing the Application
- (b) If applicable, the Power of Attorney for Lead Member of JV;
- (c) Copy of Memorandum of Understanding between JV partners, if applicable.
- (d) Copy of Memorandum of Understanding with Associate, if applicable.
- (e) Technical proposal as per format prescribed as per clause no 102 of BID
- (f) Bid Security Declaration only in shape of given format of DTCN having validity of 180 day Rourkela Payable at Rourkela in favor of beneficiary mentioned in the Instruction to Bidder or as per DTCN
- (g) Price Bid as per BOQ.
- (h) Other documents as per requirement of BID.

5.3 The Applicant shall upload scanned copies of the documents as specified in

5.2(A) above on the Tender Portal in designated locations of Technical Proposal and Price Bid(BOQ) before 14:00 hours Indian Standard Time on the Application due date i.e. on 23.11.2021 (date to be specified).

5.4 It may be noted that the scanned copies can be prepared in file format i.e. PDF and/or JPEG only. The Applicants can upload a single file of size of 5 MB only but can upload multiple files.

5.5 The bidder shall log on to the portal with his /her DSC and more to the desired tender for up loading the documents in appropriate place one by one simultaneously checking the documents.

5.6 Bids cannot be submitted after due date and time. The bids once submitted cannot be viewed, retrieved or corrected. The Bidder should ensure correctness of the bid prior to uploading and take print out of the system generated summary of submission to confirm successful uploading of bid.

The bids cannot be opened even by the OIT or the Procurement Officer Publisher/ opener before the due date and time of opening.

5.7 Each process in the e-procurement is time stamped and the system can detect the time of log in of each user including the Bidder.

5.8 The Bidder should ensure clarity/legibility of the document uploaded by him to the portal.

5.9 The system shall require all the mandatory forms and fields filled up by the contractor during the process of submission of the bid/tender

5.10 The bidder should check the system generated confirmation statement on the status of the submission.

5.11 The Bidder should upload sufficiently ahead of the bid closure time to avoid traffic rush and failure in the network.

5.12 The tender inviting officer is not responsible for any failure, malfunction or breakdown of the electronic system used during the e-procurement process.

5.13 The Bidder is required to upload documents related to his eligibility criteria and qualification information and Price Bid (BOQ) duly filled in.

5.14 The Bidder will not be able to submit his bid after expire of the date and time of submission of bid (server time). The date and time of bid submission shall remain unaltered even if the specified date for the submission of bids declared as a holiday for the Officer Inviting the Bid.

6. SIGNING OF BID:

The 'online bidder' shall digitally sign on all statements, documents, certificates uploaded by him, owning responsibility for their correctness /authenticity as per IT ACT 2000. If any of the information furnished by the bidder is found to be false / fabricated / bogus, his EMD/ Bid Security shall stand forfeited & his name shall be recommended for blocking of portal registration and the bidder is liable to be blacklisted.

7. SECURITY OF BID SUBMISSION:

7.1 All bid uploaded by the Bidder to the portal will be encrypted.

7.2 The encrypted Bid can only be decrypted / opened by the authorized openers on or after the due date and time.

8. RESUBMISSION AND WITHDRAWAL OF BIDS:

8.1 Resubmission of bid by the bidders for any number of times before the final date and time of submission is allowed.

8.2 Resubmission of bid shall require uploading of all documents including price bid a fresh.

8.3 If the bidder fails to submit his modified bids within the pre-defined time of receipt, the system shall consider only the last bid submitted.

8.4 The bidder should avoid submission of bid at the last moment to avoid system failure or malfunction of internet or traffic jam or power failure etc.

8.5 The Bidder can withdraw his bid before the closure date and time of receipt of the bid by uploading scanned copy of a letter addressing to the Procurement Officer Publisher (Officer Inviting Tender) citing reasons for withdrawal. The system shall not allow any withdrawal after expiry of the closure time of the bid.

9 OPENING OF THE BID:

9.1 Bid opening date and time is specified during tender creation or can be extended through corrigendum. Bids cannot be opened before the specified date & time.

9.2 All bid openers have to log-on to the portal to decrypt the bid submitted by the bidders.

9.3 The bidders & guest users can view the summary of opening of bids from any system. Contractors are not required to be present during the bid opening at the opening location if they so desire.

9.4 In the event of the specified date of bid opening being declared a holiday for the Officer inviting the Bid, the bids will be opened at the appointed time on the next working day.

9.5 Combined bid security for more than one work is not acceptable.

10. EVALUATION OF BIDS:

10.1 All the opened bids shall be downloaded and printed for taking up evaluation.

The officer authorized to open the tender shall sign and number on each page of the documents downloaded and furnish a certificate that "the documents as available in the portal containing--- nos of pages".

10.2 The bidder may be asked in writing/ online to clarify on the uploaded documents provided in the Technical Bid, if necessary, with respect to any doubts or illegible documents. The officer inviting tender may ask for any other document of historical nature during Technical evaluation of the tender. Provided in all such cases, furnishing of any document in no way alters the Bidder's price bid. Non submission of legible documents may render the bid non-responsive.

10.3 The bidders will respond in not more than 7 days of issue of the clarification letter, failing which the bid of the bidder will be evaluated on its own merit.

10.4 The Technical evaluation of all the bids shall be carried out as per information furnished by Bidders.

10.5 The Procurement Officer-Evaluators; will evaluate bid and finalize list of responsive bidders.

10.6 The financial bids of the technically responsive bidders shall be opened on the due date of opening. The Procurement Officer-Openers shall log on to the system in sequence and open the financial bids.

10.7 The Financial Bid will be opened on the notified date & time in the presence of bidders or their authorised representative who wish to be present.

10.8 At the time of opening of "Price Bid (BOQ)", bidders whose technical bids were found responsive and qualified will be opened.

10.9 The responsive bidders' name, bid prices will be announced.

10.10 Procurement Officer-Openers shall sign on each page of the downloaded Price Bid (BOQ).

10.11 Bidder can witness the principal activities and view the documents/summary reports for that particular work by logging on to the portal with his DSC from anywhere.

10.12 System provides an option to Procurement Officer Publisher for reconsidering the rejected bid with the approval of concern Chief Engineer / Head of Department.

10.13 The L-1 bidder shall have to produce the original documents in support of the scanned copies and statements uploaded in the portal within 5 days of opening of price bid.

DISCLAIMER

The Applicant must read all the instructions in the BID and submit the same accordingly