



**NATIONAL AGRICULTURAL COOPERATIVE MARKETING
FEDERATION OF INDIA LTD.(NAFED)
NAFED House, Siddhartha Enclave
Ashram Chowk, Ring Road
New Delhi-110014**

**REQUEST FOR QUOTATION (RFQ)
FOR
CIVIL AND ASSOCAITED WORKSOF
HONEY PROCESSING PLANT AT BHARATPUR
(RAJASTHAN)**

- 1. RFQ NO. HO/FOF/NBHM/CIVIL WORK BHARATPUR/2021-22**
- 2. Dated: 06-01-2022**
- 3. Last Date of submission: 19.01.2022, 5:00PM**
- 4. Pre-Bid Meeting Date: 11.01.2022**



**NATIONAL AGRICULTURAL COOP. MAKTG. FED. OF INDIA LTD. (NAFED) NAFED HOUSE,
SIDDHARTHA ENCLAVE
ASHRAM CHOWK, RING ROAD
NEW DELHI-110014
www.nafed-india.com**

NOTICE INVITNG TENDER

REQUEST FOR QUOTATION (RFQ) FOR CIVIL AND ASSOCIATED WORKS OF HONEY PROCESSING PLANT AT BHARATPUR (RAJASTHAN) AS PER TECHNICAL SPECIFICATIONS AS MENTIONED IN THE TENDER DOCUMENT AND ANNEXURES.

1. Name and address of the

Contractor:

Date of issue:

2. Issued by.....

3. Received Demand Draft

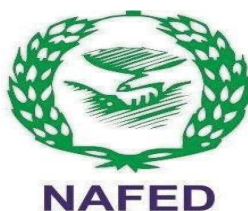
i. Banker's details:

ii. Cheque No

iii Date.....

iv. Bank & Branch

v. Amount



Sr. No.	Description	Target Information
1.	Reference No. of tender document	HO/FOF/NBHM/CIVIL WORK BHARATPUR/2021-22
	Purpose	For civil and associated works of honey processing plant at Bharatpur (Rajasthan) as per technical specifications as mentioned in the tender document and annexures.
	Title of the Plot	The land shall be arranged by NAFED
2.	Date of issue/sale of tender document	From <u>06.01.2022</u> to <u>19.01.2022</u> (upto 17:00 hrs.) from National Agricultural Cooperative Federation of India Ltd., NAFED HOUSE, Siddhartha Enclave, Ashram Chowk, Ring Road, New Delhi 110014 OR from NAFED website www.nafed-india.com
3.	Pre-bid Meeting	<u>11.01.2022</u> at 14 00 hrs (venue: Nafed, New Delhi/Online)
4.	Last date & time for submission of bids	<u>19.01.2022</u> up to 1700 hrs
5.	Date & time of opening of technical bids	<u>20.01.2022</u> at 1600 hrs
6.	Opening of Financial Bids	Will be intimated later to all technically qualified bidders
7.	Earnest Money Deposit (EMD) in the form of a demand draft/banker's cheque.	2% of the Contract Value through demand draft/NEFT Banker's cheque drawn in favor of " NAFED " " on any scheduled commercial bank payable at New Delhi be enclosed with the technical bid. Contract Value is equivalent to amount submitted in Financial Bid.
8.	Cost of tender document	Rs.5900/ (Rupees Five Thousand and nine hundred only)(Non- refundable) through a demand draft/ Banker's cheque or NEFT in favour of " NAFED " from any scheduled bank, payable at New Delhi. NEFT details for the same is as follows: Beneficiary:: NAFED Account No. 7012660135 Branch Code: 1516 BANK Address: Indian Bank, Vikaspuri Branch, M-167, M BLOCK, New Delhi - 110018
9.	Contact Person for queries (Strictly between 1430 to 1700 hrs on working days only)	Sh. Unnikrishna Kurup R, GM (FOF) Nafed, New Delhi (Ph No.: 011-26340019) Ajay Agrawal , M (FOF), 9509994666 Sh. Vinod Kaul (Mob. : 9650377799)/(9868177799) Sh. Vanish Kumar (Mob. : 9717554935), Project Consultant & Coordinators from Mariental India Pvt. Ltd., New Delhi
10	Address for Bid Submission	National Agricultural Cooperative Federation of India Ltd., NAFED HOUSE, Siddhartha Enclave, Ashram Chowk, Ring Road, New Delhi 110014
11	Validity	The bids submitted shall remain valid for a period of 120 days from the date of opening the technical bid.



1. NOTICE OF DISCLAIMER

- i. The information contained in this RFQ or subsequently provided to intending Applicant(s) whether verbally or in documentary form by or on behalf of National Agricultural Cooperative Marketing Federation of India Ltd. (NAFED) or any of its employees or officers (referred to as “NAFED Representative”) is provided on the terms and conditions set out in this RFQ document and all other terms and conditions subject to which such information is provided.
- ii. No part of this RFQ and no part of any subsequent correspondence by NAFED, or NAFED Representatives shall be taken neither as providing legal, financial, or other advice nor as establishing a contract or contractual obligations. Contractual obligations would arise only if and when definitive agreements have been approved and executed by the appropriate parties having the authority to enter into and approve such agreements.
- iii. The RFQ document has been prepared solely to assist prospective Applicants in making their decision to place their applications against this RFQ. NAFED does not purport this information to be all-inclusive or to contain all the information that a prospective Applicant may need to consider in order to submit an application. The data and any other information wherever provided in this RFQ is only indicative and neither NAFED, nor NAFED Representatives, will make or will be deemed to have made any current or future representation, promise or warranty, express or implied as to the accuracy, reliability or completeness or the information contained herein or in any document or information, whether written or oral, made available to an Applicant, whether or not the aforesaid parties know or should have known of any errors or omissions or were responsible for its inclusion in or omission from this RFQ.
- iv. Neither NAFED nor NAFED Representatives make any claim or give any assurance as to the accuracy or completeness of the information provided in this RFQ Document. Interested parties are advised to carry out their own investigations and analysis or any information contained or referred to herein or made available at any stage in the bidding process in relation to this RFQ. Applicants have to undertake their own studies and provide their applications.
- v. This RFQ Documents is provided for information purposes only and upon the express understanding that such parties will use it only for the purpose set forth above. It does not purport to be all-inclusive or contain all the information about the proposal in relation to which it is being issued.
- vi. The information and statements made in this RFQ document have been made in good faith. Interested parties should rely on their own judgments in participating in the said Project. Any liability is accordingly expressly disclaimed even if any loss or damage is caused by any act or omission on part of the aforesaid, whether negligent or otherwise.
- vii. The RFQ Document has not been filed or approved in any jurisdiction. Recipients of this document should inform themselves of and observe any applicable legal requirements. NAFED makes no representation or warranty and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of the RFQ Document.
- viii. NAFED reserves the right to reject all or any of the Applications submitted in response to this RFQ at any stage without assigning any reasons whatsoever.



- ix. All Applicants are responsible for all costs incurred by them when evaluating and responding to this document and any other costs incurred by the applicant thereafter.
- x. NAFED may at its sole discretion proceed in the matter it deems appropriate which may include deviation from its expected evaluation process, the waiver of any documents and the request for additional information.
- xi. Unsuccessful Applicants will have no claim whatsoever against neither NAFED nor its employees, officers.
- xii. NAFED reserves the right to modify, suspend, change or supplement this RFQ at any stage. Any change to the RFQ will be notified on NAFED website by way of corrigendum.
- xiii. Mere submission of an application does not ensure selection of the Applicant as Successful Applicant or applicant.
- xiv. National Agricultural Cooperative Marketing Federation of India Ltd., an apex level Cooperative Marketing Organization, registered under the relevant provisions of the Multi State Cooperative Societies Act, 2002 (as amended up-to-date), having its Head Office at NAFED House, Siddhartha Enclave, Ashram Chowk, New Delhi-110014, (hereinafter referred to as the "NAFED").



INTRODUCTION AND OVERVIEW

1. INTRODUCTION

National Agricultural Cooperative Marketing Federation of India Limited (NAFED) is an apex organization of marketing cooperatives in India. NAFED is also one of the central nodal agencies for procurement of notified agricultural commodities like onion, apple, potato and other perishable horticulture crops under Price Support Scheme (PSS) and Market Intervention Scheme (MIS). NAFED is also procuring Pulses for Buffer Stocking under Price Stabilization Fund (PSF) Scheme of Government of India.

2. OVERVIEW

- a. Keeping in view the importance of beekeeping and to achieve the goal of "Sweet Revolution" the need for a holistic development of beekeeping was felt. Accordingly, a new Central Sector Scheme "National Beekeeping and Honey Mission (NBHM)" for overall promotion & development of scientific beekeeping and production of quality honey & other beehive products is approved by the Govt. of India. The scheme is being implemented through National Bee Board as a Central Sector Scheme with funding by Central Government.
- b. Under Mini Mission-II the Government wants to concentrate on post-harvest management of beekeeping/ beehive products including collection, processing, storage, marketing, value addition, etc. with a thrust to develop requisite infrastructural facilities for these activities; and the NBHM will work in coordination with other Governmental programs / schemes relating to promotion of beekeeping for the overall promotion & development of scientific beekeeping in the country.
- c. NAFED has offered to implement the proposed project under the NBHM by the establishment of Hub and Spoke Models of Honey and Bee Products through Production, Processing, Branding and Marketing of Honey Involving FPOs of Beekeepers.
- d. The Project would be based on Farmers/ FPOs/ FPEs already associated with NAFED on village and district levels with a number of Collection Centres / Minimal Processing Centres scattered at village and block levels.
- e. The complete project has a estimated investment value of approximately INR 6230.24 Lacs for setting up of 5 Honey processing Plants, 30 Collection Centres, 5 Cold Storages and 5 in-house laboratories.

3. PROJECT SITE LOCATIONS

The Site identified for one of the five the Proposed Honey Processing Unit is:

- i. State – Rajasthan
Geographical Coverage – Bharatpur District.
- (i) Interested and eligible bidder, shall be required to submit copy each of Technical bid along with the required documents to Head Office at NAFED House, Siddhartha Enclave, Ashram Chowk, New Delhi-110014, (hereinafter referred to as the "NAFED") before the last date & time given in this bid documents.
- (ii) After scrutiny of Technical bids, NAFED shall shortlist the eligible bidders and inform them of the date and time of financial bidding.
- (iii) NAFED reserves the right to accept or reject any or all bids without assigning any reason thereof. The issue of this bid document does not in any way commit or otherwise obliges NAFED to proceed with all or any part of bid process.



1. ELIGIBILITY CRITERIA: -

- i. The bidder shall be a Company registered under the Companies Act, 1956 or 2013 or a Partnership firm registered under the Indian Partnership Act, 1932 or The Limited Liability Partnership Act of 2008 at least for the last three years (*The bidder has to enclose Registration Certificate or any other documentary proof.*)
- ii. The bidder's firm must be registered with the appropriate authority and shall be in Civil Construction of Chemical, Food Processing and Agro based Industries for the last three (3) years. The bidder has to enclose Registration Certificate or any other documentary proof.
- iii. The bidder should have PAN, GST Registration, Udhdyog Aadhar/ Udyam registration and Import License, as applicable in their case and should submit a copy of each of these documents along with acknowledgement copies of the IT Returns for the last 3 financial years. Interested Parties need to submit the declaration u/s 206AB.
- iv. The bidder shall be in the business of Civil Construction of Chemical, Food Processing and Agro based Industries including in India and should have minimum average annual turnover of **Rs. 10.00 Crores** from relevant field in the last three years. [*In this connection bidders are required to submit the audited balance sheet and profit and loss account for last three financial years duly certified by a Chartered Accountant.*]
- v. **In last three years ,the bidder should have completed at least one job orders valued at Rs. 5.00 Crores or three jobs of Rs. 2.00 Crores or five job orders of Rs.1.00 Crore in the relevant field of application.** (*The bidder also required to enclose successful satisfactory supply/ work order and installation Certificate/Completion Certificate/Performance Certificate for work considered for claiming eligibility*)
- vi. The bidder should not have been blacklisted or debarred from participating in tendering by the Central Government/State Government/other Government or Autonomous bodies or under a declaration of ineligibility for corrupt or fraudulent practices. (Undertaking to be given on company's letter head bearing company seal and duly signed by authorized representative)
- vii. Provide the net worth of the organization (Balance sheet preferred)

2. INSTRUCTIONS TO BIDDERS:

- i. **Cost of tender document:** Interested bidders may obtain the document from "Nafed, Head Office" or Download from Nafed Website on payment of **Rs. 5900/- (Rupees Five Thousand and nine hundred only)** (Non-refundable).
- ii. The payment may be made by way of a crossed demand draft/ NEFT/Banker's cheque from any scheduled bank, payable at New Delhi drawn in favour of "Nafed". Bidders may download document from Nafed's official website www.nafed-india.com and submit their bids along with Demand Draft/ Banker's Cheque/NEFT of an amount of **Rs. 5900/- (Rupees Five Thousand and nine hundred only)** (Non-refundable) from any scheduled bank payable at New Delhi in favour of " Nafed".(*Please note: Banker's cheques should be accompanied with technical bids*). NEFT details provided in Page No. 3.
- iii. **Inspection of Plot:** Bidders may carry out survey of the Plot to be allotted in coordination with Nafed Branch Offices, for Setting up of the Honey Processing Plants, before submitting their respective Bids for award of the



contract/Agreement. Nafed shall provide necessary permission and assistance to the prospective Bidders in this regard. No claim whatsoever consequent on any misunderstanding or otherwise shall be accepted by Nafed.

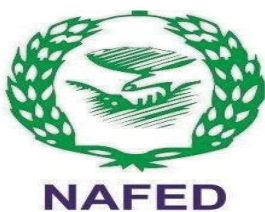
- iv. **Pre-bid Meeting:** A pre-bid meeting will be held on-line through a Zoom Meeting on the date mentioned in the table titled "Important Information" to clarify concerns of prospective bidders in respect of scope of work and any other clauses of the document. Any change in the date of the pre-bid meeting will be notified on website www.nafed-india.com and will also be intimated to all prospective bidders who will have purchased documents. Bidders willing to participate in the pre-bid meeting must send their full contact details and queries in writing or through email at least two days before the date of the pre-bid meeting. However, Nafed reserves the right not to answer any particular query or to answer in the way it deems appropriate.
- v. **Late tenders:** Late tenders received after due date and time of submission of bid shall be out rightly rejected. The completed Bids shall be accepted only up to the date and time as specified in RFQ. The Bidders shall furnish the information strictly as per the formats given in the tender documents without any ambiguity. The Nafed shall not be held responsible if the failure of any Bidder to provide the information in the prescribed formats results in a lack of clarity in the interpretation and consequent disqualification of its Bid.
- vi. **Verification and Disqualification:** Nafed reserves the right to verify all statements, information and documents submitted by the Bidder in response to the or the Bidding Documents and the Bidder shall, when so required by Nafed, make available all such information, evidence and documents as may be necessary for such verification. Any such verification or lack of such verification, by Nafed shall not relieve the Bidder of its obligations or liabilities hereunder nor shall it affect any rights of Nafed there under.
- vii. No tender may be withdrawn, substituted, or modified in the interval between the deadline for submission of tenders and the expiration of the period of tender validity specified by the tenderer on the Letter of tender or any extension thereof. Withdrawal of tender during the specified period shall result in forfeiture of EMD deposited with tender.
- viii. Tenders will not be considered if it is found to contain any false or misleading representations in statements/ attachments. If any submission is found false or misleading even at later stage (i.e. after the award of tender) then also, Nafed may annul the award. Further, the applicant may be blacklisted for participation in any future Tender of Nafed. In such a case Nafed shall forfeit the EMD (if any) and Security Deposit (if any) held with Nafed.
- ix. No alternations shall be made in any of the tender documents supplied/ downloaded from the website. Tenderer by submission of this tender shall be deemed to have accepted the terms and conditions contained in the tender document.
- x. No Bidder shall submit more than one bid for this tender.
- xi. The Bidders shall submit Tender Document along with the EMD and all Annexure in the prescribed format in form of a Demand Draft/ Banker's Cheque from any scheduled bank payable at New Delhi in favour of " Nafed".(Please note: *Banker's cheques should be accompanied with technical bids*)
- xii. All documents submitted with the tender shall be in the English Language.



- xiii. The documents including this and all attached documents, provided by Nafed shall remain or become the properties of Nafed and are transmitted to the Bidders solely for the purpose of preparation and the submission of a Bid in accordance herewith. Bidders are to treat all information as strictly confidential and shall not use it for any purpose other than for preparation and submission of their Bid. The provisions of this Clause shall also apply mutatis mutandis to Bids and all other documents submitted by the Bidders, and Nafed shall not return to the Bidders any Bid, document or any information provided along therewith.
- xiv. Nafed reserves the right to accept or reject any or all proposals without assigning any reasons. No tender shall have any cause of action or claim against the NAFED for rejection of his proposal.
- xv. This tender document is not an agreement and is not an offer or invitation by Nafed to any party. The terms for Civil Work Contract Honey Processing Plant at Bharatpur shall be as set out in separate agreement executed between Nafed and the successful Bidder.
- xvi. **The tenderers may obtain further information/ clarification, if any, in respect of the tender documents from the office of Nafed, New Delhi or the Technical Consultants to the Project.**

3. COMPLETENESS OF RESPONSE:

- i. Bidders are advised to study all instructions, forms, terms, requirements and other information in the tender documents carefully. Submission of bid will be deemed to have been done after careful study and examination of the tender document with full understanding of its implications.
- ii. The response to this tender shall be full and complete in all respects. Failure to furnish all information required by the tender documents or submission of a proposal not substantially responsive to the tender documents in every respect will be at the Bidder's risk and may result in rejection of its proposal.
- iii. The Bidders shall be responsible for the costs associated with the preparation of their bids, survey of site etc and their participation in the bidding process. Nafed will not be responsible or in any way liable for such costs, regardless of the conduct or outcome of the bidding process.
- iv. All communications/documents submitted with the bid including a copy of this tender and the bid documents will be signed on each page by the authorized representative of the bidder. The signature on each page of the copy the tender document means that the bidder complies with all paras of the tender. Non compliance, if any, should be clearly mentioned and highlighted.
- v. The Tender shall be filled in, signed with all particulars complete and submitted by the one duly authorized to do so. The Tenderer shall satisfy the Nafed that he is competent and authorized to submit the tender and/or to enter into a legally binding contract with the Nafed by furnishing documentary evidence in that respect.
- vi. Amendment to the tender document:
 - a) At any time, prior to the date of submission of bids, Nafed may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify this.
 - b) The amendments shall be notified on the Nafed's official website www.nafed-



india.com and these amendments will be binding on all bidders.

- c) In order to provide the prospective bidders a reasonable time to take the amendment into account in preparing their bids, Nafed may, at its discretion, extend the deadline for the submission of bids suitably.

vii. EARNEST MONEY DEPOSIT (EMD):

- a) Bidders shall submit, along with their Bids, EMD of 2% (Excluding GST @18%) of the Contract Value in the form of a Demand Draft/ Banker's cheque/NEFT on any Scheduled /Commercial Bank, in favour of "Nafed" payable at New Delhi. EMD in any other form shall not be entertained. The EMD shall be denominated in Indian Rupees only. No interest will be payable to the Bidder on the amount of the EMD. Tenders without earnest money deposit or in any other form shall be summarily rejected.
- b) Earnest money of successful tenderer who fails to honour the offer made to the Nafed as per tender submitted by him shall be forfeited.
- c) The EMD of unsuccessful bidders would be returned to them at the earliest after expiry of the final bid validity and latest within one month of the signing of the contract with successful bidder.
- d) The EMD may be forfeited:
If a Bidder withdraws his bid or increases his quoted prices during the period of bid validity or its extended period, if any;

OR

If the successful bidder fails to submit the non refundable security deposit and performance guarantee or sign the contract within specified time or found involved in any fraudulent or unethical practices.

- e) No EMD exemption:
No bidder is exempted from submitting the EMD for this tender.

4. SUBMISSION OF BIDS:

- a) The bids shall be unconditional, firm and valid for at least **120** calendar days from the date of submission of the bid.
[Note: Any tenderer withdrawing or amending his tender within this period shall have to forfeit his earnest money to Nafed].
- b) The bidders shall submit their bids in two sealed parts namely, "**Technical bid**" and "**Financial bid**", marked as such along with the bidder's name, strictly in the format given in this document. The hardcopy of the technical proposal should be in a single sealed envelope, clearly marked as "Technical Proposal from <<Bidder Name>>". The hardcopy of the financial proposal should be in a separate sealed envelope, clearly marked as "Financial Proposal from <<Bidder Name>>".
- c) **Both the above envelopes should be submitted in a separate sealed envelope clearly marked as "REQUEST FOR QUOTATION (RFQ) FOR CIVIL AND ASSOCIATED WORKS OF HONEY PROCESSING PLANT AT BHARATPUR (RAJASTHAN) AS PER TECHNICAL SPECIFICATIONS AS MENTIONED IN THE TENDER DOCUMENT AND ANNEXURES".**
 - i. Each page of the Bid document shall be serially numbered and also total number of pages shall be indicated on each page. E.g. 1/8, 2/8, 3/8. etc.



- ii. All pages of the Bid documents along with supporting documents shall be signed by the authorized person.
- iii. The bidder must give its name and address on the envelope.
- d) Any proposal received by Nafed after the last date and time of submission of bids shall be rejected.
- e) The bids submitted by fax/e-mail etc. shall not be considered. No correspondence will be entertained on this matter.
- f) Nafed shall not be responsible for any postal delay or non-receipt/ non-delivery of the documents. No further correspondence on the subject shall be entertained. Only complete bid document, received by due date prior to schedule time shall be taken as valid. Bids received without Earnest Money Deposit and tender cost shall be summarily rejected.
- g) For interpretation of any clause of this tender, the decision of Nafed would be final and binding on the bidder.
- h) Quantities mentioned in the tender document is tentative and may vary as per the requirement of the project to be executed.

5. Last date & place of submission of bids:

- a) Bids complete in all respects may be submitted to the *Nafed Head Office, Sidharth Enclave, Ashram Chowk, New Delhi-110014* latest by last date of submission given in the table titled as "Important Information" of this tender document. Bids received after due date & time shall not be considered. Bids submitted through post or through Courier Service must reach on or before the due date and time. Any transit delay will be at the risk of the bidder.
- b) The completed bids shall be accepted only up to the date and time as specified in NIT. The bidders shall furnish the information strictly as per the formats given in the tender documents without any ambiguity. The Nafed shall not be held responsible if the failure of any Bidder to provide the information in the prescribed formats results in a lack of clarity in the interpretation and consequent disqualification of its Bid. The Bidder has to submit the Cost of Bid Document and Bid Security (EMD) in Original on or before due date and time of submission of Bid, failing which Bid shall be summarily rejected.

6. Opening of BIDs:

- a. The technical bid of all tenderers shall be opened by the opening committee on the specified date as mentioned, in the presence of the authorized representatives of the tenderers who choose to be present. If such nominated date for opening of tender is subsequently declared as a Public Holiday by Nafed, the next official working day shall be deemed as the date of opening of Technical Bids.
- b. Technical bids of those tenderers who have not submitted EMD shall not be opened. Tender which is accompanied by an unacceptable or fraudulent tender EMD shall be considered as non-compliant and rejected.
- c. The Tender of any tenderer who has not complied with one or more of the foregoing instructions if includes critical information or compliance may not be considered. The details will be read out for the information of representative of tenderers, present at the time of opening of Tender. On opening of the Tender, it will be checked if they contain Technical & Financial Bids. Technical bids of the tenderers not containing financial bids shall not be opened.
- d. The Tenderers representatives who attend the bid opening shall sign the attendance sheet. *[Letter of authorization shall be submitted by the bidders before they are allowed to participate in bid opening]*. A maximum of two



representatives for any bidder shall be permitted to attend the bid opening.

- e. The sealed financial bids will be opened on a subsequent date after evaluation of technical bids. Financial bids of only those tenderers whose submissions are found substantially responsive and technically compliant will be opened. The time of opening of financial bids shall be informed separately to only the Tenderers who have qualified

during Technical evaluation stages and bidder(s) can be present to witness opening of Financial Bids.

- f. Nafed shall open the bids on the due date of bid submission, at the place & time specified in this document and in the presence of the Bidders who choose to attend.

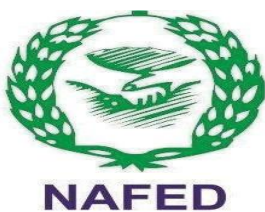
7. CLARIFICATION OF BIDS:

To assist in the examination, evaluation and comparison of bids, Nafed, may at its discretion ask any bidder for any clarification of its bid. The request for the clarification by Nafed and the responses to be submitted by bidders shall be in writing or through email. However, no unsolicited post bid clarification at the initiative of the bidder shall be entertained.

8. BID DOCUMENTS FOR EVALUATION PROCESS:

A. Documents required for technical Bid:

- i. Copy of Certificate of Incorporation /Registration of company or firm under company's act or partnership act.
- ii. PAN together with copy of trade license, registration of GST etc.
- iii. Copy of the duly audited balance sheet & profit & loss a/c. for the last three financial years.
- iv. Undertaking to be given on company's /firm's letter head bearing company seal and duly signed by authorized representative, with a list of work orders and successful contracts to its credit for running above business;
- v. Name, Address, telephone, mobile & fax no. of the contact person of the firm.
- vi. Undertaking by bidder on company's / firm's letter head bearing company seal for not Blacklisted or debarred by Govt./PSU from participating in tendering process.
- vii. Demand Draft/NEFT for 2% of the Contract Value towards EMD in favour of Nafed' payable at New Delhi .
- viii. Demand Draft for Rs.5900/- towards the cost of tender document in favour of Nafed' payable at New Delhi (*applicable in case of downloaded tender document*).
- ix. All communications/documents submitted with the bid including a copy of this tender and the bid documents duly signed on each page by the authorized representative of the bidder.
- x. Power of Attorney to the person authorized for signing the bid for this tender



[Note: The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and when it is so required the same should be under common seal affixed in accordance with the required procedure. It should be on non-judicial stamp paper of Rs.100/- at least duly notarized with supported by copy of Board of Resolution passed for this purpose only in case of company.]

- xi. All relevant documents required as evidence of meeting technical evaluation criteria and other criteria mentioned anywhere in tender document.
- xii. The bidder is free to submit any additional information which may be relevant forevaluation of the tender.

B. Documents required for Financial bid:

- i. The financial bid should be furnished in the format at **Annexure 4**, clearly indicating the financial offer in both figures and words, in Indian Rupees. In the event of any difference between figures and words, the amount indicated in words shall be taken into account.
- ii. The bidders shall be responsible for all of the costs associated with the preparation of their Bids and their participation in the Bidding Process. Nafed shall not be responsible or in any way liable for such costs, regardless of the conduct or outcome of the Bidding Process.

C. Evaluation Procedure:

Selection of the bidder(s) will be based on technical and financial evaluation of the bid. The evaluation will be in two stages i.e. technical and financial.

i. Overview of evaluation procedure:

The evaluation of technical bids shall be undertaken by a committee of the officers and consultants duly constituted for this purpose. The technical evaluation would be based on the following:

- a. The assessment of bidders meeting the eligibility criteria.
- b. The assessment of the capability of bidder to carry out desired scope of contract shall be assessed on the basis of carrying out past works in preceding three years.
- ii. Financial bids of only those bidders will be opened whose bids have been technically found suitable.
- iii. Nafed shall open financial Bids of all Tenderers who have submitted substantially responsive technical tenders, in the presence of tenderer's representatives who choose to attend at the address, date and time informed / specified by Nafed. The financial bids of the bidders shall be opened one at a time, reading out: the name of the Tenderer and whether there is a modification; the Tender Price(s) and any other details as Nafed may consider appropriate.
- iv. In case two or more bids are of the same rates then Bidder whose higher number of similar jobs will be selected. However, Nafed's decision shall be binding and final.
- v. In the event of discrepancy in the rates written in words and the figures, rates

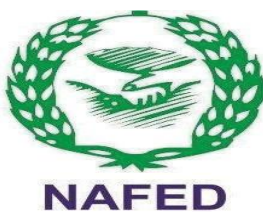


quoted in words will be considered.

- vi. The Tenderers' representatives who are present shall be requested to sign the attendance sheet.
- vii. The evaluation and assessment for the selection of the Bidder(s) shall be based on the Prices quoted by the Bidders. The Bidder, quoting the **lowest price**, shall be declared the "**Provisionally Selected Vendor**" and his offer shall be evaluated and assessed by Nafed.
- viii. From the time the Proposals are opened to the time the Contract is awarded, the bidder should not contact Nafed or any party related to the Tender on any matter related to its Technical and/or Financial Proposal. Any effort by a bidder to influence Nafed in the examination, evaluation, and recommendation for award of Contract may result in the rejection of its bid.
- viii. Evaluators of Technical Proposals shall have no access to the Financial Proposals until the technical evaluation is concluded.
- ix. Conditional tenders shall be outrightly rejected.
- xii. For any query from Applicants, Nafed reserves the right not to offer clarifications on any issue raised in a query or if it perceives that the clarifications can only be made at a later stage, it can do so at a later date. No extension of any deadline will be granted on that count or grounds that Nafed have not responded to any query or not provided any clarification. **Tenderers may clearly note the date and time of submission of bid for this tender. No late or delayed Tender will be accepted. However Nafed may ask for any supplementary information, if deemed so after opening of bids.**
- xiii. Tenderers are advised that the selection process will be entirely at the discretion of Nafed

9. AWARD OF CONTRACT:

- i. After evaluation of bids, Letter of Intent (the "LOI") shall be issued by Nafed to the Selected Bidder and the Selected Bidder shall, within 7 (Seven) days of the receipt of the LOI submit the Letter of Acceptance (LOA) in acknowledgement and unconditional acceptance thereof along with Performance Security (in form of a bank guarantee as per Annexure 5) equivalent to 5% of the Contract value. In the event, the LOA duly signed by the Selected Bidder is not received by the stipulated date, Nafed may, unless it consents to extension of time for submission thereof, forfeit the EMD of such Bidder as Damages on account of failure of the Selected Bidder to unconditionally accept the terms of LOI.
- ii. After submission of duly signed LOA along with "Performance Security Deposit equivalent to 5% of the Contract value" the Site shall be handed over to Contractor within 10 days on the terms and conditions hereunder contained in this tender document.
- iii. The contract/ Agreement shall be executed within 10 days after handing over of the designated site. Payment of stamp duty on agreement, if any, to be executed in pursuance of this bid shall be borne by successful bidder
- iv. Selected bidder will get a free period of two weeks effective from the date of handing over of the site, during which bidder can complete all necessary work



planning and mobilization required for proper planning of execution of the contract.

- v. Selected bidder shall perform the obligations and exercise the rights under the contract/ Agreement within the period prescribed in document. The Selected Bidder shall not be entitled to seek any deviation, modification or amendment in the contract/ Agreement.
- vi. The successful bidder agrees voluntarily and unequivocally not to seek any claim, damages, compensation or any other consideration whatsoever, on account of delay in approval by Nafed nor engage in any form of correspondence in this regard.

10. **SECURITY DEPOSIT:**

Successful bidder shall deposit Performance Security Deposit equivalent to 5% of the Contract value to Nafed in advance within 15 days of issue of LoI.

Payment of Performance Security Deposit equivalent to 5% of the Contract value along with Letter of Acceptance.	Within 7 days of issue of Letter of Intent. EMD submitted will be adjusted in the SD and the remaining payable SD has to be paid.
Site to be handed over to Selected Bidder	Work order will be issued to the successful bidder within 10 days of selecting the bidder. The possession letter will be issued immediately after work order.
Free Period	15 days from the date of handing over of plot
Commencement of the Time Lines for the contract/ agreement.	Effective after 15 days from date of handing over of the Site.

- i. Performance security shall be accepted in the form :

Irrevocable Bank Guarantee towards performance security in the prescribed format (Annexure-5) issued by any Nationalized Bank or other Scheduled Commercial Banks, acceptable to Nafed , with branches located in New Delhi and the payment in case of revocation of BG to be made by its New Delhi Branch only.
- ii. The Bank Guarantee shall be valid for contract period plus six months.
- iii. Performance security shall be refunded after completion of the defect liability period of 6 months of the completion date of contract against a request letter.
- iv. Performance security may be forfeited if there is a termination of agreement on account of Material Breach of Contract or Non Performance for a period of more than 4 weeks. In such cases, Nafed reserves the right to get the work done by other party/ parties and recover any amounts higher than the contact amount from the contractor, after adjusting the dues from forfeited Performance Security. However, no part of the forfeited performance security shall be refunded in any circumstances.
- v. Nafed reserves the right for deduction of dues from the Performance Security or Due Payments for:



- a. Any amount imposed as a fine by Nafed or any local Govt. Body for irregularities committed by the contractor.
- b. Any amount which Nafed becomes liable to the Government/Third party due to any default of the contractor or any of his director/ employees/ representatives/ servant/ agent, etc.
- c. Any payment/ fine made payable under the order/judgment of any court/consumer forum or law enforcing Contractor or any person duly empowered against the contractor or his staff on account of this contract.
- d. Any outstanding payment/ claims of any sub-vendor , sub-contractor or any local Contractor remained due after completion of the job as per agreement.
- vi. If the contractor due to some unforeseen reason wishes to surrender the contract before completion of the Job or expiry of the term then also the security deposit and all amounts lying payable with Nafed shall be forfeited.
- vii. If bidder fails to comply LOA conditions, the LOA may stand cancelled and Earnest Money/ Security Deposit submitted may be forfeited.
- viii. The bidder voluntarily and unequivocally agrees not to seek any claim, Compensation, damages or any other consideration whatsoever on this account.

11. PAYMENT TERMS AND CONDITIONS:

An Agreement will be executed with the successful bidder with detailed Payment terms.

12. PRICES

- i. The Price to be quoted F.O.R. (Freight on Road) Destination only and it's should be inclusive of taxes, freight, Packing, Transit, Installation, Insurance, Inspection Charges etc.
- ii. Demurrage charges if any will be borne by the contractor/supplier only.
- iii. Prices charged by the contractor / supplier for goods delivered and services performed under the contract shall not be higher than the price quoted by the supplier in his bid.
- iv. Prices will be fixed at the time of issue of Letter of Award as per taxes and statutory duties applicable at that time.
- v. In case of reduction of taxes and other statutory duties during the scheduled delivery period, NAFED shall take into account there deduction in these taxes/duties for the supplies made from the date of enactment of revised duties/taxes.
- vi. In case of increase in duties/taxes during the scheduled delivery period, the NAFED shall revise the prices as per new duties/taxes for the supplies, to be made during the remaining delivery period as per terms and conditions of the purchase order with priorwritten approval from NAFED.
- vii. Any increase in taxes and others statutory duties/levies after the expiry of scheduled delivery date or award of contract/work order shall be to the supplier account. However, benefit of any decrease in these taxes/duties shall be passed on to NAFED by the supplier.



- viii. The Tenderers may quote rates of Imported Equipment in INR only.

13. PENALTY CLAUSE:

- i. Contractor will be penalized up to Rs. 5,000/- per offence on the following offenses:
- ii. Delayed payment of Labour wages beyond 10 days
- iii. Not following the instructions of the Nafed or Consultant within 10 days of it being brought to the notice of the contractor.
- iv. Any staff of contractor found in drunken condition/indulging in bad conduct or found creating nuisance in Nafed premises
- v. Improper maintenance & defacement of the Nafed Property.
- vi. Regular joint inspection will be conducted by Nafed officials and Consultant. Discrepancy noticed or instructions issued by Nafed shall be rectified / complied within a period of 7 days, failing which Nafed reserves the right to impose fine up to Rs.5,000/-per instance of violation per week. Deliberate or willful noncompliance of Nafed's written instructions for a period of 90 days shall constitute Material breach and Event of Default, which shall entitle Nafed to en-cash Performance security in part or full and or terminate the Agreement after giving 90 days notice to the contractor.
- i. Such termination of the contract/ Agreement and forfeiture of the performance security by Nafed shall be without prejudice to any other damages, rights or remedies applicable under law in its favour.

14. NEGOTIATIONS

Normally there will be no post tender opening negotiations and it would be only on exceptional circumstances, if considered necessary on account of the bid being more than 10% above the estimated cost as per DPR and Approval Letters from NBB. This shall be held only with the bidder evaluated as L-1 bidder after evaluation of Financial bids, as indicated above. Under no circumstance, the financial negotiation shall result into an increase in the price originally quoted by the Contractor.

15. COMPETENT AUTHORITY'S RIGHT TO VARY ITEMS/ACTIVITIES AT THE TIME OF AWARD

The Competent Authority in this case shall be NAFED who shall have the right to make any alterations, omissions, additions or subtractions in items/services at the time of award of contract or during the implementation in the interest of the Project.

The Competent Authority will give such intimation to the successful contractor, and additional cost/deduction in the Bid prices, based on the price schedule submitted by him, will be worked out with the Bidder. In case, the Bidder does not agree for such alterations, the Competent Authority will be free to award the contract to the next eligible Bidder.

16. LABOUR LAWS AND SAFETY MEASURES

- i. Contractor shall comply with all the provisions of labour law related legislation/acts as enacted by Government from time to time and in case of any
- CIVIL WORKS FOR SETTING-UP OF HONEY PROCESSING CENTER AT BHARATPUR, RAJASTHAN*



prosecution / penalty, Contractor shall be liable for the same.

- ii. Contractor shall be liable for payments of duties viz. P.F., E.S.I. etc. including any compensation payable under Workmen Compensation Act. NAFED or its JV shall have no responsibility, financial or other liabilities towards professionals employed by the Contractor.
- iii. Contractor will take all safety measures / precautions during the work. For any accident due to negligence / any other reason during contract period, it shall be sole responsibility of the Contractor and NAFED or its JV shall not be held responsible for the same.

17. INSPECTIONS AND TESTS

The NAFED or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the NAFED. Standard Contract Conditioned and the Technical Specifications shall specify what inspections and tests the NAFED requires and where they are to be conducted. The NAFED shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.

The inspections and tests may be conducted on the premises of the Supplier or its subcontractor(s), at point of delivery, and/or at the Goods' final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the NAFED.

Should any inspected or tested Goods fail to conform to the Specifications, the NAFED/NAFED's representatives may reject the Goods, and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the NAFED.

The NAFED's/NAFED's representatives' right to inspect test and, where necessary, reject the Goods after the Goods' arrival in the NAFED's site shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the NAFED or its representative prior to the Goods shipment.

Nothing in Clause 18 shall in any way release the Supplier from any warranty or other obligations under this Contract.

18. PACKING

The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destinations indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.

The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in Standard Conditions of Contract, and in any subsequent instructions ordered by the NAFED.



19. DELIVERY AND DOCUMENTS

Delivery of the Goods shall be made by the Supplier in accordance with the terms specified in the Schedule of Requirements. The details of shipping and/or other documents to be furnished by the Supplier are specified in Standard Conditions of Contract.

For purposes of the Contract, "EXW," "FOB," "FCA", "CIF", "CIP" and other trade terms used to describe the obligations of the parties shall have the meanings assigned to them by the current edition of Incoterms published by the International Chamber of Commerce, Paris.

Documents to be submitted by the Supplier are specified in Standard Conditions of Contract.

20. INSURANCE

The Goods supplied under the Contract shall be fully insured in Indian Rupees or a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in the Standard Conditions of Contract.

Where delivery of the Goods is required by the NAFED on a CIF or CIP basis, the Supplier shall arrange and pay for cargo insurance, naming the NAFED as beneficiary.

Where delivery is on a FOB or FCA basis, insurance shall be the responsibility of the appointed Agency/Agencies.

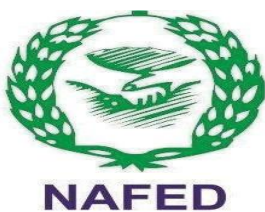
21. TRANSPORTATION

Where the Supplier is required under Contract to deliver the Goods FOB, transport of the Goods, up to and including the point of putting the Goods on board the vessel at the specified port of loading, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price. Where the Supplier is required under the Contract to deliver the Goods FCA, transport of the Goods and delivery into the custody of the carrier at the place named by the NAFED or other agreed point shall be arranged and paid for by the Supplier and the cost thereof shall be included in the Contract Price.

Where the Supplier is required under Contract to deliver the Goods CIF or CIP, transport of the Goods to the port of destination or such other named place of destination in India, as shall be specified in the Contract, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price.

Where the Supplier is required under the Contract to transport the Goods to a specified place of destination within the NAFED's country, defined as the Project Site, transport to such place of destination in India, including insurance and storage, as shall be specified in the Contract, shall be arranged by the Supplier, and related costs shall be included in the Contract Price.

Where the Supplier is required under Contract to deliver the Goods CIF or CIP, no restriction shall be placed on the choice of carrier. Where the Supplier is required under Contract (a) to deliver the Goods FOB or FCA, and (b) to arrange on behalf and at the expense of the NAFED for international transportation on specified carriers or on national flag carriers of India, the Supplier may arrange for such transportation on alternative carriers if the specified or national flag



carriers are not available to transport the Goods within the period(s) specified in the Contract.

22. INCIDENTAL SERVICES

The Supplier may be required to provide any or all of the following services, including additional services, if any, specified in Standard Conditions of Contract:

- (a) performance or supervision of on-site assembly and/or start-up of the supplied Goods;
- (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;
- (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods;
- (d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and
- (e) Training of the NAFED's or JV's personnel, at the Supplier's plant and/or on-site, in assembly, start-up operation, maintenance, and/or repair of the supplied Goods.

Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.

23. SPARE PARTS

23.1 As specified in **Conditions of Contract/Agreement**, the Supplier may be required to provide any or all of the following materials, notifications and information pertaining to spare parts manufactured or distributed by the Supplier:

- (a) such spare parts as NAFED may elect to purchase from the Supplier, provided that this election shall not relieve the Supplier of any warranty obligations under the Contract; and
- (b) in the event of termination of production of the spare parts:
 - (i) advance notification to the NAFED of the pending termination, in sufficient time to permit the NAFED to procure needed requirements; and
 - (ii) following such termination, furnishing at no cost to the NAFED, the blueprints, drawings, and specifications of the spare parts, if requested.

24. WARRANTY

The Supplier warrants that the Goods supplied under the Contract are new, unused, of the most recent or current models and those they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that all Goods supplied under this Contract shall have no defect, arising from design, materials, or workmanship or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.

This warranty shall remain valid for twelve (12) months after the Goods, or any



portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the Contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in Standard Conditions of Contract.

The NAFED shall promptly notify the Supplier in writing of any claims arising under this warranty.

Upon receipt of such notice the Supplier shall, within the period specified in Standard Conditions of Contract and with all reasonable speed, repair or replace the defective Goods or parts thereof without costs to the NAFED other than, where applicable the cost of inland delivery of the repaired or replaced Goods or parts from EXW or the port or place of entry to the final destination.

If the Supplier, having been notified, fails to remedy the defect(s) within the period specified in Standard Conditions of Contract, the NAFED may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the NAFED may have against the supplier under the contract.

25. CHANGE ORDERS

NAFED may at anytime, by a written order given to the Supplier pursuant to above Clauses, make changes within the general scope of the Contract in any one or more of the following:

- (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the NAFED;
- (b) the method of shipment or packing;
- (c) the place of delivery; and/or
- (d) the Services to be provided by the Supplier.

If any such change causes an increase or decrease in the cost of, or the time required for, the Suppliers performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within thirty (30) days from the date of the Supplier's receipt of the NAFED's change order.

26. CONTRACT AMENDMENTS

- 26.1 Subject to Agreement Conditions in Clause 18, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

27. ASSIGNMENT

- 27.1 The Supplier shall not assign, either in whole or in part, its contractual duties, responsibilities and obligations to perform the contract, except with the NAFED's prior written permission.

28. SUBCONTRACTS

The Supplier shall notify the NAFED in writing of all subcontracts awarded under this Contract if not already specified in the bid. Such notification in, the original bid or later shall not relieve the Supplier from any liability or



obligation under the Contract.

Subcontracts must comply with the provisions of Clause 3 of the Contract.

- (i) The Supplier shall notify the NAFED in writing of all sub contracts awarded under the contract if not already specified in its tender. Such notification, in its original tender or later, shall not relieve the Supplier from any of its liability or obligation under the terms and conditions of the contract.
- (ii) Sub contract shall be only for bought out items and sub-assemblies.
- (iii) Sub contracts shall also comply with the provisions of "Country of Origin".

29. DELAYS IN THE SUPPLIER'S PERFORMANCE

Delivery of the Goods and performance of Services shall be made by the Supplier in accordance with the time schedule prescribed by the NAFED in the Schedule of Requirements.

If at any time during performance of the Contract, the Supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the NAFED in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the NAFED shall evaluate the situation and may at its discretion extend the Supplier's time for performance, with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of Contract.

Except as provided under Agreement Conditions Clause 19, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to above Clause, unless an extension of time is agreed upon pursuant to above Clauses without the application of liquidated damages. The period for settling the liquidated damages shall not be more than 2 months.

30. INSURANCE AND MEDICAL FOR STAFF.

It shall be the responsibility of the Contractor to insure their staff and equipment against any exigency that may occur while carrying out the project activities. Contractor will also take insurance cover for third party liability, which might occur due to damages caused to their manpower, equipment etc. The NAFED or its JV shall not be responsible for any such damages.

Medical facilities (as per law) for the professionals including insurance of the professionals related to the project will be provided by the Contractor.

All the statutory requirements/compliances, if required, i.e., labour law, PF, ESI, etc. has to be met by the successful bidder/contractor and in no case, NAFED shall be liable for any kind of lapses in this regard.

31. INDEMNIFICATION

- i. The Contractor shall indemnify and hold the NAFED or its JV harmless against all third party claims of infringement of patent, trade mark of industrial design rights arising from use of the stores supplied or any part thereof.



- ii. Contractor shall at times indemnify and keep the NAFED or its JV indemnified against all claims/ damages etc. for any infringement of any Intellectual Property Rights (IPR) while providing its services under this contract.
- iii. Contractor shall at all times indemnify and keep NAFED or its JV indemnified against any claims in respect of any damages or compensation payable in consequences of any accident or injury sustained or suffered by its (Contractor) employees or caused by any action, omission or operation conducted by or on behalf of Agencies.
- iv. Contractor shall at all times indemnify and keep NAFED or its JV indemnified against any and all claims by employees, workman, suppliers, agent(s) employed engaged or otherwise working for Contractor, in respect of their wages, salaries, remuneration, compensation or the hike.
- v. All claims regarding indemnity shall survive the termination or expiry of the contract.

32. GENERAL TERMS AND CONDITIONS:

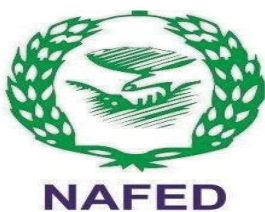
32.1 TAXES AND OTHER STATUTORY DUES:

- i) GST shall be payable as applicable by the successful bidder.
- ii) Payment of stamp duty for execution of Agreement, Registration Charges and any other related Legal Documentation charges/incidental charges in pursuance of this tender will be borne by Contractor.
- iii. All Taxes & Municipal taxes, if any applicable, shall be borne solely by the Contractor.
- iv. Nafed will not permit any third party lien/mortgaging of any component of the supply of this tender to any bank/financial institution. Bidder will have to make arrangement of funds from its own sources.
- v. The payments dues if any on the said plots shall be paid by the NAFED or its JV.
- vi. All the compliances related to Income tax like TDS, TCS, etc. shall be adhered by contractor/successful bidder.

33. EVENTS OF DEFAULT AND TERMINATION OF CONTRACT:

Following shall be considered Material Breach of the Contract by Contractor resulting in Contractor's Events of Default:-

- i) If the successful bidder fails to start work at site within 21 days of signing of the Agreement.
- ii) If the Contractor is found guilty of persistently breaching the local laws.
- iii) If at any time during the subsistence of the contract/ Agreement, there is nonconformity to the contract/ Agreement or any time during the contract/ Agreement, the Contractor indicates its unwillingness to abide by any clause of this contract/ Agreement or repudiates the Agreement.
- iv) If the Contractor is in persistent non-compliance of the written instructions of a Nafed officials.
- v) If Contractor is in violation of any of the other Clauses of this tender or agreement and after written notice from Nafed fails to cure or rectify the default/ fault to



the satisfaction of Nafed.

- vi) If the Contractor or any of its representatives cause an incident or accident that results in injury or death of any body or loss to Nafed property.
- vii) If any of the above Material Breach and Contractor Events of Default happens, then Nafed, after giving due notice to the Contractor to Cure the Default, shall be entitled to terminate the Agreement. For the avoidance of Doubt, it is clarified that the Cure Period available to the Contractor shall be as decided by Nafed.

In all other cases of Contractor's Event of Default where specific notice period is not provided, Nafed shall issue a Notice to Contractor to cure the Default within 15 days. If the Contractor fails to cure the Default within 15 days, Nafed after giving a final 15 days notice shall be entitled to terminate the Agreement.

34. TERMINATION OF AGREEMENT:

Partial surrender of contract/ agreement shall not be allowed to the Contractor.

- i. The NAFED, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate this Contract in whole or in part;
 - (a) if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract, or within any extension thereof granted by the NAFED pursuant to above Clause; or
 - (b) if the Supplier fails to perform any other obligation(s) under the Contract,
 - (c) if the Supplier in the judgment of the NAFED, has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.
 - (d) For the purpose of this clause "Corrupt practice" means the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the action of a public official in the procurement process or in contract execution.
 - (e) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition.
- 2. In the event the NAFED terminates the Contract in whole or in part, pursuant to other Clauses, the NAFED may procure upon such terms and in such manner as it deems appropriate. Goods or Services similar to those undelivered and the Supplier shall be liable to the NAFED for any excess costs for such similar Goods or Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.
- 3. The NAFED may at any time terminate the Contract by giving written notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the NAFED.



4. The NAFED, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the NAFEDs convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
5. The Goods that are complete and ready for shipment within thirty (30) days after the Supplier's receipt of notice of termination shall be accepted by the NAFED at the Contract terms and prices. For the remaining Goods, the NAFED may elect:

35. NOTICES

Any notice given by one party to the other pursuant to this Contract shall be sent to the other party in writing or by cable, e-mail or facsimile and confirmed in writing to the other party's address specified in the contract within 7 days of date of issue of notice.

A notice shall be effective when delivered or on the notice's effective date, whichever is later.

36. CANCELLATION OF CONTRACT IN FULL OR PART:

If the Nafed cancels / terminates the contract in full or in part on account of:

- a. Force Majeure (Refer Clause No. 41)
- b. Any other cause, which in the absolute discretion of the authority mentioned in contract, is beyond control of the Nafed
- c. In the event of any one or more of the above courses being adopted by the Nafed, the Contractor, shall have no claim for any compensation or any losses sustained by him by reason of his having purchased or procured any material or entered into any agreements or made any advances on account of or with a view to the execution of the work for the performance of the Contractor.
- d. Nafed reserve the rights to terminate the contract/ Agreement by giving two months advance notice in such exigency. The contract/ agreement will stand terminated and the Performance Guarantee will be refunded after adjusting outstanding dues, if any. The Contractor voluntarily agrees not to seek any claim, compensation, damages or any other consideration whatsoever on any ground in this regard.
- e. In the event of the Contractor failing to pay any other charges which the Contractor may be required to pay, Nafed will have the right to terminate the contract/ agreement after giving a Show Cause Notice of 30 days and discontinue/ confiscate the entire infrastructure and without prejudice to any of its rights shall also forfeit the Contractor's security deposit.

37. ELECTRIC POWER SUPPLY:

- i. NAFED or its JV shall be responsible for getting a Power Connection from the SEB and Contractor shall be responsible for setting up the Power receiving station and distribution set up at each of the sites.
- ii. Proper electricity distribution, lighting and earthing shall be installed at the site by



the contractor under its scope of work.

- iii. The Contractor shall bear the amount of all the bills/costs for the electricity that may be consumed during the installation and commissioning of Honey Processing Plant along with its auxiliary systems under this agreement.
- iv. Contractor shall follow the I.E. Rules, Acts for safety of equipment, public & Staff.
- v. Contractor shall use energy efficient equipment during installation and commissioning.

38. PACKING (Conditions of Contract/Agreement):

- a) Packing instruction: Each package will be marked on three sides with proper paint / indelible ink with the following
 - i) Name of the consignee
 - ii) Project
 - iii) Contract No.
 - iv) Country of origin of goods
 - v) Supplier's name
 - vi) Packing list reference
- b) Unloading and storage instruction: - The supplier shall furnish unloading instruction and storage instruction for each equipment.
- c) The supplier shall furnish copies of the list of contents in each package as mentioned in clause 38 (a) and a copy of the list shall also be kept inside the package. The supplier shall further, notwithstanding any exercise by the inspecting officer of the power of superintendence, be responsible for the sufficiency of the packing, marking etc. of all the supplier's equipments to ensure their delivery at destination without damage.

39. DELIVERY AND DOCUMENTATION

- a) For goods supplied from abroad;
 - i. Add the following at the beginning of the clause "All the goods shall be shipped under the deck".
 - ii. Within 24 hours of shipment, the supplier shall notify the NAFED and the insurance company by cable or telex or fax the full details of the shipment including contract number, description of Goods, quantity, the vessel, the bill of lading number and date, port of lading, date of shipment, port of discharge etc. The supplier shall mail the following documents to NAFED with a copy to insurance company.
- b) Documents
 - (i) 5 copies of Supplier's invoice showing contract number, goods description, quantity, unit price and total amount;
 - (ii) Original and 5 copies of the negotiable, Clean, on-board bill of lading marked freight prepaid and 5 copies of non-negotiable bill of lading;
 - (iii) 5 copies of packing list identifying contents of each package as per Clause above;
 - (iv) Insurance certificate;
 - (v) Manufacturer's / Supplier's warranty certificate;
 - (vi) Inspection certificate issued by the nominated inspection agency, and the Supplier's factory inspection report; and
 - (vii) Certificate of origin.

The above documents shall be received by the NAFED at least one week before arrival of Goods at the Port or place of arrival and, if not received, the Supplier will be responsible for any consequent expenses.
- c) For Goods from within India;

40. LIMITATION OF LIABILITY



Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 24.

- (a) The Supplier shall not be liable to the NAFED, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the NAFED; and
- (b) The aggregate liability of the Supplier to the NAFED, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.

41. FORCE MAJEURE:

- a). Force Majeure means any event or combination of events or circumstances beyond the control of the parties hereto which cannot (a) by the exercise of reasonable diligence, or

(b) despite the adoption of reasonable precaution and/or alternative measures, be prevented or caused to be prevented and which adversely affects the abilities of the parties to perform obligations under this Agreement, which shall include but not be limited to : (a) Acts of God i.e. fire, drought, flood, earthquake, epidemics, pandemics, natural disaster; (b) Explosions or accidents, air crashes and shipwrecks, act of terrorism: (c) Strikes or lock outs industrial disputes: (d) War and possibilities of war, riots, bandh, act of terrorism or civil commotion; (e) The promulgation of or amendment in any law, rule or regulation or the issue of any injunction, court order or direction from any Government Authority that prevents or restricts a party from complying with any or all the terms and conditions as agreed in this agreement; (h) Any event or circumstances analogous to the foregoing.

- (b) That, it is agreed between the parties that the performance of obligations under this agreement is subject to the force majeure condition which shall mean any event or combination of events or circumstances beyond the control of the parties hereto.
- (c) Neither party will be liable for performance delays or for non-performance due to causes beyond its reasonable control, except for payment obligations.
- (d) During the continuance of Force Majeure, NAFED reserves the right to alter or vary the terms and conditions of this agreement or if the circumstances so warrant, NAFED may also suspend the agreement for such period as is considered expedient, the successful

bidder agrees and consents that they shall have no right to raise any claim, compensation

- (e) The successful bidder agrees and understands that if Force Majeure condition continues for a long period then NAFED in its own judgment and discretion, may terminate this Agreement and in such case, the successful bidder agrees that the shall have no right or claim of any nature whatsoever and NAFED shall be released and discharged of all its obligations and liabilities under this Agreement.

42. VACATION OF SPACE:



- i. The Contractor shall after successful commissioning of each of the sites, deliver to the Nafed or its JV the peaceful vacant physical possession of the Site with all permanent, temporary structures, Plant and machinery installed by the Contractor after the completion of the erection and commissioning. If the Site along with the structures including electrical installation etc. are not handed over in good condition, the Nafed shall reserve the right to seek damages and shall be liable to recover costs and expenses to repair/ renovate the said items which are found to be not as per contract.
- ii. If the successful bidder fails to vacate the Sites as per schedule, Nafed within a grace period of 30 days from the date of termination of the contract/ agreement, the contracted Contractor shall be deemed to be an unauthorized/illegal occupant of the said site under the provisions of Public Premises (Eviction of Unauthorized Occupants) Act, 1971 and **amendments** thereof.

The Contractor will also be liable to pay a penalty @ Rs.50000.00 per week for the entire period of such occupation. Nafed shall also be entitled to forfeit the security deposit and revoke the bank guarantee of the contract/Contractor for such unauthorized and illegal occupation of the said site.

- iii. A certificate from the authorized representative of Nafed in proof of Contractor having vacated the site will be required to be submitted by the Contractor. Any claim of vacation / non-vacation without the endorsement of Station Officers/authorized Nafed representative shall not be entertained.
- iv. Contractor shall remove all the construction and fabrication materials from the premises within 15 days of issue of termination letter, failing which these shall become property of Nafed

43. INDEMNIFICATION:

- i. All other statutory taxes, statutory dues, local levies, as applicable shall be remitted to the Government by the Contractor
- ii. The successful bidder shall indemnify Nafed from any claims that may arise from the statutory authorities in connection with this Agreement.
- iii. The successful bidder shall be solely responsible to pay all the statutory payments/dues, taxes and duties, royalties, revenue etc to statutory bodies and Nafed shall not in any manner, be responsible for payment of such dues on any of the items which is in the scope of this contract. The successful bidder shall also indemnify Nafed against payment of all such dues to statutory bodies and imposition of any penalty due to misuse or non-payment of any such dues or any other account whatsoever.

The successful bidder shall indemnify and keep indemnified Nafed against any loss /damage to any person/ property from any legal suit / claim filed on this account by any third party. The successful bidder will at all times abide by all safety procedures and rules as may be stipulated by local bodies/ Nafed from time to time.

- iv. The successful bidder shall fully indemnify Nafed against any actions, claim related to design/ patent / trademark etc., and shall be solely responsible for payment of royalties etc. which may be payable for any item included in the contract.
- v. The successful bidder shall indemnify and keep indemnified the Nafed against all losses and claims for injuries or damage to any persons or any property



whatsoever which may arise out of or in consequence of the Demolition of existing godown, Construction and maintenance of works and against all claims, demands proceedings, damages costs, charges and expenses whatsoever in respect of or in relation thereto.

- vi. The successful bidder agrees and undertakes to indemnify and keep indemnified Nafed harmless against any and all liabilities, Losses, damages, claims, expenses suffered by the Nafed as a result of any breach committed by him on this account.
- vii. During the erection period, the successful bidder shall obtain temporary electricity connection for lighting of the pillars from SEB/ local electricity supply body. In such case the party shall indemnify Nafed from any liabilities arising out of non-payment of dues/ imposition of penalty/ any other charges due to SEB/ local electricity supply body and Nafed shall not in any manner be responsible for payment of such dues/ penalty etc.
- viii. After completion of Scope of Erection and Installation of the Process Plant Machinery and Auxiliary Systems for the Honey Plant and before commencing the operations the selected bidder shall submit the details of plant and Machinery installed. The bidder shall also inform to Nafed about any additions in the plant and machinery made/installed beyond what is mentioned in the RFQ Document and the Agreement.

44. GENERAL OBLIGATIONS OF SUCCESSFUL BIDDER:

- i. Successful Bidder shall keep and maintain the space in neat, clean condition and in safe & sound manner during all the time of agreement tenure. Any defective, weak or corroded material should be replaced immediately with new proper material after due certification from reputed Contractor. In case of any incident / injury caused due to error / omission attributable on the part of Contractor, the Contractor shall be responsible for all compensation.
- ii. Successful bidder shall ensure that all persons employed behave in an orderly and disciplined manner and that the said employees are prohibited from carrying on any unlawful, unfair activities or demonstrations in Nafed premises. All the Contractor's personnel shall be required to possess ID card while working in Nafed's premises as per prevailing procedure.
- iii. The rights to use the plot will be granted to the successful bidder on exclusivity basis. Nafed shall not engage any third party during the currency of period.
- iv. Successful bidder shall comply with the laws of land including State Pollution Control Board guidelines. Nafed will not be held liable for any change/modification in the laws that adversely affect the contract agreement. Successful bidder shall have no right / claim in this regard, whatsoever the reason may be.
- v. Successful bidder will not ask for any claim or seek any compensation from Nafed if advertisement at any advertisement space inside any premises is not permitted due to court order/local laws/civil authorities.
- vi. Successful bidder hereby indemnifies Nafed against any loss, damage or liabilities arising as a result of any act of omission or commission on part of Contractor or on part of its personnel or in respect of non-observance of any statutory requirements or legal dues of any nature.
- vii. Successful bidder undertakes to discharge all statutory obligations and liabilities in connection with employment of its personnel in the said premises. Contractor shall

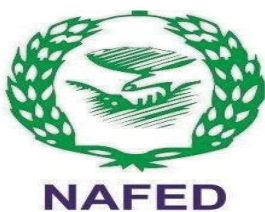


indemnify Nafed against any liability arising in connection with the employment of its personnel in the said premises by Contractor. Contractor hereby undertakes to carry out full compliance with Nafed's policies regulations prevalent at that time.

- viii. Successful bidder undertakes that;
- a) It shall not have or claim any interest in the said premises as a tenant/ sub-tenant or otherwise:
 - b) That no right as a tenant/sub-tenant or otherwise is purported or intended to be created or transferred by Nafed in favour of successful bidder in or in respect of the said plot, except to carry out their activities over the granted space in accordance to terms and conditions of tender; and
 - c) That the rights, which successful bidder shall have in relation to the said plot, will be only those set out in this tender/contract agreement.

45. NAFED'S RIGHTS IN RESPECT OF CONTRACT/AGREEMENT

- i. Nafed shall not be liable for any omission, mistake or error in respect of any of the above or on account of any matter or thing arising out of or concerning or relating to or the Bidding Process, including any error or mistake therein or in any information or data given by Nafed
- ii. Nafed, in its sole discretion and without incurring any obligation or liability, reserves the right, at any time, to; a. suspend and/ or cancel the Bidding Process and/ or amend and/ or supplement the Bidding Process or modify the dates or other terms and conditions relating thereto; consult with any Bidder in order to receive clarification or further information; retain any information and/ or evidence submitted to Nafed by, on behalf of, and/ or in relation to any Bidder; and/ or Independently verify, disqualify, reject and/ or accept any and all submissions or other information and / or evidence submitted by or on behalf of any Bidder.
- iii. For repeated violation of instructions, breach of contract agreement, Nafed has the right to cancel the contract by giving Show Cause Notice at the risk and cost of the successful bidder including forfeiture of all amounts, non refundable security deposit included in favour of Nafed In case of any activity which can be deemed criminal, Nafed reserves the right to cancel the contract and forfeit all submissions including the non refundable security deposit in its favour with or without any notice.
- iv. The Nafed reserves the right to accept or reject any tender. Authority for acceptance of the tender will rest solely with the Nafed, which does not bind itself to accept any tender and not to assign any reason for rejecting the same. Nafed reserves the right for deduction of the amount from non refundable security deposit which becomes liable to be paid on the following grounds:
 - a. Any amount which Nafed becomes liable to pay to the Government /Third party on behalf of any default of the successful bidder or any of his/her/their servant/agent/employees or staff.
 - b. Any payment/fine made under the order/judgment of any court/consumer forum or law enforcing Contractor or any person working on his behalf.
 - c. Once the amount under this clause is debited, the successful bidder shall recoup the security deposit to the extent the amount is debited within 15 DAYS of such



debit by Nafed failing which it will be treated as breach of contract agreement and may lead to termination of agreement with forfeiture of all amounts including non refundable security deposit in favour of Nafed

46. CONFIDENTIALITY:

Information relating to the examination, clarification, evaluation, and recommendation for the Bidders shall not be disclosed to any person who is not officially concerned with the process or is not a retained professional advisor advising Nafed in relation to, or matters arising out of, or concerning the Bidding Process. Nafed shall treat all information, submitted as part of Bid, in confidence and shall require all those who have access to such material to treat the same in confidence. Nafed may not divulge any such information unless it is directed to do so by any statutory entity that has the power under law to require its disclosure or is to enforce or assert any right or privilege of the statutory entity and/ or Nafed or as may be required by law or in connection with any legal process.

47. APPLICABLE LAW JURISDICTION AND DISPUTE RESOLUTION:

- i. This tender document and related contractual obligation shall be constituted and the legal relation between the parties hereto shall be determined and governed according to the laws of Republic of India and only courts at High Court of New Delhi shall have the jurisdiction in all matters arising out of / touching and/ or concerning this agreement and parties to this agreement agree to irrevocably submit to the exclusive jurisdiction of those courts for purposes of any such proceeding. The aforementioned exclusive and irrevocable jurisdictions of aforesaid courts are irrespective of place of occurrence of any cause of action pertaining to any dispute between the parties.
- ii. All or any disputes arising or touching upon or in relation to the terms of this tender document at contractual obligation including the interpretation and validity of the terms thereof and the respective rights and obligations of the parties shall be settled amicably by mutual discussion failing which the same shall be settled through arbitration. The arbitration proceedings shall be governed by the Arbitration and Conciliation Act of 1996 (as amended up to date) or any statutory amendments/modification thereof for the time being in force. The venue of the arbitration shall be at New Delhi, India and the language of arbitration shall be English.

This tender document along with its terms and conditions shall be governed by the India laws, both substantive and procedural, for the time being in force and shall be subject to the exclusive jurisdiction of New Delhi Court, if required.

Standards

The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications and when no applicable standard is mentioned, to the authoritative standards appropriate to the Goods' country of origin. Such standards shall be the latest issued by the concerned institution.

Country of Origin

- i. All goods and services to be supplied and provided for the contract shall have the origin in India or in the countries with which the Government of India has trade relations.
- ii. The word "origin" incorporated in this clause means the place from where the



goods are mined, cultivated, grown, manufactured, produced or processed or from where the services are arranged.

- iii. The country of origin may be specified in the Price Schedule

Use of Contract Documents and Information; Inspection and Audit by the NAFED

- i. The Supplier shall not, without the NAFED's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern,

sample, or information furnished by or on behalf of the NAFED in connection therewith, to any person other than a person employed by the Supplier in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.

- ii. The Supplier shall not, without the NAFED's prior written consent, make use of any document or information enumerated cept for purposes of performing the Contract.

- iii. Any document, other than the Contract itself, enumerated shall remain the property of the NAFED and shall be returned (all copies) to the NAFED on completion of the Supplier's performance under the Contract if so required by the NAFED.

47.5 Adjudicator:

- i. If any dispute of any kind whatsoever shall arise between the purchase and the supplier in connection with or arising out of the contract, including without prejudice to the generality of the foregoing, any question regarding its existence, validity or termination, or the execution of the contract, whether during the progress of the execution or after their completion and whether before or after the termination, abandonment or breach of the contract, the parties shall seek to resolve any such dispute or difference by mutual consultation. If the parties fail to resolve such a dispute or difference by mutual consultation, then the dispute shall be referred in writing by either party to the adjudicator, with a copy to the other party.
- ii. The Adjudicator shall give its decision in writing to both parties within twenty-eight (28) days of a dispute being referred to it. If the Adjudicator has done so, and no notice of intention to commence arbitration has been given by either the NAFED or the Supplier within fifty-six (56) days of such reference, the decision shall become final and binding upon the NAFED and the Supplier. Any decision that has become final and binding shall be implemented by the parties forthwith.
- iii. The Adjudicator shall be paid a daily fee at the rate specified in the contract plus reasonable expenditures incurred in the execution of its duties as Adjudicator, and these costs shall be divided equally between the NAFED and the Supplier.
- iv. Should the Adjudicator resign or die, or should the NAFED and the Supplier agree that the Adjudicator is not fulfilling its functions in accordance with the provisions of the Contract; a new Adjudicator shall be jointly appointed by the NAFED and the Supplier. Failing agreement between the two within twenty-eight (28) days, the new Adjudicator shall be appointed at the request of either party by the Appointing Authority specified in the contract.

48. MISCELLANEOUS:

CIVIL WORKS FOR SETTING-UP OF HONEY PROCESSING CENTER AT BHARATPUR, RAJASTHAN



- i. The Bidding Process shall be governed by, and construed in accordance with, the laws of India and the Courts at New Delhi shall have exclusive jurisdiction over all disputes arising under, pursuant to and/ or in connection with the Bidding Process. **During the bidding process no dispute of any type would be entertained.** Even in such cases where Nafed asks for additional information from any bidder, the same cannot be adduced as a reason for citing any dispute. All disputes between the selected bidder and Nafed shall be settled as per the Dispute Resolution procedure elaborated in the Draft Agreement *after signing the Agreement*. The courts at New Delhi shall have the sole & exclusive jurisdiction to try all the cases arising out of this agreement.
- ii. It shall be deemed that by submitting the Bid, the Bidder agrees and releases Nafed, its employees, agents and advisers, irrevocably, unconditionally, fully and finally from any and all liability for claims, losses, damages, costs, expenses or liabilities in any way related to or arising from the exercise of any rights and/ or performance of any obligations hereunder, pursuant hereto and/ or in connection with the Bidding Process and waives, to the fullest extent permitted by applicable laws, any and all rights and/ or claims it may have in this respect, whether actual or contingent, whether present or in future.
- iii. The Agreement are to be taken as mutually explanatory and, unless otherwise expressly provided elsewhere in this , in the event of any conflict between them, the priority shall be in the following order:
 - a) Agreement
 - b) Document; i.e. the Agreement above shall prevail over tender document.
- iv. In case of any correction/addition/alteration/omission in the tender document observed at any stage, the bid shall be treated as non-responsive and shall be rejected.

49. EVALUATION PROCEDURE

Tender will be evaluated in following manner:

- i. The tender will be evaluated on Pre-qualification eligibility criteria as laid down in the Tender documents.
- ii. With regard to the matching of technical specifications of individual equipment., a deviation up to $\pm 10\%$ can be considered by the NAFED on the recommendation of the Consultant without compromising with the quality and its major functioning.
- iii. Those agencies who will be found eligible in the above two steps, will be called for presentation before duly constituted Technical Evaluation Committee by Nafed on the date and time, as prescribed by the committee. The eligible agencies will be called through email only. The presentation round shall be of 20 marks. The

presentation may contain equipment photo, equipment designs, specifications, imported or indigenous, methodology of working/supply, timeline schedule of supply, after sales service, etc. In case of manufacturer the actual photos of manufacturing unit may be enclosed. In case of importer, copy of dealership/distributor/authorization to supply in India, copy of Import License, etc. are to be enclosed. Any other aspect regarding agency profile, equipment, etc. The presentation round will be assessed on following parameters:



S.No	Criterion	Marks	Max Marks
1	Experience in Civil Construction of Chemical, Food Processing and Agro based Industries . (Enclose Registration & Appropriate other document.)		30
a)	Less than 5 years	10	
b)	5- 10 Years	20	
c)	More than 10 Years	30	
2	Minimum average annual turnover from relevant field in the last three years.		30
a)	10-15 Cr	10	
b)	15-25	20	
c)	More than 25 Cr	30	
3	Successfully completed assignment during last 3 years in last three years ,the bidder should have completed at least one job orders valued at Rs.5.00 Crores (8 marks each) or three jobs of Rs.2.00 Crores (4 marks each) or five job orders of Rs.1.00 Crore (2 mark each) in the relevant field of application.		20
4	Presentation		20
	TOTAL		100

- iv. Marks other than presentation shall be given on the basis of documents submitted by the bidding agencies and shall be communicated to all the agencies either through email or uploaded on NAFED website. However, marks of presentation, will be assigned during the presentation round by Technical Bid Evaluation Committee and will also be uploaded or communicated through email to all the successful agencies. The financial bids shall only be opened to those agencies, who will score minimum 50 marks, out of 100 marks and fulfilling of other eligibility, terms and conditions of the tender, on the date and time, as published on the NAFED website / portal. Before, opening of financial bid, the result of presentation as well as technical evaluation will be either uploaded or communicated through mail.

50. FINANCIAL BID EVALUATION



The bid of agency quoting lowest for the overall turnkey execution as per the scope of work in their financial bid i.e. L-1 bidder will be awarded 100 points and other bidders will be discounted in percentage proportion and awarded points accordingly. (for Example suppose L1 has quoted Rs.5.00 Crore and L2 has quoted Rs.6.00 Crore, the L1 would be awarded 100 points and L2 will get $(100 - (600-500/500)) = 80$ points).

51. SELECTED BID

The bidder whose bid gets highest marks out of 100 shall be declared **“Provisionally Selected Vendor”**

Acceptance of tender will be intimated to the successful tenderer / bidder signed by the authorized signatory. Contract / Agreement, will be signed with the successful bidder after issue of Letter of Award and receipt of Letter of Acceptance from the successful bidder

52. EVALUATION SHEET

To be filled by the tenderer, which will be verified by the Bid Evaluation Committee/ Technical Evaluation Committee;

S.No	Criteria	Max Marks	Marks Claimed by Tenderer	Marks Verified by Committee	Page no Proof
1	Experience in Civil Construction of Chemical, Food Processing and Agro based Industries . (Enclose Registration & Appropriate other document.)	30			
2	Minimum average annual turnover from relevant field in the last three years.	30			
3	Successfully completed assignment during last 3 years in last three years ,the bidder should have completed at least one job orders valued at Rs.5.00 Crores (8marks each) or three jobs of Rs.2.00 Crores (4 marks each) or five job orders of Rs.1.00 Crore (2 mark each) in the relevant field of application.	20			

53. HOLIDAY LISTING

The vendors / contractors are expected to adopt the ethics of highest standards and a very high degree of integrity, safety and quality consciousness, commitment and sincerity towards the work undertaken and dealing with NAFED in such matters. Also, while participating in the tender and performing the contracts, Contractors are required to meet certain performance criteria and adherence to the terms and conditions of the tender / contract. NAFED shall have the right to remove from the list of approved suppliers /



contractors or to ban business dealings, if any agency has been found to have committed misconduct or fraud or poor performance or anything unethical not expected from a reputed agency. The guidelines and procedures for Holiday Listing as adopted by NAFED and available separately in NAFED website shall be applicable in the context of all tenders floated and consequently, all Orders / Contracts / Purchase Orders placed, by NAFED. NAFED Holiday Listing Policy is also available on the NAFED Website under Tenders Section.

54. INTEGRITY PACT

National Agricultural Cooperative Marketing Federation of India Ltd. (NAFED), an apex level Co-operative Marketing Federation, registered under the provisions of Multi State Cooperative Societies Act, 2002 (as amended up to date), having its Head Office at NAFED House, Siddhartha Enclave, Ashram Chowk, New Delhi-110014 through

..... (hereinafter referred to as the "The Principal", as the context may require or admit, which expression shall, unless excluded by or repugnant to the subject or context or meaning thereof, be deemed to mean and include its representatives, nominees, affiliates, successors and permitted assigns) of the ONE PART

And

.....a society/FPO/company incorporated under the.....or Partnership Firm duly registered vide Deed of Partnership datedor Proprietorship Firm, through its Director/Partner/Proprietor Mr./Mrs._____ and having its registered office at _____ (hereinafter referred to as

"Vendor/Bidder/Contractor") which expression shall, unless repugnant or contrary to the context or meaning thereof, be deemed to mean and include its successors, authorized signatories and permitted assigns) ofthe OTHERPART ,

PREAMBLE

A. The Principal intends to award, under laid down organizational procedures, contract/s for The Principal values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relations with its Bidder(s) and/or Agency.

Article: 1- Commitments of the Principal

1. The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
 - a) No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand; take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - b) The Principal will, during the tender process treat all Bidder (s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an unfair advantage in relation to the tender process or the contract execution.



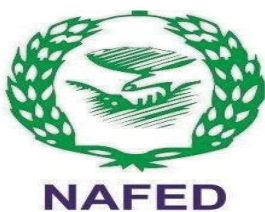
- c) The Principal will exclude from the process all known prejudiced persons.
- 2. If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act, or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions.

Article: 2 – Commitments of the Bidders(s)/Contractor(s)

- 1. The Bidder(s)/Contractor(s)/Vendor(s) commit themselves to take all measures necessary to prevent corruption. The Bidder(s)/Contractor(s)/Vendor(s) commit themselves to observe the following principles while participating in the tender process and during the contract execution.
 - a) The Bidder(s)/Contractor(s)/Vendor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
 - b) The Bidder(s)/Contractor(s)/Vendor(s) will not enter with other Bidders into any undisclosed agreements or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelisation in the bidding process.
 - c) The Bidder(s)/Contractor(s)/Vendor(s) will not commit any offence under the relevant IPC/PC Act; further the Bidder(s)/Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
 - d) The Bidder(s)/Contractor(s)/Vendor(s) of foreign origin shall disclose the name and address of the Agents/representatives in India, if any. Similarly the Bidder(s)/Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any. Further details of Indian Agents of Foreign Suppliers shall be disclosed by the Bidder(s)/Contractor(s)/Vendors. Further, all the payments made to the Indian agent/representative have to be in Indian Rupees only.
 - e) The Bidder(s)/Contractor(s)/Vendor(s) while presenting their bid, will disclose any and all payments made, are committed to or intend to make to agents, brokers or any other intermediaries in connection with the award of the contract.
 - f) Bidder(s)/Contractor(s)/Vendor(s) who have signed the Integrity Pact shall not approach the Courts while representing the matter to IEMs and shall wait for their decision in the matter.
- 2. The Bidder(s)/Contractor(s)/Vendor(s) will not instigate their persons to commit offences outlined above or be an accessory to such offences.

Article: 3 – Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/Contractor(s)/Vendor(s), before award or during execution has committed a transgression through a violation of Article 2, above or in any other form such as to put their reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/Contractor(s) from the tender process or take



action as per the laid down procedure.

Article: 4- Compensation for Damages

1. If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Article 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/Bid Security.
2. If the Principal has terminated the contract according to Article 3, or if the Principal is entitled to terminate the contract according to Article 3, the Principal shall be entitled to demand and recover from the Contractor/vendor liquidated damages of the Contract value or the amount equivalent to Performance Bank Guarantee.

Article: 5 – Previous transgression

1. The Bidder declares that no previous transgressions occurred in the last three years with any other firm/Company/organization in any country conforming to the anti-corruption approach or with any Public Sector Enterprise in India that could justify its exclusion from the tender process.
2. If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action can be taken as per the procedure mentioned in "Guidelines on Banking of business dealings".

Article: 6-Equal treatment of all Bidders / Contractors /Subcontractors

1. In case of Sub-contracting, the Principal Contractor shall take the responsibility of the adoption of Integrity Pact by the Subcontractor.
2. The principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.
3. The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

Article: 7 - Criminal charges against violating Bidder(s) / Contractor(s) / Subcontractor(s) If the Principal obtains knowledge of conduct of a Bidder, Contractor or subcontractor, or if an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

Article: 8 - Independent External Monitor

1. The Principal appoints competent and credible Independent External Monitor for this Pact after approval by Central Vigilance Commission. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this Integrity Pact.
2. The Monitor is not subject to instructions by the representatives of the parties and performs his/her functions neutrally and independently. The Monitor would have access to all Contract documents, whenever required. It will be obligatory to him /her to treat the information and documents of the Bidders / Contractors as confidential. He /she will report to the Managing Director, NAFED.
3. The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal including that provided by the Contractor will also grant the Monitor, upon his/her request and demonstration of a valid interest, unrestricted and unconditional access to their project documentation. The same is also applicable to Sub- contractors.
4. The Monitor is under contractual obligation to treat the information and



documents of the Bidder(s)/ Sub-contractor(s) with confidentiality. The Monitor has also signed declarations on 'Non- Disclosure of confidential Information' and of 'Absence of Conflict of interest'. In case of any conflict of interest arising out at a later date, IEM shall inform the Managing Director, NAFED and recues himself/herself from that case.

5. The Principal will provide to the Monitor sufficient information about all the meetings among the parties related to the Project provided such meetings could have any impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
6. As soon as the Monitor notices, or believes to notice, violation of this agreement, he/she will so inform the management to discontinue or take corrective action, or to take relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
7. The Monitor will submit a written report to the Managing Director, NAFED within 8 to 10 weeks from the date of reference or intimations to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
8. If the Monitor has reported to the Managing Director, NAFED, a substantiated suspicion of an offence under relevant IPC/PC Act, and the Managing Director, NAFED has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioners.
9. The word "Monitor" would include both singular and plural.

Article: 9 – Pact Duration

1. This pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the contract, and for all other Bidders 6 months after the contract has been awarded. Any violation of the same

would entail disqualification of the bidders and exclusion from future business dealings.

2. If any claim is made/lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/determined by the Managing Director, NAFED.

Article: 10 – Other provisions

1. This agreement is subject to Indian Law. Place of performance and jurisdiction is the Registered Office of the Principal, i.e. New Delhi.
2. Changes and supplements as well as termination notices need to be made in writing.
3. If the contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
4. Should one or several provisions of this Integrity Pact turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
5. Issues like Warranty/Guarantee etc. shall be outside the purview of IEMs.
6. In the event of any contradiction between the Integrity Pact and its Annexure, the Clause in the Integrity Pact will prevail.

(For & on behalf of the Principal)

(For & on behalf of



Bidder/Contractor)(Office Seal)

(Office

Seal)

Place: _____ Date _____

Witness 1:
(Name & Address) _____

Witness 2:
(Name & Address) _____

END OF RFQ DOCUMENT



SPECIFICATIONS

SPECIFICATIONS FOR EXCAVATION AND EARTHWORK

SCOPE

The scope of work broadly includes but is not necessarily limited to the following i.e. clearing of the site, excavation of foundation trenches, back-filling, disposal of surplus earth as required including dewatering, shoring and strutting. Contractor shall provide all tools, labour, equipment and incidentals necessary, required for completion of all aspects of work covered in these specifications.

TYPES OF SOIL

Contractor shall thoroughly acquaint himself with the types of soil in excavation by an inspection of nature of the ground at site & scrutiny of the investigation details available with the Consultant.

GROUND LEVELS AND SITE LEVEL PLAN

Before starting the excavations, the requisite block levels of the entire plot shall be taken by the contractor in consultation with the Consultant and a proper record of these levels to be kept, which shall be jointly signed by the Contractor and the Consultant. A block level plan showing-all the ground levels of the plot shall be prepared and shall jointly be signed by the Contractor and the Consultant/Project-in-charge.

SETTING OUT

After clearing the site, and preparing the site level plan, the Contractor will set out the center lines of the building or other involved works and get the same approved from the Consultant. It shall be the responsibility of the Contractor to install substantial reference marks; bench marks etc. and maintain them as long as required by the Consultant. The Contractor will assume full responsibility for proper setting out, alignment, elevation and dimension of each and all parts of the work

EXCAVATION AND PREPARATION OF FOUNDATIONS FOR CONCRETING

The contractor shall, at his expense and without any extra charge, make provision for all shoring and strutting, extra excavation in slope, extra excavation in working space, dredging or bailing out water, and the excavation shall be kept free from water when the foundation work is in progress.

If excavation is carried out to greater width, length or depth than specified, extra depth shall be made up by filling in lean concrete and extra length or width by filling in with earth rammed hard or by masonry as shall be borne in full by the contractor.

If required to protect the sides of pits and trenches, timber shoring and strutting shall be erected. The timbering shall be closed or open depending on the nature of the



soil and work, and arrangement of timbering including sizes and spacing of members used shall be as approved by the Consultant. NO extra charges shall be admissible on this account.

The bottoms of all excavation shall be trimmed and leveled in accordance with drawings / directions of the Consultant / Project-in-charge. The bottoms of all excavation shall be rammed and wetted before deposition of concrete. The contractors shall report to the Consultant / Project-in-charge when the excavation is ready to receive concrete. NO concrete shall be placed in foundations until the contractor has obtained the approval of Consultant / Project-in-charge.

PROTECTION

All foundation trenches and similar excavations shall be strong, fenced and marked with red lights at night for watchmen to avoid accidents. Adequate protective measures shall be taken to see that the excavation does not affect or damage adjoining structures. All measures required for the safety of the excavation, the people working in and near the foundation trenches, property and the people in the vicinity shall be taken care by the Contractor at his own cost, being entirely responsible for any injury and damage to property caused by his negligence or accident due to his construction operations.

STACKING OF EXCAVATED MATERIALS:

Work for excavation shall include sorting out of useful materials and stacking them on site as directed. Materials suitable and useful for back-filling, plinth, filling, leveling of the plot or other use shall be stacked at convenient places, but not in such a way as to obstruct free movement of men, equipment and vehicles or encroach on the area required for constructional purposes.

COMPACTION

The fill shall be spread in layers not exceeding 20 cm thick and each layer shall be watered and thoroughly consolidated by suitable mechanical rollers, rammers, vibrators or other approved plant or system of compaction.

SPECIFICATION FOR CAST – IN – SITU REINFORCED CEMENT CONCRETE GENERAL

This section covers the requirements for finishing of cement concrete, proportioning, batching, mixing, testing, placing, compacting, finishing, jointing, curing and all other work as required for cast in place reinforced concrete. The contractor shall provide all the materials including cement, steel, labour, equipment, 'form work', scaffolding etc., required for completion of all reinforced concrete works as per drawings and documents. Cement concrete shall be composed of cement, fine aggregate, coarse aggregate, water, with or without admixture as approved, proportioned and mixed as specified herein.



SUBMITTALS

Material Report

Prior to start of delivery of materials required, the following shall be submitted by the contractor to the Consultant / Project-in-charge for approval. (Suppliers and / or sources of all consumable materials including cement, steel, fine and coarse aggregates, water additives, bricks and timber etc.)

Quality Inspection Plan to ensure continuing quality control of ingredients by periodic sampling, testing and reporting to the Consultant on the quality of materials being supplied.

PLANT AND EQUIPMENT

The contractor shall submit the following to the Consultant well in advance. The proposed program, methods and details of plant and Equipment for be used to testing of ingredients and concrete samples. Details of plant & equipment to be used for concrete work.

REPORTS FOR INSPECTION AND TESTING

During concreting operations, the contractor shall conduct inspection and testing as described under the list of mandatory tests in this volume and all reports thereon shall be submitted in summary form to the Consultant / Project-in-charge.

MATERIALS

Before bringing to the site, all materials for cement concrete shall be approved by the Consultant / Project-in- charge. All approved samples shall be deposited in the office of the Consultant / Engineer-in charge before placing orders for the materials with suppliers The materials brought on to the work shall conform in every respect to their approved samples.

Fresh samples shall be deposited with the Consultant / Project-in-charge whenever type or source of any material changes The contractor shall check each fresh consignment of materials as it is brought on to the works to ensure that they conform to the specification and / or approved samples.

The Consultant / Project-in-charge shall have the option to have any of the materials tested to find whether they are in accordance with specifications at the contractor 's expense. All bills vouchers and test certificates which in the opinion of the Consultant / Project-in-charge are necessary to convince him as to the quality of materials or their suitability shall be produced for his inspection when required.

Any materials which have not been found to the specification and not approved by the Consultant / Project- in-charge shall be rejected forthwith and shall be removed from the site by the Contractor's at his own cost within the time stipulated by the Consultant / Project-in-charge. The Consultant / Project-in-charge shall have the



powers to cause the contractors to purchase and use materials from any particular source, as may in their opinion be necessary for the proper execution of work.

CEMENT

Cement at site shall be stored in dry weather proof go-downs (or shed) built by the Contractor at his own costs in stacks which are not higher than 10 bags. The cement go-down shall be constructed as per CPWD specifications.

AGGREGATES

Aggregates from natural sources shall be in accordance with IS: 383. The contractor shall submit to the Consultant / Project-in-charge certificates of grading and compliance from the suppliers for all consignments of aggregate. In addition at site from time to time, the contractor shall test the aggregates in accordance with IS: 2386 parts I, II, III and IV. The contractor shall allow for and provide all necessary apparatus for carrying out each test and for supplying test records to the Consultant.

COARSE AGGREGATE

The coarse aggregate shall be crushed stone or broken stone. Coarse aggregate obtained from crushed or broken stone shall be angular, hard, strong, dense, durable clean and free from soft, friable, thin, flat, elongated flaky pieces. The coarse aggregate should be from the approved source/quarry. Coarse aggregate River shingle or pit gravel shall be rounded, sound hard, clean, non porous, suitably graded in size with or without broken fragments and free from flat particle of shale, clay, silt, loam and other impurities.

The maximum size of coarse aggregate shall be such that the concrete can be placed without difficulty so as to surround all reinforcement thoroughly and fill the corners of form work.

WATER

Water used in the works shall be potable water and free from deleterious materials. Water used for mixing and curing concrete as well as for cooling and/or washing aggregate shall be fresh and clean, free from injurious amounts of oil, salts, acids, alkali, other chemicals and organic matter.

Water shall be from the source approved by the Consultant / Project-in-charge and shall be in accordance with Clause 4.3 of IS: 456.

ADMIXTURES AND ADDITIVES

Chemical admixtures are not to be used until permitted by the Consultant/Project-in-charge in case their use is permitted, the type, amount and method of use of any admixture proposed by the contractor shall be submitted to the Consultant for approval

GRADES OF CONCRETE



The grades of concrete shall be in accordance with the following table. The grade of concrete to be used in each section of work will be shown in the drawings. Contractor of his responsibility to produce concrete having compressive strengths as laid down in the foregoing table. The Engineer shall have authority at any time to check whether the mixing of concrete is being carried out according to the approved proportions.

For the major and important RCC works and for all special works, the design of mixes shall be made by the Contractor at his own cost, for each grade of concrete. The design of mixes shall be made according to relevant I.S. codes or to approved standard methods. The concrete made by designing the mix is termed hereinafter as "Design Mix Concrete". Moulds shall be prepared by the Contractor. The slump range of concrete shall be as per the tabulation given below, as well as standards. Slump tests shall be performed as per IS: 1881 at intervals established by the Engineer at the Contractor's cost in such a way as to check that the degree of consistency established by the Engineer for work in progress is maintained.

Any solid admixture, to be added, shall be measured by weight, but liquid or semi-liquid admixture may be measured by weight or volume. The Bidder shall indicate the brand name, the Manufacturer and the properties of any admixture to be used for the concrete as per Bill of Quantity items or on his own initiative.

MIXING OF CONCRETE

Machine Mixing

Concrete shall always be mixed in mechanical mixer. Water shall not, normally, be charged into the drum of the mixer until all other ingredients are already in the drum and mixed for at least one minute. Mixing shall be continued until there is uniform distribution of materials and the mass is uniform in colour and consistency. The mixing time from the time of adding water shall be in accordance with IS 1791, but in no case less than 2 minutes or at least 40 revolutions.

Placing and Compaction of Concrete

Before placing the concrete, the Contractor shall ensure that:

All mixing and placing equipment is thoroughly cleaned

All concreting space is free from debris and rubbish

All forms have been thoroughly wetted or oiled and firmly installed in line and plumb to the Engineer's approval.

All reinforcement is cleaned of loose rust, scales and other injurious adherents and is firmly bound and correctly placed and has been so approved by the Engineer.

All inserts, sleeves, foundation bolts and embedded parts have been correctly and firmly installed to conform to the Engineer's drawings and have been carefully

checked to comply with the drawings. Special care shall be taken to locate and check sleeves or inserts, which may not be symmetrically placed with respect to centre lines.



The Contractor and Engineer shall separately inspect and check the above mentioned points and record and sign the results in a register which shall be maintained by the Contractor in a approved form. No concrete shall be placed without the Engineer having inspected and approved in writing. In spite of ensuring the above requirements, the Contractor shall fill pour cards furnishing the necessary details of the job, duly signed by the Engineer. This, however, will not absolve the Contractor from his responsibility to correctly execute the work.

CURING OF CONCRETE

General

The purpose of curing is either to provide sufficient water at optimum temperature or to prevent loss of moisture from the concrete itself so that the cement inside the concrete is sufficiently hydrated which, of course, is a slow and prolonged process. As soon as the concrete has hardened sufficiently, the curing shall be started.

Strength Test of Concrete

While placing concrete, the Contractor shall make 150 mm test cubes from particular batches of concrete. The frequency of taking test cubes shall be either according to clause 14.2 of IS: 456 or as directed by the Engineer.

Cubes shall be tested for compressive strength at 7 days after casting and 28 days after casting. A register shall be maintained at site by the Contractor with the following details entered and signed by both the Contractor and the Engineer. That register shall be considered as the property of EMPLOYER

Mark on cubes

The grade of concrete

The mix of concrete

Date and time

Crushing strength at 7 days

Crushing strength at 28 days

Any other information directed by the Engineer.

Reference to the specific structural member

ACCEPTANCE CRITERIA FOR TEST CUBES

The acceptance criteria of concrete on strength requirement shall be in accordance with the stipulations under clause 15 of IS: 456.



Non-destructive Tests on Hardened Concrete

If there is doubt about the strength or quality of a particular work or the test results do not comply with the acceptance criteria as stipulated under clause 15 of IS: 456, non-destructive tests on hardened concrete like core tests and/or load tests or other type of non destructive tests like ultrasonic impulse test etc. shall be carried out, as may be directed by the Engineer, by the Contractor at entirely his own cost.

The core tests and load tests shall comply with the requirements of clause 16.6 of IS: 456.

Concrete below Specified Strength

In case of failure of test cubes to meet the specified requirements, the Engineer may take one of the following actions:

Reject the work and instruct that section of the works to which the failed cubes relate shall be cut out and replaced at the Contractor's expense. Instruct the Contractor to carry out additional tests and/or works to ensure the soundness of the structure at the Contractor's expense. Accept the work with reduction in the rate in appropriate item.

EXPANSION JOINTS

GENERAL

Expansion joints shall be provided where shown on the drawings or as directed by Consultant. They shall be constructed with an initial gap between the adjoining parts of the works of the width specified in the drawings. The contractor shall ensure that no debris is allowed to enter expansion joints Expansion joints shall be provided as per drawings. Contractor shall ensure that expansion joints are made water-tight and that no leakage occurs through these joints for which he shall be responsible to redo at his own cost.

SUPERVISION

All concreting work shall be done under strict supervision of the qualified and experienced representatives of the Contractor as well as those of the Consultant. The contractor's Engineer and supervisor who are in charge of concreting work shall be skilled in this class of work and shall personally supervise all the concreting operations.

COVER TO REINFORCEMENT

Unless shown otherwise on the drawings, minimum cover for all reinforcement shall be provided as per IS: 456 & care shall be taken to maintain the correct cover to reinforcement.

CLEANING

After placing, the reinforcement shall be maintained in a clean condition until the concrete is placed. On no account the bars shall be oiled or painted or mould oil used



on the formwork be allowed to come in contact with the bars. Before concreting is commenced, the bars shall be thoroughly cleaned with dry gunny bags if they are coated lightly with rust or other impurities.

SPECIFICATIONS FOR BRICK MASONRY WORK:-

The Contractor shall provide all labour, materials, scaffolding operations, equipment and incidentals necessary required for the completion of all brickwork called for in the drawings and documents and that which is fairly intended for smooth completion of the work.

MORTARS:-

All brick work shall BE laid with specified mortar of good workable consistency.

SOAKING OF BRICKS:-

All bricks required for masonry in cement or composite lime mortars shall be thoroughly soaked in clean water for at least one hour in advance of sufficient quantity size for immediate use.

The cessation of bubbles when the bricks are immersed in water is an indication of thorough soaking of bricks.

<u>SUMMARY</u>					
S.No.	Description	Unit	Qty.	Rate	Amount
1	Main Shed Repairing Works	Nos.	1.00		
2	Lignite shed Repairing Works	Nos.	1.00		
3	Clearing of Jungle	Nos.	1.00		
4	Renovation of Gate house	Nos.	1.00		
5	Construction of Rainwater drainage	Nos.	1.00		
6	Repair Works of Road	Nos.	1.00		
7	Civil works for ETP	Nos.	1.00		
8	Front Gate Painting Works	Nos.	1.00		
9	Repair of Old toilet in Production Block	Nos.	1.00		
10	Cooling Tower Foundation	Nos.	1.00		
11	Construction of Toilet Block	Nos.	1.00		



12	Construction of Ground Water Recharge Pit System	Nos.	1.00		
			Total		



NAFED

BOQ FOR NAFED, HONEY PROJECT (BHARATPUR)

NOTE - BOQ FOR MAIN SHED REPAIRING WORK (BHARATPUR)

S.No.	Item Description	Unit	Qty.	Rate	Amount
1	Dismantling roofing including ridges, hips, valleys and gutters etc., and stacking the material within 50 metres lead of: For Asbestos Cement sheet	Sqm.	889.56		
2	Providing & Fixing of 40 mm. thick PUFF Panel Sheet	Sqm.	1642.81		
3	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Concrete of M25 grade with minimum cement content of 330 kg /cum	Cum.	121.30		
4	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.	KG	4852.13		
5	Providing & mixing of Steel fibre (Novocone Xerox 1050) 15KG/Cum. , Glass Fibre 1KG/Cum And Fibre mesh 300E3, as per manufacturer specification	KG	1819.55		
6	Providing & applying floor hardner of approved make at 4KG/Sqm.	Sqm.	808.69		
7	Providing & applying Lithium Silicate coating over RCC Floor as per specifications	Sqm.	808.69		
8	Strengthening of existing columns as required	Nos.	40.00		
9	12 mm cement plaster of mix : 1:4 (1 cement: 4 fine sand) in Insider wall with mixing of waterproofing compound as per specifications	Sqm.	707.56		
10	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade : Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture	Sqm.	1476.99		
11	Aluminium profiled Fixed windows with pc sheets	Sqm.	33.00		
12	Aluminium profiled Openable windows with pc sheets	Sqm.	9.00		



NAFED

13	Fire rated door shutter made with 1.6 mm thick G.I sheet (120 minutes fire rating) including hinges (without glass panels)	Sqm.	32.40		
14	MS Structure in roof for extension of height	KG	5625.00		
15	Providing & Fixing Rainwater Gutter & Downpipe	Rm.	200.32		
16	Cleaning & painting of MS Structure	Lum Sum	1.00		
17	Providing & fixing Internal partitions in aluminium section as per design	Sqm.	186.00		
18	Providing and fixing false ceiling at all heights with integral densified calcium silicate reinforced with fibre and natural filler false ceiling tiles of Size 595x595mm of approved texture, design and patterns as per CPWD Specification 2019, to be laid in true horizontal level suspended on inter-locking metal T-Grid of hot dipped galvanised iron section of 0.33mmthick (galvanized @ 120 grams per sqm including both sides)comprising of main-T runners of size 24x38 mm of length 3000 mm,cross - T of size 24x32 mm of length 1200 mm and secondaryintermediate cross-T of size 24x32 mm of length 600mm to formgrid module of size 600 x 600 mm, suspended from ceiling usinggalvanised mild steel items (galvanizing @ 80 grams per sqm) i.e. 12x50 mm long dash fasteners, 6 mm dia fully threaded hanger rod upto 1000 mm length and L-shape level adjuster of size 76x25x25x1.6 mm fixed with grid and Z cleat of size 25x37x25x1.6mm thick with precut hole on both 25mm flange to pierce into 12x50mm or even bigger size dash fastener if require, fixed with Glavanised iron perimeter wall angle or size 24x24x0.40 mm of length 3000 mm to be fixed on periphery wall /	Sqm.	185.00		
19	Providing & Fixing Doors for Cold storage Area as per Specifications	Nos.	2.00		
				Total	



S.No.	Item Description	Nos.	L	B	D	Unit	Total (Nos. * L * B * D)
MEASUREMENT SHEET FOR REPAIR WORKS OF MAIN SHED							
1	Dismantling roofing including ridges, hips, valleys and gutters etc., and stacking the material within 50 metres lead of: For Asbestos Cement sheet						
	Roof	1.100	43.130	18.750	1.000	Sqm.	889.56
				Grand Total		Sqm.	889.56
2	Providing & Fixing of 40 mm. thick PUFF Panel Sheet						
	Roof	1.100	43.130	18.750	1.000	Sqm.	889.56
	For extended roof	2	18.75	1.1	2	Sqm.	82.50
		2	12	1	2	Sqm.	48.00
	Cold storage area wall	2.000	14.000	1.000	5.500	Sqm.	154.00
		2.000	18.750	1.000	5.500	Sqm.	206.25
	Cold storage area roof	1.000	14.000	18.750	1.000	Sqm.	262.50
				Grand Total		Sqm.	1642.81
3	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Concrete of M25 grade with minimum cement content of 330 kg /cum						
	Floor						
		1.000	43.130	18.750	0.150	Cum	121.30
				Grand Total		Cum.	121.30
4	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.						
			Qty.	KG/Cum.			
	Floor (Single layer both ways)		121.303	40.000		KG	4852.125
				Grand Total		KG	4852.125
5	Providing & mixing of Steel fibre (Novocone Xerox 1050) 15KG/Cum. , Glass Fibre 1KG/Cum And Fibre mesh 300E3, as per manufacturer specification						
	Floor						
		1.000	121.30	1.000	15.000	KG	1819.55
				Grand Total		KG	1819.55
6	Providing & applying floor hardner of approved make at 4KG/Sqm.						
	Floor	1.000	43.130	18.750	1.000	Sqm.	808.69
				Grand Total		Sqm.	808.69
7	Providing & applying Lithium Silicate coating over RCC Floor as per specifications						
	Floor	1.000	43.130	18.750	1.000	Sqm.	808.69
				Grand Total		Sqm.	808.69
8	Strengthening of existing columns as required						
		40	1	1	1	Nos.	40
				Grand Total		Nos.	40
9	12 mm cement plaster of mix : 1:4 (1 cement: 4 fine sand) in Insider wall with mixing of waterproofing compound as per specifications						
	Inside Wall	2.000	43.130	1.000	6.000	Sqm.	517.56
		2.000	18.750	1.000	6.000	Sqm.	225.00
		0.500	9.380	4.000	2.100	Sqm.	39.40
	Ded. Window	-28.000	1.000	1.000	1.500	Sqm.	-42.00
	Ded. Shutter	-4.000	3.000	1.000	2.700	Sqm.	-32.40
				Grand Total		Sqm.	707.56
10	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade : Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture						
	Outer Wall	2.000	43.130	1.000	6.500	Sqm.	560.69



		2.000	18.750	1.000	6.500	Sqm.	243.75
		0.500	9.380	4.000	2.100	Sqm.	39.40
	Ded. Window	-28.000	1.000	1.000	1.500	Sqm.	-42.00
	Ded. Shutter	-4.000	3.000	1.000	2.700	Sqm.	-32.40
	Inner Wall	2.000	43.130	1.000	6.000	Sqm.	517.56
		2.000	18.750	1.000	6.000	Sqm.	225.00
		0.500	9.380	4.000	2.100	Sqm.	39.40
	Ded. Window	-28.000	1.000	1.000	1.500	Sqm.	-42.00
	Ded. Shutter	-4.000	3.000	1.000	2.700	Sqm.	-32.40
				Grand Total	Sqm.		1476.99
11	Aluminium profiled Fixed windows with pc sheets						
		22.00	1.00	1.00	1.50	Sqm.	33.00
				Grand Total	Sqm.		33.00
12	Aluminium profiled Openable windows with pc sheets						
		6.00	1.00	1.00	1.50	Sqm.	9.00
				Grand Total	Sqm.		9.00
13	Fire rated door shutter made with 1.6 mm thick G.I sheet (120 minutes fire rating) including hinges (without glass panels)						
		4.00	3.00	1.00	2.70	Sqm.	32.40
				Grand Total	Sqm.		32.40
14	MS Structure in roof for extension of height						
		25	12	18.75	1	KG	5625.00
				Grand Total	KG		5625.00
15	Providing & Fixing Rainwater Gutter & Downpipe						
		2	51.36	1	1	Rm.	102.72
		16	1	1	6.1	Rm.	97.6
				Grand Total	Rm.		200.32
16	Cleaning & painting of MS Structure						
						Lum Sum	1
17	Providing & fixing Internal partitions in aluminium section as per design						
		1	20	1	3	Sqm.	60.00
		2	21	1	3	Sqm.	126.00
				Grand Total	Sqm.		186.00
18	Providing and fixing false ceiling at all heights with integral densified calcium silicate reinforced with fibre and natural filler false ceiling tiles of Size 595x595mm of approved texture, design and patterns as per CPWD Specification 2019, to be laid in true horizontal level suspended on inter-locking metal T-Grid of hot dipped galvanised iron section of 0.33mmthick (galvanized @ 120 grams per sqm including both sides)comprising of main-T runners of size 24x38 mm of length 3000 mm,cross - T of size 24x32 mm of length 1200 mm and secondaryintermediate cross-T of size 24x32 mm of length 600mm to formgrid module of size 600 x 600 mm, suspended from ceiling usinggalvanised mild steel items (galvanizing @ 80 grams per sqm) i.e. 12x50 mm long dash fasteners, 6 mm dia fully threaded hanger rod upto 1000 mm length and L-shape level adjuster of size 76x25x25x1.6 mm fixed with grid and Z cleat of size 25x37x25x1.6mm thick with precut hole on both 25mm flange to pierce into 12x50mm or even bigger size dash fastener if require, fixed with Glavanised iron perimeter wall angle or size 24x24x0.40 mm of length 3000 mm to be fixed on periphey wall / partition with the help of plastic rawl plugs at 450mm center to center and 40 mm long dry wall S.S screws. The work shall be carried out as per specifications, drawing and as per directions of the Engineer-in- Charge. With 15 mm thick tegular/butt edged without perforation plain/designer light weight calcium silicate Anti-Microbial Bio-Safe coated false ceiling tiles Confirming to JIS-Z2801 and ASTM G-21						
		1	10	5	1	Sqm.	50.00
		1	15	3	1	Sqm.	45.00
		1	15	6	1	Sqm.	90.00
				Grand Total	Sqm.		185.00
19	Providing & Fixing Doors for Cold storage Area as per Specifications						
		2	1	1	1	Nos.	2
				Grand Total	Nos.		2



BOQ FOR NAFED, HONEY PROJECT (BHARATPUR)

NAFED

NOTE - BOQ FOR LIGNITE SHED REPAIRING WORK (BHARATPUR)

S.No.	Item Description	Unit	Qty.	Rate	Amount
1	Dismantling roofing including ridges, hips, valleys and gutters etc., and stacking the material within 50 metres lead of: For Asbestos Cement sheet	Sqm.	161.49		
2	Providing & Fixing of 40 mm. thick PUFF Panel Sheet	Sqm.	161.49		
3	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade : Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture	Sqm.	291.40		
4	Providing & Fixing Rainwater Gutter & Downpipe	Rm.	33.96		
5	Cleaning & painting of MS Structure	Lum Sum	1.00		
			Total		



MEASUREMENT SHEET FOR LIGNITE SHED REPAIR WORKS

S.No.	Item Description	Nos.	L	B	D	Unit	Total (Nos. * L * B * D)
1	Dismantling roofing including ridges, hips, valleys and gutters etc., and stacking the material within 50 metres lead of: For Asbestos Cement sheet						
	Lignite Shed	1.100	7.830	18.750	1.000	Sqm.	161.49
				Grand Total		Sqm.	161.49
2	Providing & Fixing of 40 mm. thick PUFF Panel Sheet						
	Lignite shed	1.100	7.830	18.750	1.000	Sqm.	161.49
				Grand Total		Sqm.	161.49
3	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade : Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture						
	Outer Wall	2.000	7.830	1.000	6.500	Sqm.	101.79
		0.500	9.380	2.000	2.100	Sqm.	19.70
		1.000	18.750	1.000	1.500	Sqm.	28.13
	Inner Wall	2.000	7.830	1.000	6.000	Sqm.	93.96
		0.500	9.380	2.000	2.100	Sqm.	19.70
		1.000	18.750	1.000	1.500	Sqm.	28.13
				Grand Total		Sqm.	291.40
4	Providing & Fixing Rainwater Gutter & Downpipe						
		2	7.83	1	1	Rm.	15.66
		3	1	1	6.1	Rm.	18.3
				Grand Total		Rm.	33.96
5	Cleaning & painting of MS Structure						
							Lum Sum

ABSTRACT					
S.No.	Item Description	Unit	Qty.	Rate	Amount
1	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth up to 30 cm measured at a height of 1 m above ground level and removal of rubbish up to a distance of 50 m outside the periphery of the area cleared.	Sqm.	5206.16		
2	Gate House				
A	Fixing of Aluminium windows	Sqm.	3.6		
B	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade : Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture	Sqm.	25.8		
		Sqm.	19.8		
		Sqm.	14.19		
		Sqm.	-2.1		
		Sqm.	-3.6		
		Sqm.	54.09		
			Total		
3	RAINWATER DRAINAGE				
A	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil.	Cum	309.248		
B	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering – All work up to plinth level : 1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)	Cum	28.416		



C	1:1½:3 (1 Cement: 1½ coarse sand (zone-A) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources)	Cum	11.52		
D	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in Cement mortar 1:4(1 cement : 4 coarse sand)	Cum	82.432		
E	12 mm cement plaster of mix : 1:4 (1 cement: 4 fine sand)	Sqm	424.96		
F	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	Cum	309.248		
G	Providing & Laying 450 mm. Dia. RCC Hume pipe– NP2 with proper jointing of collar & as per specifications	RM	20.00		
			Total		



	NAFED				
4	ROAD REPAIR				
A	Scarifying metalled (water-bound) road surface including disposal of rubbish, lead upto 50 m and consolidation of the aggregate received from scarifying with power road roller of 8 to 10 tonne capacity.				
		Sqm.	180		
		Sqm.	391.5		
		Sqm.	121.5		
		Sqm.	180		
		Sqm.	112.5		
		Sqm.	985.5		
B	Providing and laying seal coat of premixed fine aggregate (passing 2.36 mm and retained on 180 micron sieve) with bitumen using 128 kg of bitumen of grade VG – 10 bitumen per cum of fine aggregate and 0.60 cum of fine aggregate per 100 sqm of road surface, including rolling and finishing with road roller all complete.	Sqm.	985.5		
C	Providing and applying tack coat using hot straight run bitumen of grade VG – 10, including heating the bitumen, spraying the bitumen with mechanically operated spray unit fitted on bitumen boiler, cleaning and preparing the existing road surface as per specifications : On bituminous surface @ 0.50 Kg / sqm	Sqm.	492.75		
			Total		
5	Supplying, installation, testing & commissioning of STP/ETP of appropriate technology including civil works (except plant room) tertiary treatment etc. for the campus	KLD	20		
6	Painting of Front gate	Nos.	1		
7	Repair of Existing toilet in production shed				
A	Sanitary & plumbing work	Nos.	1		
B	Septic tank	Nos.	1		
C	Painting work	Nos.	1		
			Total		



NAFED					
8	Cooling Tower Foundation				
A	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering – All work up to plinth level : 1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)	Cum			
		Cum	0.308385		
		Cum	0.308385		
B	1:1½:3 (1 Cement: 1½ coarse sand (zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources)	Cum	1.8		
C	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.	KG	144		
D	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in Cement mortar 1:4(1 cement : 4 coarse sand)	Cum	2.57922		
E	12 mm cement plaster of mix : 1:4 (1 cement: 4 fine sand)	Sqm	6.6038		
		Grand Total			



NAFED

BOQ FOR NAFED, HONEY PROJECT

NOTE - BOQ FOR TOILET

S.No.	Item Description	Unit	Qty.	Rate	Amount
1 (a)	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil.	Cum.	144.58		
1 (b)	Extra for excavating trenches for pipes, cables etc. in all kinds of soil for depth exceeding 1.5 m, but not exceeding 3 m. (Rate is over corresponding basic item for depth upto 1.5 metre).	Cum.	49.15		
1 (c)	Extra for excavating trenches for pipes, cables, etc, in all kinds of soil for depth exceeding 3 m in depth, but not exceeding 4.5 m. (Rate is over corresponding basic item	Cum.			
2	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited	Cum.	125.26		
3	Supplying, filling, spreading & leveling stone boulders of size range 5 cm to 20 cm, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	Cum.	11.79		
4	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering – All work up to plinth level : 1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)	Cum.	6.45		



5	Providing and laying in position ready mixed concrete as per site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland / Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Concrete of M25 grade with minimum cement content of 330 kg /cum	Cum.	21.05		
6 (a)	Centering and shuttering including strutting, propping etc. and removal of form for Foundations, footings, bases of columns, etc. for mass concrete	Sqm.	17.28		
6 (b)	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	Sqm.	20.16		
6 (c)	Lintels, beams, plinth beams, girders, bressumers and cantilevers	Sqm.	145.54		
6 (d)	Columns, Pillars, Piers, Abutments, Posts and Struts	Sqm.	28.43		
7	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.	KG	1458.55		
8	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in Cement mortar 1:4(1 cement : 4 coarse sand)	Cum	23.12		
9	12 mm cement plaster of mix : 1:4 (1 cement: 4 fine sand)	Sqm.	251.59		



10	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade : Two or more coats on new work	Sqm.	251.59		
11	Providing and fixing double glazed hermetically sealed glazing in aluminium windows, ventilators and partition etc. with 6 mm thick clear float glass both side, having 12 mm air gap, including providing EPDM gasket, perforated aluminium spacers, desiccants, sealant (Both primary and secondary sealant) etc. as per specifications, drawings and direction of Engineer-in-charge complete.	Sqm.	28.35		
12	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4 Coarse sand), Jointing with grey cement slurry @ 3.3 kg/sqm including pointing the joints with white cement and matching pigment etc., complete.	Sqm.	133.98		
13	Providing Septic tank with Civil work for Toilet	Nos.	1.00		
14	Sanitary & Inside Plumbing Work	Nos.	1.00		
15	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required: (White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests)	Nos.	7.00		



16	Providing and fixing wash basin with China flat back or wall corner type lipped front urinal basin of 430x260x350 mm or 340x410x265 mm sizes respectively, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require: (White Vitreous China Wash basin size 630x450 mm with a single 15 mm C.P. brass pillar tap)	Nos.	4.00		
17	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430x260x350 mm or 340x410x265 mm sizes respectively.	Nos.	4.00		
				Grand Total	



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MEASUREMENT SHEET FOR TOILET CONSTRUCTION

S.No.	Item Description	Nos.	L	B	D	Unit	Total (Nos. * L * B * D)
1 (a)	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil.						
	Footing - F1	6.000	3.200	3.200	2.300	Cum.	141.31
	Plinth beam (PB1)	2.000	6.800	0.530	0.275	Cum.	1.98
		2.000	4.400	0.530	0.275	Cum.	1.28
				Grand Total	Cum.		144.58
1 (b)	Extra for excavating trenches for pipes, cables etc. in all kinds of soil for depth exceeding 1.5 m, but not exceeding 3 m. (Rate is over corresponding basic item for depth upto 1.5 metre).						
	Footing - F1	6.000	3.200	3.200	0.800	Cum.	49.15
				Grand Total	Cum.		49.15
1 (c)	Extra for excavating trenches for pipes, cables, etc, in all kinds of soil for depth exceeding 3 m in depth, but not exceeding 4.5 m. (Rate is over corresponding basic item for depth upto 1.5 metre.)						
							0.00
				Grand Total	Cum.		0.00

2	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.						
		Excavation Qty	Soling	PCC	RCC		
		144.577	5.808			Cum.	138.77
				Grand Total		Cum.	138.77
3	Supplying, filling, spreading & leveling stone boulders of size range 5 cm to 20 cm, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.						
	Footing - F1	6.000	2.200	2.200	0.200	Cum.	5.81
					Total	Cum.	5.81
	Floor	1.000	6.800	4.400	0.200	Cum.	5.98
					Total	Cum.	5.98
				Grand Total		Cum.	11.79
4	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering – All work up to plinth level : 1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)						
	Footing - F1	6.000	2.200	2.200	0.100	Cum.	2.90
					Total	Cum.	2.90
	Plinth Beam	2.000	6.800	0.330	0.075	Cum.	0.34
		2.000	4.400	0.330	0.075	Cum.	0.22
					Total	Cum.	0.55



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	Floor	1.000	6.800	4.400	0.100	Cum.	2.99
					Total	Cum.	2.99
				Grand Total	Cum.		6.45
5	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Concrete of M25 grade with minimum cement content of 330 kg /cum						
	Footing - F1	6.000	2.000	2.000	0.250	Cum.	6.00
					Total	Cum.	6.00
	Trapezoidal Portion		A1	A2			
	Footing – F1	6.000	4.000	0.680	0.200	Cum.	2.53
					Total	Cum.	2.53
	Column						
	C1	6.000	0.230	0.230	5.150	Cum.	1.63
					Total	Cum.	1.63
	Plinth Beam	2.000	6.800	0.230	0.500	Cum.	1.56
		2.000	4.400	0.230	0.500	Cum.	1.01
					Total	Cum.	2.58
	Side wall above Plinth beam	2.000	6.800	0.125	0.300	Cum.	0.51



		2.000	4.400	0.125	0.300	Cum.	0.33
					Total	Cum.	0.84
	Lintel						
	Door	7.000	1.500	0.230	0.230	Cum	0.555
		2.000	1.800	0.230	0.230	Cum	0.190
					Total	Cum	0.746
	Top Beam	2.000	6.800	0.230	0.300	Cum	0.938
		2.000	4.400	0.230	0.300	Cum	0.607
	Slab	1.000	7.400	5.600	0.125	Cum	5.180
				Grand Total	Cum.		21.05
6 (a)	Centering and shuttering including strutting, propping etc. and removal of form for Foundations, footings, bases of columns, etc. for mass concrete						
	Footing PCC						
	Footing – F1	24.000	2.200	1.000	0.100	Sqm.	5.28
					Total	Sqm.	5.28
	Footing RCC						
	Footing – F1	24.000	2.000	1.000	0.250	Sqm.	12.000
					Total	Sqm.	12.00
				Grand Total	Sqm.		17.28
6 (b)	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.						
	Side wall above Plinth beam	6.000	6.800	1.000	0.300	Sqm.	12.24
		6.000	4.400	1.000	0.300	Sqm.	7.92
					Total	Sqm.	20.16
				Grand Total	Sqm.		20.16
6 (c)	Lintels, beams, plinth beams, girders, bressumers and cantilevers						
	Plinth Beam PCC	12.000	6.800	1.000	0.075	Sqm.	6.12
		12.000	4.400	1.000	0.075	Sqm.	3.96



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					Total	Sqm.	10.08
	Plinth Beam RCC	12.000	6.800	1.000	0.500	Sqm.	40.80
		12.000	4.400	1.000	0.500	Sqm.	26.40
					Total	Sqm.	67.20
	Lintel						
	Door Bottom	7.000	0.900	1.000	0.230	Sqm.	1.45
	Side	14.000	1.500	1.000	0.230	Sqm.	4.83
	Door Bottom	2.000	1.200	1.000	0.230	Sqm.	0.55
	Side	4.000	1.800	1.000	0.230	Sqm.	1.66
					Total	Sqm.	8.49
	Top Beam						
	Side	4.000	7.400	1.000	0.175	Sqm.	5.18
		4.000	5.600	1.000	0.175	Sqm.	3.92
	Bottom	2.000	7.400	0.230	1.000	Sqm.	3.40
		2.000	5.600	0.230	1.000	Sqm.	2.58
					Total	Sqm.	15.08
	Slab	1.000	7.400	5.600	1.000	Sqm.	41.44
		2.000	7.400	1.000	0.125	Sqm.	1.85
		2.000	1.000	5.600	0.125	Sqm.	1.40
					Total	Sqm.	44.69
				Grand Total	Sqm.	145.54	
6 (d)	Columns, Pillars, Piers, Abutments, Posts and Struts						
	Column	24.000	0.230	1.000	5.150	Sqm.	28.428
				Grand Total	Sqm.	28.428	
7	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.						
			Qty.	KG/Cum.			
	Footing		8.532	50.000		KG	426.585
	Column		1.635	50.000		KG	81.731
	Plinth Beam		2.576	110.000		KG	283.360

	Lintel		0.746	110.000		KG	82.048
	Wall		0.840	80.000		KG	67.200
	Top Beam		0.938	110.000		KG	103.224
	Slab		5.180	80.000		KG	414.400
				Grand Total	KG		1458.547
8	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in Cement mortar 1:4(1 cement : 4 coarse sand)						
	Outside walls	2	6.8	0.23	2.825	Cum	8.837
		2	4.4	0.23	2.825	Cum	5.718
	Opening Deduction	-2	1.5	0.23	2.1	Cum	-1.449
	Inside Partitions	1	4.4	0.23	2.825	Cum	2.859
		2	4.4	0.115	2.825	Cum	2.859
		6	1.2	0.115	2.825	Cum	2.339
		3	1.5	0.115	2.825	Cum	1.462
		1	0.6	0.115	2.825	Cum	0.195
	Door Deduction	-7	0.75	0.115	2.1	Cum	-1.268
	Parapet	2	7.4	0.115	0.3	Cum	0.511
		2	5.6	0.115	0.3	Cum	0.386
	Steps to Enter	2	0.75	1.5	0.15	Cum	0.338
		2	0.5	1.5	0.15	Cum	0.225
		2	0.25	1.5	0.15	Cum	0.113
				Grand Total	Cum		23.123
9	12 mm cement plaster of mix : 1:4 (1 cement: 4 fine sand)						
	Outside walls	4	6.8	1	2.825	Cum	76.840
		4	4.4	1	2.825	Cum	49.720
	Opening Deduction	-4	1.5	1	2.1	Cum	-12.600
	Inside Partitions	2	4.4	1	2.825	Cum	24.860
		4	4.4	1	2.825	Cum	49.720
		12	1.2	1	2.825	Cum	40.680
		6	1.5	1	2.825	Cum	25.425
		2	0.6	1	2.825	Cum	3.390
	Door Deduction	-14	0.75	1	2.1	Cum	-22.050
	Parapet	4	7.4	1	0.3	Cum	8.880



		4	5.6	1	0.3	Cum	6.720
				Grand Total	Sqm.		251.585
10	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade : Two or more coats on new work						
	Outside walls	4	6.8	1	2.825	Cum	76.840
		4	4.4	1	2.825	Cum	49.720
	Opening Deduction	-4	1.5	1	2.1	Cum	-12.600
	Inside Partitions	2	4.4	1	2.825	Cum	24.860
		4	4.4	1	2.825	Cum	49.720
		12	1.2	1	2.825	Cum	40.680
		6	1.5	1	2.825	Cum	25.425
		2	0.6	1	2.825	Cum	3.390
	Door Deduction	-14	0.75	1	2.1	Cum	-22.050
	Parapet	4	7.4	1	0.3	Cum	8.880
		4	5.6	1	0.3	Cum	6.720
				Grand Total	Sqm.		251.585
11	Providing and fixing double glazed hermetically sealed glazing in aluminium windows, ventilators and partition etc. with 6 mm thick clear float glass both side, having 12 mm air gap, including providing EPDM gasket, perforated aluminium spacers, desiccants, sealant (Both primary and secondary sealant) etc. as per specifications, drawings and direction of Engineer-in-charge complete.						
	Door	6	0.75	1	2.1	Sqm.	9.45
	Door	2	1.5	1	2.1	Sqm.	18.9
				Grand Total	Sqm.		28.35



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12	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4 Coarse sand), Jointing with grey cement slurry @ 3.3 kg/sqm including pointing the joints with white cement and matching pigment etc., complete.						
	Floor	1	6.8	4.4	1	Sqm.	29.92
	Gents toilet	6	1.2	1	2.1	Sqm.	15.12
		6	0.9	1	2.1	Sqm.	11.34
	Door Deduction	-3	0.75	1	2.1	Sqm.	-4.73
	Ladies Toilet	8	1.2	1	2.1	Sqm.	20.16
		8	0.9	1	2.1	Sqm.	15.12
	Door Deduction	-4	0.75	1	2.1	Sqm.	-6.30
	Other Area	2	6.8	1	2.1	Sqm.	28.56
		2	4.4	1	2.1	Sqm.	18.48
	Door Deduction	-2	1.5	1	2.1	Sqm.	-6.30
	Partition	4	1.5	1	2.1	Sqm.	12.60
				Grand Total		Sqm.	133.98
13	Providing Septic tank with Civil work for Toilet						
		1	1	1	1	Nos.	1
				Grand Total		Nos.	1
14	Sanitary & Inside Plumbing Work	1	1	1	1	Nos.	1
				Grand Total		Nos.	1

15	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required: (White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests)						
	Gents Toilet	3	1	1	1	Nos.	3
	Ladies Toilet	4	1	1	1	Nos.	4
				Grand Total		Nos.	7
16	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making						
	Gents Toilet	2	1	1	1	Nos.	2
	Ladies Toilet	2	1	1	1	Nos.	2
				Grand Total		Nos.	4
17	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal						
	Gents Toilet	4	1	1	1	Nos.	4
				Grand Total		Nos.	4



BOQ FOR GROUND WATER RECHARGE PIT AT NAFED BHARATPUR

RECHARGE PIT

NOTE -2 NOS GROUND WATER RECHARGE PIT (Screen Chamber, Settlement Tank & Recharge Pit)

S.No.	Item Description	Unit	Qty.	Rate	Amount
1(a)	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil.	Cum.	225.27		
1 (b)	Extra for excavating trenches for pipes, cables etc. in all kinds of soil for depth exceeding 1.5 m, but not exceeding 3 m. (Rate is over corresponding basic item for depth upto 1.5 metre).	Cum.	133.65		
1 (c)	Extra for excavating trenches for pipes, cables, etc, in all kinds of soil for depth exceeding 3 m in depth, but not exceeding 4.5 m. (Rate is over corresponding basic item for depth upto 1.5 metre.)	Cum.	56.40		
2	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	Cum.	160.18		
3	Supplying, filling, spreading & leveling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer – incharge.	Cum	10.11		
4	Supplying, filling, spreading & leveling gravels of size range 5 mm to 10 mm, in the recharge pit, over the existing layer of boulders, in required thickness, for all leads & lifts, all complete as per direction of Engineer–in-charge.	Cum	12.99		



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5	Supplying, filling, spreading & leveling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	Cum.	7.23		
6	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering – All work up to plinth level : 1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)	Cum.	1.67		
7	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Concrete of M25 grade with minimum cement content of 330 kg /cum	Cum.	3.35		
8	Centering and shuttering including strutting, propping etc. and removal of form for Foundations, footings, bases of columns, etc. for mass concrete	Sqm.	22.34		
9	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.	KG	435.57		
10	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in Cement mortar 1:4(1 cement : 4 coarse sand)	Cum	33.08		



MEASUREMENT SHEET FOR RECHARGE PIT

S.No.	Item Description	Nos.	L	B	D	Unit	Total (Nos. * L * B * D)
1(a)	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil.						
	Screen chambar	2.00	2.65	2.26	1.80	Cum.	21.56
	Settlement Tank	2.00	4.06	2.86	3.20	Cum.	74.31
	Recharge Pit	2.00	3.14	4.12	5.00	Cum.	129.40
				Grand Total		Cum.	225.27
1 (b)	Extra for excavating trenches for pipes, cables etc. in all kinds of soil for depth exceeding 1.5 m, but not exceeding 3 m. (Rate is over corresponding basic item for depth upto 1.5 metre).						
	Screen chambar	2.00	2.65	2.26	0.30	Cum.	3.59
	Settlement Tank	2.00	4.06	2.86	1.70	Cum.	39.48
	Recharge Pit	2.00	3.14	4.12	3.50	Cum.	90.58
				Grand Total		Cum.	133.65
1 (c)	Extra for excavating trenches for pipes, cables, etc, in all kinds of soil for depth exceeding 3 m in depth, but not exceeding 4.5 m. (Rate is over corresponding basic item for depth upto 1.5 metre.)						
	Settlement Tank	2.00	4.06	2.86	0.20	Cum.	4.64
	Recharge Pit	2.00	3.14	4.12	2.00	Cum.	51.76
				Grand Total		Cum.	56.40

2	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	Excavation Qty	Soling	PCC	Brick work		
		225.271	30.344	1.666	33.085	Cum.	160.18
				Grand Total	Cum.		160.18
3	Supplying, filling, spreading & leveling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer –in-charge.						
	Settlement Tank	2.000	2.400	1.200	0.500	Cum	2.88
	Recharge Pit	2.000	3.140	1.440	0.800	Cum	7.23
				Grand Total	Cum		10.11
4	Supplying, filling, spreading & leveling gravels of size range 5 mm to 10 mm, in the recharge pit, over the existing layer of boulders, in required thickness, for all leads & lifts, all complete as per direction of Engineer–in–charge.						
	Settlement Tank	2.000	2.400	1.200	1.000	Cum	5.76
	Recharge Pit	2.000	3.140	1.440	0.800	Cum	7.23
				Grand Total	Cum		12.99
5	Supplying, filling, spreading & leveling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer–in–charge.						
	Recharge Pit	2.000	3.140	1.440	0.800	Cum	7.23
				Grand Total	Cum.		7.23

6	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering – All work up to plinth level : 1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)						
		2.000	1.560	1.260	0.100	Cum.	0.39
	Settlement Tank	4.000	3.060	0.330	0.100	Cum.	0.40
		4.000	1.200	0.330	0.100	Cum.	0.16
	Recharge Pit	2.000	3.140	2.341	0.100	Cum.	1.47
		-2.000	3.140	1.210	0.100	Cum.	-0.76
				Grand Total	Cum.		1.67
7	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Concrete of M25 grade with minimum cement content of 330 kg /cum						
	Settlement Tank Slab	2.000	2.860	1.660	0.150	Cum.	1.42
	Recharge Pit Slab	2.000	3.140	2.045	0.150	Cum.	1.93
				Grand Total	Cum.		3.35



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8	Centering and shuttering including strutting, propping etc. and removal of form for Foundations, footings, bases of columns, etc. for mass concrete						
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	Settlement Tank Slab	2.000	2.860	1.660	1.000	Sqm.	9.50
	Recharge Pit Slab	2.000	3.140	2.045	1.000	Sqm.	12.84
				Grand Total		Sqm.	22.34
9	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.						
			Qty.	KG/Cum.			
	Slab		3.351	130.000		KG	435.575
				Grand Total		KG	435.575
10	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in Cement mortar 1:4(1 cement : 4 coarse sand)						
	Screen Chamber	4	0.9	0.23	1.6	Cum	1.32
		4	1.06	0.23	1.6	Cum	1.56
	Settlement Tank	4	2.4	0.23	3	Cum	6.62
		4	1.66	0.23	3	Cum	4.58
	Recharge Pit	2	3.14	2.0449	5	Cum	64.21
		-2	3.14	1.44	5	Cum	-45.22
				Grand Total		Cum	33.08
11	Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC medium well casing (CM) pipe of required dia, conforming to IS: 12818, including required hire and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer –in-charge. (100 mm. Nominal size Dia.)						
	Bore	2	18	1	1	RM.	36
				Grand Total		RM.	36



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12	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction (300 MM. Dia.)						
		2	18	1	1	RM.	36
				Grand Total		RM.	36
13	Gravel packing in tubewell construction in accordance with IS: 4097, including providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineer-in-charge.						
		2	3.14	0.0225	18	Cum	2.54
		-2	3.14	0.0025	18	Cum	-0.28
				Grand Total		Cum	2.26



GENERAL SPECIFICATIONS FOR ELECTRICAL WORKS



GENERAL SPECIFICATIONS

1. SCOPE OF WORK

The general character and the scope of work to be carried out under this contract is illustrated in Drawings, Specifications and Schedule of Quantities. The Contractor shall carry out and complete the said work under this contract in every respect in conformity with the contract documents and with the direction of and to the satisfaction of the Owner's site representative. The Contractor shall furnish all labor, materials and equipment (except those to be supplied by the owner) as listed under Schedule of Quantities and specified otherwise, transportation and incidental necessary for supply, installation, testing and commissioning of the complete system as described in the Specifications and as shown on the drawings. This also includes any material, equipment, appliances and incidental work not specifically mentioned herein or noted on the Drawings/Documents as being furnished or installed, but which are necessary and customary to be performed under this contract. The scope of work shall generally comprise, but not limited to the following:

- a) HT Panel -11kV Switch Gear with VCB Circuit Breaker.
- b) 11/0.415kv Transformer Works
- c) HT/LT Power and Control Cables.
- d) 415V PCC Panel/, Automatic Capacitor Control Panels, MDB/SDB/Feeder Pillar, DB's, etc.
- e) Cable trays, earthing station/materials
- f) Internal Electrical Works
- g) Any other items specified in Schedule of Quantities.

Comply in full with all requirements described in or implied by his specification and with the Conditions of Contract as well as Schedule and Drawings issued as part of the contract documents.

Request clarification and make all necessary enquiries prior to submitting the tender regarding any obscurities or contradictions on or omissions from the specification, related Documents and Drawings. No consideration will be given to cost claims for work arising from the failure to obtain such clarification.

Minor civil works like drilling and punching holes and openings in concrete floors, slabs, chasing of brick walls, fabrication of supporting structures, drainage of water from cable trenches, cleaning and clearing of all debris due to electrical installation.

Excavation, scaffolding and back filling for direct burial of cables and earthing conductors as applicable.

Preparation of execution drawings and as built-in- drawings.

Coordination with other contractors with regard to installation of items in Electrical



Contractors scope.

The extent of work services under the contract include all items shown on the drawings, indicated in companion with specifications, notwithstanding the fact that such items have been omitted from the price schedule. All equipments and services which are required to complete the intent of the contract shall also be deemed to be within the scope of the contract.

Training of Owner's Staff.

2. ITEMWISE BRIEF SPECIFICATIONS

2.1 HT PANEL

System Details :-

Rated Voltage	: 3 Phase, 11KV \pm 10%.
Maximum System Voltage	: 12 KV
Rated Current	: 630 Amp
Fault Level	: 350 MVA
Rated Frequency	: 50 Hz
Ambient Temperature	: 45°C
System Earthing	: Non effectively earthed
Degree of Protection	: IP 42
Atmospheric Condition	: Humid and Dusty



STANDARD & CODES:

Unless otherwise stated, HT switch board shall conform to the following relevant Indian standards and Indian Electricity Rules and Regulations.

- i) IS-2516 : Circuit Breakers
- ii) IS-3427 : Metal enclosed switchgear and control gear for voltage above 1000V but not exceeding 11000V A.C.
- iii) IS-4237 : General requirement for switchgear and control gear for voltages not exceeding 1000Volts.
- iv) IS-8828 : Miniature Air break circuit Breakers for voltages not exceeding 1000V.
- v) IS-4064 : Air break switches. Air break disconnectors, air break switch disconnectors and fuse combination units for voltage not exceeding 1000V AC or 1200V DC.
- vi) IS-2959 : Contactors for voltages not exceeding 1000V AC or 1200V DC.
- vii) IS-8544 : Motor starters for voltages not exceeding 1000V AC or 1200V DC.
- viii) IS-2705 : Current Transformer
- ix) IS-3156 : Potential Transformer
- x) IS-9385 : High voltage fuses
- xi) IS-6875 : Control switches
- xii) IS-1255 : H.T. Cables
- xiii) IS-1248 : Electrical Direct acting indicating instruments
- xiv) IS-722 : AC electricity Meter of Induction type
- xv) IS-2544 : Porcelain post insulators for system voltage greater than 1000V.
- xvi) IS-3231 : Electrical Relays



- xvii) IS-5082 : Wrought aluminium and aluminium alloy bars etc. for electrical purposes
- xviii) IS-2147 : Degree of protection provided by enclosures for low voltage switch gear and control gears.
- xix) IS-375 : Marking and arrangement for switchgear, busbars, main connection and auxiliary wiring.
- xx) IS-8623 : Factory built assemblies of switchgears and control gears for voltages up to and including 1000V AC & 1200V DC
- xxi) IS-10118 : Code of practice for selection, installation and maintenance of fuses
- xxii) IS-13118 : H.T. Circuit Breaker.
- xxiii) IS-3725 : Resistance wire, tapes and strips for heating elements
- xxiv) IS-9224 : Low voltage fuses.

H.T. CABLES:

GENERAL :

The cables shall be supplied, inspected, laid, tested and commissioned in accordance with Drawings. Specifications, Indian Standard Specifications IS : 1255-1967 and cable manufacturers instructions.

MATERIAL :

The H.T. cables shall be 11 KV, aluminium conductor CROSS LINKED POLYETHYLENE XLPE insulated steel tape armoured cable laid underground and or in masonry trenches as shown on Drawings. The conductor shall be made of Electrical purity aluminium wires and stranded together and compacted. The cable shall be of 3 Core type. The insulation shall be of high quality cross linked polyethylene applied by extrusion process. Both conductor and the insulator are provided with shielding made of Semi Conducting compound. Armouring is applied over inner sheath and shall be of flat steel strips. This shall be of black colour.

INSPECTION :

All cables shall be inspected upon receipt at site and checked for any damage during transit.

JOINTS IN CABLES :



The contractor shall take care to ensure that all the cables are procured in such a manner as to avoid jointing. This apportioning shall be got approved by the Owner/Consultant before the cables are cut to lengths. Where joints are unavoidable, the location of such joints shall be got approved by the Owner/Consultants. The H.T. Cable jointing shall be done only by authorised cable jointer.

JOINTING BOXES FOR CABLES:

Cable joint boxes shall be of appropriate size, suitable for aluminium conductor XLPE insulated cables of 11000 volts un-effectively earthed system.

JOINTING CABLES:

All cable joints shall be made in suitable, approved cable joint boxes. Jointing of cables in the joint boxes and the filling in of compound shall be done in accordance with the best practice in trade, in accordance with manufacturer's instructions and in an approved manner. All straight T-joints shall be done in epoxy mould boxes with TROPOLIN/M-SEAL epoxy resin or approved equal. All terminal ends of conductors shall be heavily soldered upto at least 50mm length.

CABLE TERMINATIONS:

Cable termination shall be done in terminal cable box using cable glands and the cable ends sealed with sealing compound. The cable boxes of transformers shall be filled with bituminous compound manufactured by CCI or approved equal.

LAYING OF CABLES:

H.T. cables shall be laid either buried directly in hume pipe underground or in Masonry/Concrete trenches. The cable buried underground shall be at minimum depth of 1.2 mtr. from the ground level. Sand cushion of not less than 80mm shall be provided both above and below the cable with a protective



concrete slab on the top of the sand layer. The cable trench shall be back filled and compacted. H.T. Cable route marker shall be provided @ 30 mtr and where there is change in direction.

PROTECTION OF CABLES:

The cable shall be protected by placing precast reinforced 50mm, thick (1:2:4) concrete slabs 200mm wide on the top layer of sand for the length of the cable. Where more than one cable is running in the same trench, the concrete blocks shall cover all the cables and shall project minimum 80mm on either side of the cables.

TRANSFORMER: (Oil type)

SCOPE :

This specification generally describes the power transformers and associated auxiliary equipment for use on the electrical power distribution system suitable for outdoor installation and covers the design, manufacture, testing at works, supply and delivery, site erection, testing and commissioning aspects of the same. The details are given in the data sheet.

STANDARDS :

The equipment and accessories covered by this specification shall be designed, manufactured and tested in compliance with the latest relevant standards published by the Indian Standards institution wherever available in order that specific aspects under Indian conditions are taken care of.

The equipment and accessories for which Indian Standards are not available shall be designed, manufactured and tested in accordance with the latest standards published by any other recognized national standards institution.

The equipment shall also conform to the latest Indian Electricity Rules as regards safety, earthing and other essential provisions specified therein for installation and operation of electrical plants.

Generally the transformer shall conform to IS:2026, IS:10028 and unless otherwise stated.

LT SWITCHGEARS MAIN PCC PANELS & DISTRIBUTION BOARDS:

SCOPE :

This section shall cover supply, assembly, installation, connection, testing and commissioning of medium voltage cubicle type MV Switchgear, PCC Panel, FP and Distribution boards as described in these specifications, drawings and schedule of quantities. The distribution boards are designated as:

PCC Panels, MDB, SDB , Floor Panels, Distribution Board

The unit rate per item shall include design supply, assembly, installation, connection, testing and commissioning of MV Assembly Distribution boards, with all the components in place, internal wiring, as specified in this specification, and shown on the drawing, and load schedule complete with supply and fixing of M.S. channel/ angle iron support on wall/floor etc.



In case of switchgears and panels issued by owner for erection the unit rate shall include inspection, receiving, storage, installation, field testing and commissioning activities including co- ordination with the suppliers of the switchgears. The rate shall be quoted per set of switchgears/panels as identified in the BOQ. The details of design/Constructional features of these switchgears are specified here below.

SYSTEM DETAILS :

All the Main Panels/Motor control centers Distribution boards, Sub-Main Distribution boards, shall be suitable for operation on three phase/ single phase, 415/230 volts, 50 Hz neutral solidly grounded at transformer and short circuit level not less than 415 Volts at 50KA / 35 KA or as specified elsewhere.

The Distribution boards shall be designed to withstand tropical condition at site, with maximum expected ambient temperature of 45°C and 100 percent humidity and dusty weather.

Enclosure of the switchboard shall have IP 52 protection for Indoor and IP 55 for outdoor.

STANDARDS AND CODES:

The Distribution boards shall comply with the latest edition of relevant Indian Standards and Indian Electricity Rules and Regulations. The following Indian Standards shall be complied with:

IS 1394 -	L.V. switchgear and control gear Part-I - 1993 General rules IS 5578-85 Guide for marking of insulated conductors.
IS 11353-85	Guide for uniform system of marking and identification of conductors and apparatus terminals.
IS 2147-62	Degree of protection provided by enclosures for low voltage switch gear and control gears.
IS 2675-83	Enclosed distribution fuse boards and cutouts for Voltages not Exceeding 1000 V.
IS 2551-82	Danger notice plates.
IS 13947- 1993	Circuit breakers.(Part-II)
IS 13947- 1993	Switches, Disconnectors, switch disconnector (Part - III) and fuse Combination units.
IS 1818-72	Alternating current isolators (disconnectors) and earthing switches.
IS 8623-77	Factory built assemblies of switchgear and control gear for voltages upto and including 1000 V AC & 1200 V DC.
IS 8828	Miniature air break circuit breakers for voltages not exceeding 1000 V.
IS 9926	Fuse wires used in re-wirable type Electric fuses upto 1100 Volts.
IS 2208	HRC fuse links
IS 2705	Current Transformers(Part- I,II & III)



IS 3156	Voltage Transformers(Part- I,II & III)IS 1248 Indicating Instruments
IS 722	Integrating Instruments
IS 13947-93	Control devices and switching elements.(Part - 5)Section-1
IS 13947-93	Contactors and motor starter section 1 (Part - 4) Electromechanical. Section-1
IS 3231	Relays
IS 375	Marking and arrangement of bus bars Indian Electricity Actand Rules.

CABLES AND CABLE TRAYS:

GENERAL SCOPE :

Supply, installation, storing, laying, fixing, jointing / termination, testing and commissioning of Medium Voltage XLPE insulated extruded PVC inner sheathed PVC overall Sheathed armoured aluminium/ copper conductor cables laid in built up trenches, directly buried underground, on cable trays, in pipes, clamped directly to wall or Structures etc. as called for in the drawing.

Type :

Medium voltage cables shall be circular, multicore annealed copper or aluminium conductor, XLPE insulated, PVC extended inner sheathed an PVC overall sheathed and steel wire armoured or steel tape armoured construction or unarmoured. The conductors of cable shall be stranded. Sector shaped stranded conductors shall be used for cables of 50sqmm size and above. The cables shall conform to IS:1554 part-I in all respects.

MV power cables shall be 2, 3, 3.5 or 4 cores, as required and shall have conductors made from electrical purity aluminium conductors conforming to IS:8130-84.

Conductors shall be insulated with high quality PVC base compound. Insulation and outer sheathing compounds shall conform to IS:5831 - 84.

A common covering shall be applied over the laid-up cores by an extruded sheath of un-vulcanised rubber compound.

Armouring of galvanised round steel wires or galvanised flat steel strips shall be provided over the inner sheath.

Outer sheath of PVC shall be extruded over the armouring cables shall be manufactured and tested in accordance with IS 1554 Part I.

Unless otherwise specified, all control cables shall be multicore, 1100V grade PVC insulated, armoured and overall PVC sheathed with stranded copper conductors of 2.5 sq.mm, conforming to IS 1554 Part I. Cores shall



be identified by colour scheme of PVC insulation.

Rating :

The cables shall be rated for a voltage of 1100 Volts.Core

Identifications :

Cores shall be provided with the following colour scheme of PVCinsulation

1. Single Core : Green yellow for earthing.
2. Two Cores : Red and Black, Blue & Black, Yellow & Black.
3. Three Cores : Red, Yellow & Blue
4. Four Core : Red, Yellow, Blue & Black

Selection of Cable:

Cables sizes shall be selected considering the current carrying capacity, voltage drop, maximum short circuit duty and the period of short circuit to meet the present and future anticipated loads.

While deciding cable sizes, the derating factors for type and depth of laying, grouping, ambient temperature, ground temperature and soil resistivity shall be taken into account.

STANDARDS :

The following standards and rules shall be applicable.

- | | | |
|---------|---|--|
| IS 1554 | ⇒ | PVC insulated (heavy duty) electric cables Part I for working voltages up-to and including 1100 V. |
| IS 8130 | ⇒ | Conductors for insulated electric cables and flexible cords. |
| IS 3961 | ⇒ | Recommended current ratings for cables:(Part 2) PVC Insulated and PVC sheathed heavy duty cables. |
| IS 5831 | ⇒ | PVC insulation and sheath of electric cables. |

CABLE TRAY SPECIFICATION:

The cable tray shall be fabricated out of slotted/perforated MS sheets as channel sections, single or double bended. The channel sections shall be supplied in convenient lengths and assembled at side to the desired lengths. These may be galvanised or painted to the desired lengths. Alternatively, where specified, the cable tray may be fabricated by two angle irons of 50mmx 50mm x 6mm as two longitudinal members, with crose bracings between them by 50mm x 5mm flats welded/bolted to the angles at 1 m spacing. 2mm thick MS



perforated sheet shall be suitably welded/bolted to the base as well as on the two sides.

Typically, the dimensions, fabrication details etc. are shown in CPWD General Specification for Electrical Works - Part II -External,1994.

The jointing between the sections shall be made with coupler plates of the same material and thickness as the channel section. Two coupler plates, each

of minimum 200mm length, shall be bolted on each of the two sides of the channel section with 8mm dia round headed bolts, nuts and washers. In order to maintain proper earth continuity bond, the paint on the contact surfaces between the coupler plates and cable tray shall be scraped and removed before the installation.

The maximum permissible uniformly distributed load for various sizes of cables trays and for different supported span are as per CPWD General Specification of Electrical Work Part II -1994. The sizes shall be specified considering the same.

The width of the cable tray shall be chosen so as to accommodate all the cable in one tier, plus 30 to 50% additional width for future expansion. This additional width shall be minimum 100mm. The overall width of one cable tray shall be limited to 800mm.

Factory fabricated bends, reducers, tee/cross junctions, etc. shall be provided as per good engineering practice. (Details are typically shown in figure3) of CPWD General Specification of Electrical Work Part II -1994. The radius of bends, junctions etc. shall not be less than the minimum permissible radius of bending of the largest size of cable to be carried by the cable tray.

The cable tray shall be suspended from the ceiling slab with the help of 10mm dia MS rounds or 25mm x 5mm flats at specified spacing as per of CPWD General Specification of Electrical Work Part II -1994. Flat type suspenders may be used for channels upto 450mm width bolted to cable trays. Round suspenders shall be threaded and bolted to the cable trays or to independent support angles 50mm x 50mm x 5mm at the bottom end as specified. These shall be grouted to the ceiling slab at the other end through an effective means, as approved by the Engineer, to take the weight of the cable tray with the cables.

The entire tray (except in the case of galvanised type) and the suspenders shall be painted with two coats of red oxide primer paint after removing the dirt and rust, and finished with two coats of spray paint of approved make synthetic enamel paint.

The cable tray shall be bonded to the earth Terminal of the switch bonds at both ends.

The cable trays shall be measured on unit length basis, along the center line of the cable tray, including bends, reducers, tees, cross joints, etc, and paid for accordingly.

WIRING SYSTEM :

SCOPE:

The scope of work under this section covers installation and wiring for lights, fans, exhaust fans, call bells, fan coil units, geysers and power sockets etc., The wiring shall generally be done using PVC insulated copper conductor multi strand wires FRLS in M.S./PVC conduits as called for including providing switches, sockets, plug tops, electronic fan regulators, outlet boxes etc.

STANDARDS:



The following latest standards and rules shall be applicable:

IS : 732	Code of practice for electrical wiring installation (System voltage not Exceeding 1100 V).
IS : 1646	Code of practice for fire safety of buildings (General) Electrical installation.
IS : 9537	Conduits for Electrical installations (Part 1-4)
IS : 2667	Fittings for rigid steel conduits for electrical wiring. IS : 3480 Flexible steel conduits for electrical wiring.
IS : 3837	Accessories for rigid steel conduit for electrical wiring. IS : 694 PVC insulated cables.
IS : 6946	Flexible (Pliable) non-metallic conduits for electrical installation.
IS : 1293	Plugs and sockets outlets of rated voltage upto and including 250 V. IS : 8130 Specifications for conduits for electrical installation.
IS : 3854	Switches for domestic and similar purposes.
IS : 3419	Fittings for rigid non-metallic conduits.
IS : 4648	Guide for electrical layout in residential building. IS : 4649 Adapters for flexible steel conduits.
IS : 5133	Boxes for enclosures of the Electrical. IS : 4615 Switch socket outlets.
IS : 8884	Code of practice for installation of Electric bells and call system. IS : 2551 Electric Danger notice plates.
IS : 3646	Code of practice for interior illumination. IS : 371 Ceiling Roses.
IS : 302	General and safety requirements for household and similar electrical appliances.
IS : 3043	Code of practice for earthing.
IS : 5216	Guide for safety procedures and practices in electrical work.

Indian Electricity Act and Rules.

Regulations for the electrical equipment in buildings issued by the concerned Electrical Authorities.

All standards and codes mean the latest.

POINT WIRING FOR LIGHTS, FANS, EXHAUST & 6 AMPS CONVENIENCE SOCKETS:



A point wiring shall consist of the branch wiring from the distribution board together with a switch/electronic fan regulator as required, including providing conduit & accessories, pendant holder or a swan holder, or ceiling fan hook box or socket tc., with suitable termination. A point wiring shall include, in addition, the earth continuity conductor/wire from the distribution board to the earth pin/stud of the outlet/switch box/ light fitting & fans & all other such non current carrying metals shall be earthed and to the outlet points. No tee jointing or looping of wires shall be done anywhere except at a switch box or a light fitting or a plug socket outlet.



The point wiring shall be carried out in the under mentioned manner :

Supply, installation, fixing of conduits and Steel wire/ G.I. pull wire with necessary accessories, junction/pull/ inspection/switch boxes and outlet boxes/Fan hook box etc. However Switches, Switch plates & switch boxes are not required for the lights which are controlled directly from the MCB DB's.

Supplying and drawing of wires of required size including earth continuity PVCinsulated wire.

Supply, installation and connection of flush type switches, sockets, cover plates, switch plates & fixing fan regulator, lamp holder, ceiling rose etc.,

The point shall be complete with the branch wiring from the distribution board to the outlet point, through switch board, conduit with accessories, junction, pull/inspection boxes, control switch, socket, outlets boxes, ceiling roses, lampholder, connector, extension cord wire, flexible conduits etc.

EARTHING:

SCOPE:

All the non-current carrying metal parts of electrical installation shall be earthed as per IS: 3043. All equipment, metal conduits, rising main cable armour, switch gear, distribution boards, meters, all other metal parts forming part of the work shall be bonded together and connected by two separate and distinct conductors to earth electrodes. Earthing shall be in conformity with the provisions of Rules 32, 61, 62, 67 and 68 of IER 1956.

G.I.PIPE EARTH STATION :

G.I. pipe Earth shall be provide as per cpwd.

PLATE EARTH STATION :

Plate electrodes shall be made of G.I./copper (CU) plate of 6mm/3mm thick and 300 x 120mm size. The plate shall be buried vertically in ground at a depth of not less than 4.5 meters to the top of the plate, the plate being encased in charcoal to a thickness of 300 mm all round. It is preferable to bury the electrode to a depth where subsoil water is present. Earth leads to the electrode shall be laid in a heavy duty GI pipe and connected to the plate electrode with brass bolts, nuts and washers. A GI pipe of not less than 20 mm dia shall be clamped with bolts vertically to the plate and terminated in a wire meshed funnel. The funnel shall be enclosed in a masonry chamber of 450 mm x 450 mm dimensions. The chamber shall be provided with GI frame and CI inspection cover. The earth station shall also be provided with a suitable permanent identifications label tag. The earth electrode shall conform to IS:3043 latest edition.

EARTHING CONDUCTORS :

All earthing conductors shall be of high conductivity copper/or GI as specified and shall be protected against mechanical damage and corrosion. The connection of earth electrodes shall be strong secure and sound and shall be easily accessible. The earth conductors shall be rigidly fixed to the walls, cable trenches, cable tunnel, conduits and cables by using suitable clamps.



Main earth bus shall be taken from the main medium voltage panel to the earth electrodes. The number of electrodes required shall be arrived at taking into consideration the anticipated fault on the medium voltage net work.

Earthing conductors for equipment shall be run from the exposed metal surface of the equipment & connected to a suitable point on the sub main or main earthing bus. All switch boards, distribution boards and isolators disconnect switches shall be connected to the earth bus. Earthing conductors shall be terminated at the equipment using suitable lugs, bolts, washers and nuts.

All conduits cable armouring etc., shall be connected to the earth all along their run by earthing conductors of suitable cross sectional area. The electrical resistance of earthing conductors shall be low enough to permit the passage of fault current necessary to operate a fuse/ protective device or a circuit breaker and shall not exceed 2 Ohms.

LOCATION FOR EARTH ELECTRODE:

Normally an earth electrode shall not be situated less than 2 M from any building. Care shall be taken that excavation for earth electrode may not affect the column footings or foundation of the building. Further the location shall be such where the soil has reasonable chance of retaining moisture as far as possible. Entrances, pavements and roadways are definitely to be avoided for locating the earth electrode.



EARTHING SYSTEM :

Main earthing grid shall be of 50 x 6 GI strip laid in a grid formation. All other equipments shall be earthed to this strip. All panels, equipments and non current carrying conductor shall be earthed through the strip/wire of suitable size.

Earthing system shall be mechanically robust and the joints shall be capable of retaining low resistance even after subjection to fault currents.

Joints shall be tinned, soldered and/or double rivetted. All the joints shall be mechanically and electrically continuous and effective. Joints shall be protected against corrosion.

SUMMARY OF ELECTRICAL WORKS

S.No	Description	Amount (in Rs)
1	Sub Head I- Wiring & Submain	
2	Sub Head II- Distribution Board	
3	Sub Head III- Lighting Fixtures	
4	Sub Head IV- UPS Work	
5	Sub Head V- 11HT System	
6	Sub Head VI- Transformer	
7	Sub Head VII- MV Panels	
8	Sub Head VIII- Cable and End Termination	
9	Sub Head IX- Earthing System	
10	Sub Head X- External Lighting Work	
	Total for Electric Works	

NOTE

Please refer to BoQ for further details.



Bill of Quantities for Electrical Works

S. No.	Description	Unit	Qty.	Rate	Amount
INTERNAL ELECTRICAL WORK					
1	SUB HEAD-I: WIRING & SUBMAIN				
1.0	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, with modular switch , modular plate, suitable GI box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required.				
1.1	Group C	Point	20		
2.0	Wiring for group controlled (looped) light point/fan point/exhaust fan point/ call bell point (without independent switch etc.) with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit, and earthing the point with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable etc. as required.				
2.1	Group C	Point	15		
3.0	Point wiring for DB controlled light points with 3 x 2.5 sq mm (P+N+E) FRLS PVC insulated 660/1100 volt grade stranded copper conductor wires in IS embossed black enamelled minimum 20mm dia 16 SWG PVC recessed and/or surface conduiting system including cost of providing saddles etc for surface conduiting and/or cost of cutting and filling chases for recessed conduiting in RCC slab/floor/walls complete as per specifications and as required (cost of MCB not included)	Point	40		
4.0	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 2 nos. 3 pin 5/6 A modular socket outlet and 2 nos. 5/6 A modular switch, connections etc. as required. (For light plugs to be used in non residential buildings).	Each	10		
5.0	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch , connection etc. as required. (For light plugs to be used in non residential buildings).	Each	15		
6.0	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 amps modular socket outlet and 15/16 amps modular switch , connection etc. as required.	Each	35		
7.0	Supplying and fixing 3 pin, 5 amp ceiling rose on the existing junction box/ wooden block including connection etc as required.	Each	5		
8.0	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required.				
8.1	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	1500		
8.2	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	Metre	700		
8.3	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	50		
8.4	2 X 10 sq. mm + 1 X 6 sq. mm earth wire	Metre	15		
8.5	4 X 4 sq. mm + 2 X 4 sq. mm earth wire	Metre	5		
8.6	4 X 6 sq. mm + 2 X 6 sq. mm earth wire	Metre	200		
8.7	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	50		
8.9	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	50		
TELEPHONE AND DATA SYSTEM					
10	Supplying and drawing following pair 0.5 mm dia FRLS PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required.				
10.1	2 pair	Mtr.	800.00		
11	Supplying and drawing PVC insulated, PVC sheathed multicore un-armored taped telephone cables of 0.61 mm dia size in existing conduit pipe, of the following sizes.				
11.1	20 Pair	RM	25		
12	Supplying and fixing of telephone distribution board (tag block) in hinged type MS box duly powder coated complete with bakelite sheet with terminal nation of incoming and outgoing telephone wire etc. complete as required.				
12.1	20 Pair	Nos.	1		
13	Supplying and fixing 2 pin Telephone modular socket & switch with modular plate, suitable size metal box and sheet cover including connection, testing, etc. as required.				
13.1	Telephone socket with shitter outlet	Each	15.00		
14	Supplying and fixing following size/ modules, GI box along with modular base & cover plate for modular switches in recess etc. as required.				
14.1	1 or 2 Module (75mmX75mm)	EACH	15		
15	Supplying and fixing following Modular base & cover plate on existing modular metal boxes etc. as required.				
15.1	1 or 2 Module	EACH	15		



Bill of Quantities for Electrical Works

S. No.	Description	Unit	Qty.	Rate	Amount
16	Supplying and fixing 1 nos of CAT-6 , I/O with gang box, Face plate with G.I .box , RJ-45 Modem jack with shutter phenolic laminated sheet suitable size PVC/G.I. box as required. all complete as per instructions of Elec.Er. / Architect.	Each	15.00		
17.0	Supplying and drawing of UTP 4 pair CAT 6 LAN Cable in the existing surface/ recessed Steel/ PVC conduit as required.	RM	300		
18.0	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.				
18.1	25 mm dia	RM	200		
18.2	32 mm dia	RM	50		
	Item as stated above	Rs.			
	Total of Sub-Head - I carried to summary sheet				
2	SUB HEAD -II: DISTRIBUTION BOARD				
1.0	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/ Isolator)				
1.3	8 way (4 + 24), Double door	Each	3		
2.0	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)				
2.1	8 way , Double door	Each	1		
3.0	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
3.1	Single pole	Each	80		
4.0	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	1		
5.0	Supplying and fixing following rating, four pole, 415 volts, MCB in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
5.1	40 amps	Each	1		
5.2	63 amps	Each	2		
6.0	Supplying and fixing following rating, double pole, (single phase and neutral), 240 volts, residual current circuit breaker (RCCB), having a sensitivity current upto 300 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
6.1	40 amps	Each	3		
6.2	63 amps	Each	7		
	Total of Sub-Head - II Carried to summary sheet				
3	Sub-Head - III: LIGHTING FIXTURES				
1	Supply of Fixtures :				
1.1	Suppling and fixing single wall mounted 22watt LED type batten fitting compelet with electronic driver and LED Tube etc directly wall/ ceiling including conection with 1.5 SQMM FR PVC insulated copper conductor and earthing the body etc as requirede. havells ref. cat. ENDURALINEARNEOBS20WLED830SPCWH MAKE :HAVELLS/PHILIPS	Each	30.00		
1.8	Supply and fixing of Baybrite Flare HighBay 80 W LED Next generation, energy saving, environment friendly & robust highbay LED with PDC housing suitable for ceiling (Surface/Suspended) mounting with system efficacy upto 150 lm/W. LED Fitting complete with electronic deiver with PVC Unsheathed copper leads from terminals to the fitting and as directed by Clinte. HAVELLS : BAYBRITEFLAREHB80WLED857PWBBOLT G MAKE :HAVELLS/PHILIPS	Each	9.00		
1.9	Supply and installation of regular /standard model A.C ceiling fanof 1200mm sweep including wiring the down rods of standard length (up to 30cm) with 1.5sq mm FR PVC insulated copper conductor etc. as required .havells PACER WHITE				
a)	1200 mm sweep	Each	10.00		
1.10	Supplying and fixing two module stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	Each	10.00		
1.11	Supply and installation of 300mm, 230V A.C exhaust fan in the existing opening including making good the damage connection testing commissioning etc as required Havells : Ventil Air - DB	Each	2.00		
2	Erection of Fixtures:				



Bill of Quantities for Electrical Works					
S. No.	Description	Unit	Qty.	Rate	Amount
1.1	Installation, testing and commissioning of wall bracket /ceiling fittings of all sizes and shapes containing upto two GLS/CFL/ LED lamps per fitting, complete with all accessories including connections etc. as required.	Each	39.00		
1.2	Installation, testing and commissioning of ceiling fan, including wiring the down rods of standard length (upto 30 cm) with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable, including providing and fixing phenolic laminated sheet cover on the fan box etc. as required.	Each	10.00		
1.3	Installation of exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc. as required.				
1.3.1	Upto 450 mm sweep	Each	5.00		
	Item as stated above	Rs.			
4	SUB HEAD - IV : UPS WORK				
2.1	Supplying, installation, testing and commissioning of online 1 phase UPS System with 30 minutes back up including batteries, interconnecting cables, battery racks etc.	PER KVA	5.00		
	TOTAL OF UPS				
5	SUB HEAD-V 11 HT Syatem				
	11kv HT PANEL				
	630A 11 kV vaccum circuit breakers				
	Supplying, installation, testing & commissioning of H.V. air insulated distribution switchgear extendable type H.T. Board suitable for indoor installation for use on 11 KV 50 Hz earthed system having a symmetrical breaking capacity of 350 MVA at 11 KV comprising of 630A 11 kV vaccum circuit breakers. Cable box with single compression brass glands suitable size to receive 11 KV XPLE cable of 3 core 70 sq.mm. The panel shall be equipped with following accessories as per SLD and specification complete as required.				
	INCOMING PANELS - 1 Nos. EACH SHALL COMPRISING OF:				
	1No. -Metal Clad housing with having 630A Vacuum circuit breaker with Manual & Electric operated mechanism (spring charged motor - 230V AC)				
	1Set- Tripping coil & closing Coil 24V DC				
	1 - Set of isolating plug and receptacle				
	1 - Set of Automatic safety shutter				
	1- Set of breaker control switch (TNC)				
	1 -Set of dual core CT's as follows:				
	Core I - 20/5-5A class 5P-10 (15 VA)				
	Core II - 20/5-5A class -1 (15 VA)				
	1set of 11KV /√3 / 110/√3 Volt, 100 VA burden & accuracy class 1, 3 nos. single phase construction, dry type cast resin PT				
	1 - No. Ammeter(0-120A) with selector switch (Built-in)				
	1 - KW, KVA, KWH, PF, HZ & KVAH Meter				
	1 - Set of ON/OFF/Trip/ Spring Charged & Trip circuit healthy and phase indicating lamps.				
	1 No.-H.T. Cable joint box suitable for 2R -3C x 70 sq.mm aluminium conductor XLPE cable, 11 KV (E)				
	1-set of IDMTL relay with 3 elements of O/C protection(50%-200%), instantaneous O/C protection (200%-800%) & 1 element of E/F protection (10%-40%).				
	1 no. U/V & O/V relay				
	1 no. Anti Pumping Relay				
	1 no. Trip Circuit supervision relay.				
	1 no. Negative phase sequence protection relay.				
	1 no. Master Trip relay.				
	1 no. 12 window Annunciation system for alarm & Trip status of relays, HT Breakers complete with acknowledgement & Reset Button.	Set	1		



NAFED

1	Supplying of following Aluminum conductor, XLPE insulated & armoured and over all PVC sheathed, 11 KV (E) grade earthed cable as per technical specifications				
a.	3C x 70 sq.mm. XLPE insulated Al. Ar. Cable	RM	100		
2	11 kv HT Cable Laying & Termination				



Bill of Quantities for Electrical Works					
S. No.	Description	Unit	Qty.	Rate	Amount
1	Supplying and making indoor cable end jointing with cast resin compound, including lugs and other jointing materials, for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required :				
3	Indoor Type				
a)	70 sq. mm	Each	2		
3	Supplying and making outdoor cable end jointing with cast resin compound, including lugs and other jointing materials, for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required :				
2.1	Outdoor Type				
1)	70 sq. mm	Each	4		
	Laying of Cables				
4	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size in the existing masonry open duct as required.				
a)	Upto 120 sq. mm	Metre	100		
	TOTAL OF HT Power Cable WORK				
6	SUB HEAD-VI Transformer				
	Transformer - 250 KVA 11/0.433kva Out Door Oil Type				
1	Supplying/Receiving, Installation/Erection, Testing and Commissioning of 250 KVA ONAN, Copper wound 11/0.433 KV, 50 C/S, Delta star connected, Dyn11 vector group, Oil immersed Outdoor transformer with On Load circuit Tap changer for Voltage regulation from -10% to +15% in steps of 1.25% on HV side complete with AVR and RTCC panel, including Bucholtz relay, MOG, Oil & Winding temperature alarm and trip contacts with wiring upto marshalling box, and all standard accessories as required, complete with Cable End box suitable for 3RX3C x 70 sq.mm. 11 KV(UE) XLPE insulated Al. Ar. Cable at HT side and XLPE insulated Al. Busduct for LT side, including S/F of M.S. channel of size 100 x 50 x 6mm for foundation support for transformer, including Drying/filteration of oil of transformer and OLTC Enclosure. Connection with Tap Changing Mechanism and RTCC Panel etc. as per specification and drawing.				
	Supply Rate for Transformer as described above	SET	1		
7	SUB HEAD- VII - MV PANELS				
1	PCC PANEL				
	Design, Fabrication, Supply, Erection, Testing and commissioning of Powder coated Main Distribution Panel fabricated out of 14 guage CRCA sheet steel in cubical, compartmentallised, free standing floor /wall mounted, dust and vermin proof, with reinforcement of suitable size angle iron, channel, T -iron or flats as required. Cable gland plates shall be provided on top as well as bottom of the panels. Panels shall be treated with all anti-corrosive process before painting as per specification. Panels shall be suitable for 415V, 3-Phase, Four wire, 50 Hz supply complete with earth bus and lifting hooks as required in case of large panels. Approval shall be taken for each panel before fabrication. (All hardwares like nuts and bolts used shall be Galvanized and Zinc passivated)				
	MAIN L.T. Panel				
	INCOMER FROM TRANSFORMERS(1Nos. 250 KVA Each)				
	Incomer from each transformer shall be provided with the following:				
	1 Sets of 630A TP+N MCCB 50kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 110A TP Power contactor (AC-3 duty)				
	IDMTL Protection for S/C, O/C & E/f releases.				
	U/V & O/V protection				
	Trip circuit supervision relay				
	Master trip relay				
	The ACB shall be complete with 3nos. 600A/5A, 15VA, 5P10 CTs for protection .				
	METERING & INDICATION				
	1 set of phase indicating lamps				
	1 set of Voltmeter (0-500V) with VSS with 3 nos. 2A SP MCBs each				
	1 Nos. Load Analyser cum digital Multifunction Meter with 3 nos. 600/5A, CL-1 CTs, as required.				
	1 Set of Breaker ON-OFF-TRIP, Spring charged indication Lamps				
	1 no. of 600/5A, 15 VA, class-1 CTs for APFC relay dule				
	1 No. 400V AC/12V DC, 100VA SMPS (Rectifiers) with TP MCB of suitable rating & 2nos 6way terminal strip .				
	INCOMER FROM 250KVA DG SET (1 nos.)				
	Each Incomer from DG SET shall be provided with the following:				
	1 Sets of 630A TP+N MCCB 50kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 110A TP Power contactor (AC-3 duty)				
	IDMTL Protection for S/C, O/C & E/f releases.				



NAFED

	U/V & O/V protection				
	Trip circuit supervision relay				
	Master trip relay				
	Reverse power Protection.				



Bill of Quantities for Electrical Works

S. No.	Description	Unit	Qty.	Rate	Amount
	The ACB shall be complete with 3nos. 600A/5A, 15VA, 5P10 CTs for protection.				
	Each Incomer from DG Set I shall be provided with the following:				
	METERING & INDICATION				
	1 sets of phase indicating lamps				
	1 sets of Voltmeter (0-500V) with VSS each with 3 nos. 2A SP MCBs each				
	1 Nos. digital Multifunction Meter with 3 nos. 600/5A, CL-1 CTs, as required				
	1 Sets of Breaker ON-OFF-TRIP, Spring charged indication Lamps				
	BUS BAR:-				
	1 Sets of 800 A, TPN Aluminum bus bars with colour coded sleeves.				
	INTERLOCKING.				
	Incomers from Transformer and Incomers from D.Gs. shall be electrically interlocked.				
	OUTGOINGS				
	2 Sets of 400A TP+N MCCB 50kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 110A TP Power contactor (AC-3 duty)				
	2 Sets of 160A TP+N MCCB 50kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 110A TP Power contactor (AC-3 duty)				
	2 Sets of 100A TP+N MCCB 50kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 110A TP Power contactor (AC-3 duty)				
	7 Nos.63 A FP MCCB				
	11 Nos.40 A FP MCCB				
	CAPACITOR PANEL65 kvar				
	Metering & Indication				
	1 set of phase indicating lamps				
	1 No. (0-500V) Digital Voltmeter with Built-in VSS with 3 nos. 6A SP MCB				
	1No. (0-100A) Digital Ammeter with ASS and 3 nos. 100/5A, CL 0.5, 10VA CTs'				
	1 No. 4 step dual sense APFCR relay				
	1 No. Selector switch for auto-off-manual.				
	BUS-BAR				
	1 Set of 160A TP Aluminium Bus Bar with colour coded PVC Sleeves (Heat Shrinkable sleeve)				
	OUTGOINGS				
	2 Sets of 63 A TP+N MCCB 50kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 45 A TP Power contactor (AC-3 duty)				
	1 Sets of 32 A TP+N MCCB 50kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 32 A TP Power contactor (AC-3 duty)				
	1 Sets of 25 A TP+N MCCB 50kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 16 A TP Power contactor (AC-3 duty)				
	2 Nos. 25 KVAR capacitors MPP TYPE NORMAL DUTY				
	1 Nos. 10 KVAR capacitors MPP TYPE NORMAL DUTY				
	1 Nos. 5 KVAR capacitors MPP TYPE NORMAL DUTY				
	4 Sets self Illuminated Red-Green (ON-OFF) and push buttons.				
	Supply of LT Panel as Described above	Set	1.00		
	Note: The vendor shall submit GA drawing for approval to consultant/clint.				
	UTILITY PANEL				
	Fabrication, supply, installation, testing and commissionings of cubicle type floorMounted Main Distribution Board panel made out of 16mm thick CRCA sheet including connection, inter-connection alongwith 4 strrip aluminium bus bar as per CP WD specifications, (Part IV - Substation) and IS: 8623 comprising of followings panel mounting switchgears etc. as required. As per spcification.				
	Incoming				
	1 Nos.400 Amps FP MCCB With thermal magenetic release for O/C, & S/C Protection.				
	Protection Istrument				
	1 Set of (0-400Amps) CT operated of Multi Functional three phase Digital Meter (LCD) display				
	One (1) Set of Phase Indication & ON/OFF Lamp with control Fuse.				
	Busbar				
	500 Amps TP&N aluminum conductor bus bar (BPTM type Heat-shrinkable busbar insulation)				
	OUTGOING				
	2 Sets of 160A TP+N MCCB 25kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 110A TP Power contactor (AC-3 duty)				
	4 Sets of 100A TP+N MCCB 25kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 110A TP Power contactor (AC-3 duty)				
	6 Sets of 63A TP+N MCCB 25kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 110A TP Power contactor (AC-3 duty)				
	2 Sets of 40A TP+N MCCB 25kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 110A TP Power contactor (AC-3 duty)				
	Forteen (14) Set of LED ON Indication Lamp with 6 A sp MCB.	Set	1		
	Note: The vendor shall submit GA drawing for approval to consultant/clint.				
	Total of Sub-Head - VII carried to summary sheet				



Bill of Quantities for Electrical Works

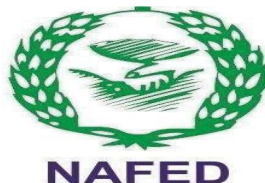
S. No.	Description	Unit	Qty.	Rate	Amount
8	SUB HEAD-VIII : CABLE & END TERMINATIONS				
	Supply of MV cable				
1.0	Supply, following sizes of PVC sheathed PVC/XLPE insulated Aluminium conductor multicore control armoured cable of 1.1 KV grade.				
1.1	3.5C- 300 sq mm Aluminium	Metre	25		
1.2	3.5C- 185 sq mm Aluminium	Metre	250		
1.3	3.5C- 35 sq mm Aluminium	Metre	100		
1.5	4C- 25 sq mm Aluminium	Metre	100		
1.6	4C- 16 sq mm Aluminium	Metre	150		
1.7	4C- 10 sq mm Aluminium	Metre	150		
1.8	4C- 6 sq mm Aluminium	Metre	550		
2.0	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				
2.1	3.5C- 240 sq mm Aluminium	Each	2		
2.2	3.5C- 185 sq mm Aluminium	Each	6		
2.3	3.5C- 35 sq mm Aluminium	Each	2		
2.4	4C- 25 sq mm Aluminium	Each	6		
2.5	4C- 16 sq mm Aluminium	Each	8		
2.6	4C- 10 sq mm Aluminium	Each	18		
3.0	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required.				
3.1	Upto 35 sq. mm	Metre	950		
3.2	Above 35 sq. mm and upto 95 sq. mm	Metre	100		
3.3	Above 185 sq. mm and upto 400 sq. mm	Metre	275		
	Perforated trays				
4.1	Supplying and installing following size of perforated painted with powder coating M.S. cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.				
4.1.1	450 mm width X 50 mm depth X 2.0 mm thickness	Mtr	100		
4.1.2	150 mm width X 50 mm depth X 1.6 mm thickness	Mtr	250		
	Total of Sub-Head - VI Carried to summary sheet				
9	SUB HEAD-IX :EARTHING SYSTEM				
1	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc. with charcoal/ coke and salt as required.	Set	10		
2	Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe from earth electrode including connection with G.I. nut, bolt, spring, washer excavation and re-filling etc. as required.	RM	115		
3	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required	RM	350		
4	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc. with charcoal/ coke and salt as required.	Set	4.00		
5	Providing and fixing 25 mm X 5 mm copper strip in 40 mm dia G.I. pipe from earth electrode including connection with brass	RM	50		
6	Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.	RM	100		
	Total of Sub-Head - VII carried to summary sheet			*	



NAFED

Bill of Quantities for Electrical Works

S. No.	Description	Unit	Qty.	Rate	Amount
10	SUB HEAD-X EXTERNAL LIGHTING WORK				
1	FEEDER PILLAR-1				
	Design, manufacturer, supply, testing and commissioning of approx size 1200 mm heightx1000mm wide x 450mm deep of 2.5mm thick sheet metal enclosure, powder coated, weather proof, double door type feeder pillar with godown lock and padlock complete with interconnection with copper wires, LED indicating lights, providing holes for the glands. The base frame shall have angle iron of 50mm x 50mm x6mm of size 1000mm x 450mm with 600mm long legs of MS angle and coverage of underground cable under feeder pillar with 2.5 mm thick sheet, 450mm in width all round the base frame including grouting the feeder pillar in 1:4:8 cement concrete complete as required. Feeder Pillar shall be suitable for 415V, 3-Phase, Four wire, 50 Hz supply complete with earth bus and lifting hooks as required. Approval shall be taken for each panel before fabrication. (All hardwares like nuts and bolts used shall be Galvanized and Zinc passivated)				
	Feeder Pillar-1				
	INCOMER				
	1No. 63 A TPN MCCB				
	Protection Istrument				
	One (1) Nos. (0-500V) 96 x 96 Sq.mm voltmeter with control Fuse & selector switch.				
	1 Set of (0-60 Amps) 96 x 96mm CT operated Ammeter with 3 way selector switch and 60 /5A, CL-1, 10VA CT.				
	One (1) Set of Phase Indication & ON/OFF Lamp with 2A Fuse.				
	1 Nos.TIMER suitable for 24Hrs. Setting with Auto/Manual Selector switch				
	1 No. 25A TP CONTRACTOR				
	BUS-BAR				
	1 Set of 100A TPN Aluminium Bus Bar with colour coded PVC Sleeves (Heat Shrinkable sleeve)				
	OUTGOINGS				
	8 No. 20 A DP MCB				
	Feeder pillar-1 as described above	No.	1		



Bill of Quantities for Electrical Works					
S. No.	Description	Unit	Qty.	Rate	Amount
	All live accessible parts shall be shrouded and all equipment shall be finger touch proof. The busbar insulation shall be with heat shrinkable sleeves. SMC/DMC shrouds and busbar supports shall be used. Padlocking facility shall be provided.				
	The feeder pillar shall be complete with all interconnections, risers, internal wiring, labels etc.				
2	Providing, laying and fixing following dia G.I. pipe (medium class) in ground complete with G.I. fittings including trenching (75 cm deep) and re-filling etc as required				
2.1.1	50 mm dia	EACH	4		
2.3	Supplying and embedding following dia G.I. pipe (medium class) in pole collar/ foundation (during casting) for cable entry including bending the pipe to the required shape complete as required.				
2.3.1	32 mm dia.	Meter	18		
3	Light Fixture				
3.1	Supplying and fixing street light with high power LED of 1 to 3 W each assembled on single MCPCB, system lumens output with efficacy>90 lm/W. luminaire having color temp 6500K & 50000 burning hrs life with minimum @ L 70, The colour rendering index of LED light should be more than 70. Luminaire comprises of driver, PF 0.95 & surge protection 3KV. Housing made of pressure die cast aluminium with heat resistant flat glass / Lens type, IP65 protection. Submission LM 80-08 Form LED Source Manufacturer & LM79-08 / IS16106 from NABL approved lab. Manufacturer mandatory i/c 50mm. dia G.I. Pipe bracket upto 2 mtr. long in required angle/shape, connection lead, testing etc to complete the job. 2 Yrs Guarantee certificate from manufacturer. Havells ref cat : ENDURPEARLPLUSL60WLED75SASYTOPC approved as	Each	18.00		
3.2	Supplying, fixing & testing of approved Supplying and fixing integral post top lantern LED fitting comprises of copper dust finish cast aluminium spigot and spun aluminium canopy fixed with opal polycarbonate, pipe arrangement for vertical mounting, open construction driver and accessories are wired up to terminal block. LED of 1 to 3 W each assembled on single MCPCB, having color temp 6500K & having 50000 burning hrs life with minimum @ L 70, system lumen output should be minimum with efficacy>80lm/W. LED driver PF 0.95 & surge protection 2KV. The colour rendering index of LED light should be more than 70. Submission LM 80-08 Form LED Source Manufacturer & LM79-08 / IS16106 from NABL approved lab. Manufacturer mandatory. i/c connection wire, testing etc. to complete the job. 2 Yrs Guarantee certificate from manufacturer. Havells ref cat : CORALPT25WLED757PSYMTOPC approved as equivalent.	Each	4.00		
4	CABLE				
4.1	Supply, laying, testing and commissioning of 1100 Volt grade XLPE insulated aluminium conductor armoured cables including the cost of providing required gap between adjacent cables (minimum one cable dia.) and including the cost of providing identification tags etc. complete as per specification, as required.				
4.1.1	3 core, 10 sq. mm XLPE/PVC insulated PVC sheathed (Heavy duty) armoured electric	RM	450		
	Cable termination :				
4.2	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				
4.2.1	3X 10 sq. mm (19mm)	Nos.	36		
4.3	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required.				
4.3.1	3 x 2.5 sq. mm	RM	150		
	Notes :				
1	The cable quantities given are approximate and to cover various sizes. The contractor shall measure the cables required and procurement order shall be placed accordingly. The quantities shall be confirmed before start of work.				
2	Single Compression glands to be used for internal area, while double compression cable glands to be used for outdoor installation.				
4.4	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required.				
4.4.1	Upto 35 sq. mm	RM	450.00		
	Hume Pipe:				
4.5	Providing, laying and fixing following dia RCC pipe NP2 class (light duty) in ground complete with RCC collars, jointing with cement mortar 1:2 (1 cement : 2 fine sand) including trenching (75 cm deep) and refilling etc as required				
4.5.1	100 mm dia	RM	15		
	EARTHING SYSTEM				



5.1	Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required	Set	2		
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Bill of Quantities for Electrical Works					
S. No.	Description	Unit	Qty.	Rate	Amount
5.2	Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe from earth electrode including connection with G.I. nut, bolt, spring, washer excavation and re-filling etc. as required.	RM	10		
	TOTAL				



LIST OF
APPROVED MAKES

Sr. No.	Description	Approved Makes
1.	Low Tension, 415 Volts AC Air Circuit Breaker, 3/4 Pole 50 Hz. 50 KA-STR.	SCHNEIDER-MASTERPACT. SIEMENS-3WL ABB-E-MAX-SACE, L & T-U-POWER-SR71
2.	Low Tension, Molded Case Circuit Breaker, 415 Volts AC, 3 Phase 50 Hz., 50 KA/35 KA-STR. Ics=Icu & Microprocessor	SCHNIDER-COMPACT SIEMENS-SENTRON-3VL ABB-T-MAX-SACE L & T - D SINE
3.	LED Type Indicating Lamps with Color LED.	SCHNIDER/L & T/ SIEMENS
4.	Selector Switches for Ammeter/Voltmeter.	SCHNIDER/L & T/ SIEMENS
5.	Meters, Analog type. for Ammeters, Voltmeters, PF meters, Frequency Meters.	IMP/ RISHABH
6.	Energy Meters.	SECURE/ L & T/CONZERV
7.	Relays.	SCHNIDER/ ABB/SIEMENS
8.	FRLS Panel wires, in color in 660/1100 Volts grade	HAVELLS/ R.R. KABEL/ POLYCAB
9.	Lugs, Crimping type, tinned copper heavy duty only.	JENSON LAPP



No.	Sr. Description	Makes	Approved
10.	Push Button Stations type, in different colour codes.	SCHNIDER/ L & T /SIEMENS/	
11.	Terminal Blocks, Clip on type.	WAGO/ LAPP	
12.	HT/LT Panel	SPE ELECTROTECH PVT. LTD/ SUDHIR/STERLING AND WILSON	
13.	Starters/Contactor/ Timers.	TELEMECANIQUE / L & T SIEMENS / ABB	
14.	Miniature Circuit Breaker 10 KA Breaking Capacity and Boards.	SCHNIDER/ LEGRANDof L & T/ABB	
15.	CTs - 660 Volts grade ABS CASINGS	RECO/KAPPA INDCOIL	
16.	Load Managers.	CONZERV / L & T / ENERCON	
17.	HRC Control fuses with Bakelite/type Moulded fuse holders.	ABB/BUSSMAN/ SIEMENS/L & T	
18.	Push Button Stations type, in different colour codes.	TECHNIK/MOELLER/ SIEMENS/ VAISHNAV	
19.	Terminal Blocks, Clipon type.	ELMEX/WAGO/ CONNECTWELL	
20.	BATTERIES	EXIDE / CUMMINS	
22.	PLC	ROCKWELL AUTOMATION / L&T /SIEMENS	
23.	Transformer	SCHNIDER/ ABB/ GE	



<hr/>		
No.	Sr. Description	Approved Makes
<hr/>		
24.	HT POWER CABLE	HAVELLS/POLYCAB/FINOLEX/RGP
25.	LT POWER /CONTROL CABLE	HAVELLS/POLYCAB/FINOLEX/RGP
26.	TELEPHONE AND DATA CABLE	HAVELLS/POLYCAB/FINOLEX
26.	Lighting Fixture	WIPRO/HAVELLS/BAJAJ/Surya
27.	Modular Switch	ANCHOR/CRABTREE/MK
28.	Ceiling /Exhaust/Wall Fan	HAVELLS/CROPTON/BAJAJ
29.	Battery Charger	KAY3ESS
30.	Any other Item.	SAMPLE FOR APPROVAL OF THE CONSULTANTS



Specifications & BoQ of Fire Fighting System

Sr. No.	Description of Items	Unit	Qty	Rate	Amount
A	SUB HEAD -I (PUMP ROOM)				
1	Supplying Installation, testing and Commissioning of electric driven main fire pump suitable for automatic operation and consisting of following Complete in all respect as required.				
a)	Horizontal type, centrifugal pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal to ensure a minimum pressure of 3.5 kg/sq.cm. at highest and farthest outlet at specified flow of 2280 LPM and 60 Metres head conforming to IS 1520.				
b)	Suitable HP Squirrel cage induction motor, TEFC, synchronous speed 2900 RPM, suitable for operation on 415 volts, 3 phase 50 Hz. AC with IP 55 protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS-325.				
c)	M.S. fabricated Common base plate coupling, coupling guard, foundation boltsetc. as required.				
d)	Suitable Cement Concrete foundation with cement concrete plaster as per manufacturers design, complete with anti-vibration arrangement.	Sets	1		
2	Supplying, Installation, Testing and Commissioning of diesel engine driven main fire pump suitable for automatic operation and consisting of following : complete in all respect as required.				
a)	Horizontal type, centrifugal, pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal to ensure a minimum pressure of 3.5 kg/sq.cm. at highest and farthest outlet at specified flow of 2280 LPM at outlet head 60 Metres conforming to IS 1520.				
b)	Suitable HP 1800 RPM diesel engine conforming to BS :649/IS:1601/IS:10002 all amended upto date, continuous duty, multi cylinders vertical 4 stroke cycle water cooled, developing suitable BHP at operating speed specified to drive the fire pump capable of driving continuous non-stop operation for 2 hours.				
c)	Common bed plate fabricated out of MS channel of suitable size for assembling the Pump and the Engine, flexible coupling and with couplingguard for protection/safety.				
d)	Making cement concrete foundation of 1:2:4 ratio (1 Cement: 2 coarse sand : 4graded stone aggregate 40 mm nominal size) duly plastered suitable for Diesel engine pump set including vibration isolation by providing cushy foot mount pads as necessary, foundation bolts, brackets, clamps, fixtures, grouting etc, inaccordance with manufacturer's design etc.as per specification complete as reqd.	Set	1		
3	Supplying, Installation, Testing and Commissioning of electric driven pressurisation pump suitable for automatic operation and consisting of following: complete in all respect as required.				



a)	Horizontal end suction, centrifugal pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal and flow of 180 LPM at 60 metre head conforming to IS:1520.						
b)	Suitable HP 2900 RPM SQ cage induction motor TEFC, synchronous speed 2900 RPM, suitable for operation on 415 volts, 3 phase 50 HZ. AC with IP 55 class of protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS : 325.						
c)	Suitable CC foundation of 1:2:4 ratio (1 Cement: 2 coarse sand : 4 graded stone aggregate 40 mm nominal size) duly plastered and with anti vibration pads.	Set	1				
4	Fabricating, Supplying, Installation, Testing and Commissioning Air Vessel of continuous welded construction with flanged discharge header in pump house fabricated out of 10 mm thick MS sheet, Air Release Valve, complete with drain arrangement with 25 mm dia gun metal ball valve complete with all accessories etc. as required of the following sizes						
5	2 Meter high and 450 mm dia suitable to operate Jockey Pump, Main Fire Pump & Diesel Engine Driven Fire Pump complete with all pressure switches as per specifications as reqd.	No s.	1				
6	Providing and Fixing of "C" class grade MS Pipe IS:1239 (part-I) with special accessories such as tees, elbow, flanges, rubber insertion, nut and bolts, welded joints with suitable iron, clamps, brackets etc., painting of Two coats of Primer & One coat of Red Paint						
a)	200mm dia	Mtr	12				
b)	150 mm dia	Mtr	42				
c)	80mm dia	Mtr	12				
d)	25 mm dia	Mtr	6				
7	Providing, fixing, testing & commissioning of CI Butterfly Valve (suitable for test pressure of 15 kg / sqcm) with flanges, nut bolts, gaskets, painting and necessary pad locking arrangement complete required.						
a)	80mm	Each	2				
b)	150mm	Each	6				
8	Providing, fixing, testing and commissioning of C.I. Slim Seal wafer type Non-Return Valve (As per IS:5312) of pressure 15 Kg/sq.cm with flanges, Nut, bolts & washers, painting etc. complete as required.						
a)	80 mm dia	Each	1				
b)	150mm	Each	3				
9	Fabricating, supplying, installation, testing and commissioning of electrical control panel of cubical construction, floor mounted type , fabricated from 2 mm thick CRCA sheet compartmentalised with hinged lockable doors, dust and vermin proof, powder coated of approved shade after 7 tank treatment process, cable alley, inter connection, having switchgears and accessories mounting and internal wiring, earth terminals numbering etc complete in all respect ,suitable for operation on 415 V ,3 phase,50 Hz AC supply with						



	enclosure protection class IP 42 as reqd						
	PANEL IN FIRE PUMP HOUSE	Each	1				
10	Providing & Fixing Pressure switch in the M.S Pipe Line including connection etc. as required.	Nos.	1				
11	Supplying and Laying of PVC 1.1 KV grade armoured U.G. Cable of following sizes on surface/in existing cable tray suitably clamped as required.						
a	3 x 70 Sqmm (aluminium conductor)	Mtrs.	12				
b	3 x 10 Sq mm (aluminium conductor)	Mtrs.	6				
c	2 x 1.5 Sq mm (Copper conductor)	Mtrs.	30				
12	Supplying and making end termination with brass compression gland and Al.lugs for following sizes of PVC insulated, PVC sheathed/ XLPE Al. conductor cables of 1.1 KV grade as required.						
a	3 x 70 Sqmm	Sets	4				
b	3 x 10 Sq mm (For Copper conductor)	Sets	2				
13	Suppling and fixing following sizes of perforated pre-painted M.S cable trays with perforation not more than 17.5%, in convenient sections, joined withconnectors, suspended from the ceiling with M.S. suspenders including bolts and nuts, painting suspenders etc as required.						
a	150 mm.	Mtrs.	12				
b	50 mm	Mtrs.	6				
14	Providing and fixing 25 mm x 5 mm G.I.Strip in on surface or in recess for loop earthing complete etc. as required.	Mtrs.	70				
15	Providing, fixing, testing and commissioning 100 mm dia pressure gauge ofrange 0 -015 Kg / sqcm conforming to IS - 3624 having bourdon tube of stain steel 310 in cast aluminium, stove enamelled, black, weather proof case with outer, screwed aluminium bezel and complete with necessary U-type stainlesssteel siphon tube and cock complete as required.	Nos	3				
16	Providing and fixing metallic expansion bellows vibration eliminators with flange suitable for raw water upto 45 deg. C. temperature working pressure 7kg/ sq.cm and test pressure 14 kg/sq.cm.						
a	80mm dia	Each	1				
b	150 mm dia	Each	4				
3	Suplying, installing, testing and commissioning of following dia Y Strainer of ductile body flanged with stainless steel strainer as required.						
3.1	150 mm dia	Each	2				



SUB HEAD -II (Hydrants, Piping & Accessories)					
1	Providing and fixing M.S Pipe to I.S. 1239 (Heavy class) complete with all fittings like, unions, couplings, bends, elbows, tees, offsets, reducers, flanges as per table 'E' etc. to complete the work as per the requirement at site including painting with two coats of synthetic enamel paint, over the two or more coats of red oxide, upto the satisfaction of engineer in charge, cutting and making good the walls good complete				
a	150 mm dia	Metre	130		
b	80 mm dia	Metre	60		
c	65 mm dia	Metre	12		
2	Providing and Fixing of 4 mm thick wrapping coating for under ground pipe for road crossing.				
a	80 mm dia	RM	10		
3	Supplying of Butterfly valves of PN 1.6 rating of following sizes with EPDM rubber lining seat and CF-8 stainless steel disc duly ISI marked and stainless steel stem with lever operation and cast iron body in powder coated finish for fire fighting application complete in all respects confirming to IS: 13095 as required.				

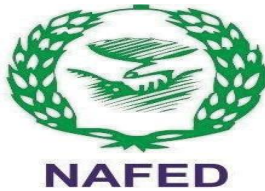


a	150mm dia	No s.	8		
b	80 mm dia	No s.	9		
4	Supplying and fixing Single Headed Internal Hydrant Valve oblique pattern with instantaneous Stainless Steel coupling of 63 mm dia with cast iron wheel ISI marked, conforming to IS : 5290 (Type A), with 80 mm dia flanged inlet, with ABS cap and chain complete with all accessories etc. as required.	No s.	8		
5	Supply, Installation, Testing and Commissioning 63 mm dia. 15 Mtr. Long RRLhose pipe with 63 mm dia. male and female stainless steel couplings duly binded with GI wire rivets etc. ISI marked, IS 636 (type-A) as required.	No s.	8		
6	Supplying and fixing 4 way fire brigade connection of cast iron body with 4 nos. Stainless steel male instantaneous inlet couplings complete with cap and chain as required	No.	2		
7	Providing,fixing,testing and commissioning of one number Stainless steel fire brigade section hose coupling (Fire brigade withdrawal connection) i/c foot valve in the bottom etc. as per specification complete as required. (M.S pipe of 100 mm dia will be paid in pipe item.	No s.	1		
8	Providing and fixing flow switches in 100/150mm dia M.S Pipe as required.	No s.	3		
9	Providing & Fixing testing & commissioning of installation control valve of cast iron body and brass/bronze working parts comprising of water motor alarm. Bronze seat clapper, and clapper arm, hydraulically driven mechanical gong bell to sound continuous alarm when the Wet riser/ sprinkler System activates, pressure gauges, emergency release, strainer, pressure switch, cock valve complete with drain valve and bypass, test control box, ball valves, MS pipe of required size m flanges, orifice plate, gasket etc. of size 150mm dia as required.	No s.	1		
10	Supplying, Installation, Testing and Commissioning of standard Fire Man's axe with heavy insulated rubber conforming to IS : 926	Ea ch	4		
11	Supplying, installation, testing and commissioning of M.S cabinet size 750 mm x 600 mm x 250mm deep fabricated from 1.6mm thick complete with glass,locking arrangements.	Ea ch	8		
	SUB HEAD - III (FIRE EXTINGUISHERS & MISC)				
1	Providing and fixing with bracket/supports etc. wall mounted fire extinguishers as per detail below:				
1.1	Providing and fixing ABC type extinguishers consisting of welded M.S. cylindrical body, squeeze lever discharge valve 30 cms long high pressure discharge hose, discharge nozzle, suspension bracket, ISI marked as per IS:15683 finished externally with red enamel paint and fixed to wall with brackets complete with internal charges.	Ea ch	6		
	Capacity 6 lit.				
1.2	Providing and fixing CO2 extinguisher consisting of seamless MS cylindrical body squeeze lever discharge valve, internal discharge tube, 30 cms long high pressure discharge hose, discharge nozzle ISI marked as per IS:15683 including fixing with dash fasteners etc. complete.	Ea ch	2		
	Capacity 4.5 Kg				



NAFED

1.3	Providing and fixing mechanical foam type (ISI marked) fire extinguishers consisting of welded M.S. cylindrical body squeeze lever discharge valve 30 cm long high pressure discharge hose, discharge nozzle suspension bracket as per IS:15683 marked finished externally with red enamel paint and fixed to wall with brackets complete with internal charger.	Each	2		
	Capacity 50 lit.				
	SUB HEAD - IV (MISC.)				
1	Providing and fixing Manual Call Point	Each	3		
2	Providing and fixing Sounder .	Each	1		
3	Providing and fixing 4 zone panel.	Each	1		
4	Supplying and Laying of PVC 1.1 KV grade armoured U.G. Cable of following sizes on surface/in existing cable tray suitably clamped as required.				
a	2 x 1.5 Sq mm (Copper conductor)	Mtrs.	450		



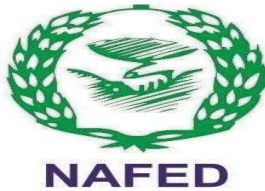
ANNEXURE - 1

DETAILS OF SITE OFFERED FOR CIVIL AND ASSOCIATED WORK TO SET UP HONEY PROCESSING PLANT IN BHARATPUR

Sl No.	Location	Landmark	Size (LxB)	Qty	Area
					(sq.mt)
Unit 1.	Bharatpur Distt., Rajasthan National Agricultural Cooperative Federation of India Ltd.,	Adjoining NAFED Warehouse		1	

Note-1: Area indicated above is approximate. Actual area measured at the time of handing over shall be final. If there is any variation in area of the particular project, the related Civil BOQ shall be amended accordingly and the contract value shall be calculated and modified on the basis of actual work done.

Note-2: The plot of land shall for setting up the Project shall be offered on FOC basis as available on **"as is where is basis"**.



ANNEXURE - 2

TECHNICAL BID FORM

(To be submitted on company's letter head)

No:

Dated:

To,
General Manager,
FIFA / FOF
National Agricultural Cooperative
Marketing Federation of India Ltd. (NAFED),
NAFED House, Siddhartha Enclave
Ashram Chowk, Ring Road
New Delhi-110014

Sub: REQUEST FOR QUOTATION (RFQ) FOR CIVIL AND
ASSOCIATED WORK TO SET UP HONEY PROCESSING PLANT AT
BHARATPUR

Sir,

With reference to above subject, I/we, having examined the Bidding Documents and understood their contents, hereby submit my/our Bid for the aforesaid allotment of contract.

1. I/ We acknowledge that Nafed shall be relying on the information provided in the Bid and the documents accompanying the Bid for selection of the successful bidder for the aforesaid subject, and we certify that all information provided therein is true and correct; nothing has been omitted which renders such information misleading; and all documents accompanying the Bid are true copies of their respective originals.
2. I/ We shall make available to Nafed all / any additional information it may find necessary or require to supplement or authenticate the Bid.
3. I/ We acknowledge the right of Nafed to reject our Bid without assigning any reason or otherwise and hereby waive, to the fullest extent permitted by applicable law, our right to challenge the same on any account whatsoever.
4. I/ We declare that:
 - a) I/ We have examined and have no reservations to the Bidding Documents, including Addendum/ Corrigendum, if any, issued by Nafed; and



- b) I/ We do not have any conflict of interest in accordance with provisions of the document; and
 - c) I/ We have not directly or indirectly or through an agent engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as stipulated in the document, in respect of any Bid or request for proposal issued by or any agreement entered into with Nafed; and
 - d) I/ We hereby certify that we have taken steps to ensure that in conformity with the provisions of the tender, no person acting for us or on our behalf has engaged or shall engage in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice; and
 - e) The undertakings given by me/us along with the Application in response to the for the above subject were true and correct as on the date of making the Application and are also true and correct as on the Bid Due Date and I/we shall continue to abide by them. I/We understand that you may cancel the Bidding Process at any time and that you are neither bound to accept any Bid that you may receive nor to invite the Bidders to Bid for the above subject, without incurring any liability to the Bidders, in accordance with provisions of the tender document.
5. I/We further undertake that after the expiry of the contract period or pre mature termination of the contract as per Terms & Conditions of Contract. We shall have no lien or any rights whatsoever on the said pillar allotted by the Nafed
 6. The financial offer has been quoted by me/us after taking into consideration all the terms and conditions stated in the tender document, addenda /corrigenda, our own estimates of costs and after a careful assessment of the site and all the conditions that may affect the project cost and implementation of the project. I/We are satisfied with the locations of the said plot and fully understand & comprehend the technical requirements. I/We are also fully satisfied as to the business viability of cold storage and shall not claim any compensation, dues or any other consideration whatsoever on this account.
 7. I/We agree and undertake to be jointly and severally liable for all the obligations of the contract/Contractor under the contract/ Agreement for the contract/ period in accordance with the Agreement.
 8. I/we agree that the cost of Stamp Duty for execution of Agreement, Registration Charges and any other related Legal Documentation charges/incidental charges in pursuance of this tender will be borne by us.
 9. I/We agree that all Taxes if any shall be borne by the liable party. GST as applicable shall also be borne by us or paid by us as applicable.
 10. I/We agree that the allotted Plots for these projects are the property of Nafed or the JV and shall remain property of Nafed or the JV during contract period and after expiry of contract period or premature termination of contract agreement. The Contractor shall not make any claim/ compensation on this account including electrical wiring, fittings/fixtures meters etc. which shall become the property of the Nafed after the expiry/termination of the contract agreement.



11. We shall keep this offer valid for 120 (one hundred twenty days) days from the Bid Due Date specified in the tender document.
12. I/We hereby submit bid documents duly signed on each page as token of unconditional acceptance of all terms and conditions set out herewith. In witness thereof, I/we submit this Bid under and in accordance with the terms of the tender document.

Yours faithfully,

(Signature, name and designation of the Authorized signatory)
Name and seal of Bidder/Lead Member

Date:

Place:



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ANNEXURE – 3

GENERAL INFORMATION OF THE BIDDER

1. Name of Bidder : _____
2. Complete postal address (with Telephone/FAX Nos./E-Mail)
 - i. Corporate Office: _____
 - ii. Addresses of all branch offices in India: _____
 - iii. PAN & GST Details (submit a copy of each duly attested):
3. In case of Consortium/JV the information above shall be provided for all the members of the consortium.

Sl. No.	Name of Member	Proportion of Equity to be held in the Consortium	Role*
1			
2			
3			

Specify whether Lead Member/ Ordinary Member signed

5. Details of the contact person who shall serve as point of communication with Nafed within company:
 - a. Name :
 - b. Designation :
 - c. Address :
 - d. Telephone Number :
 - e. Fax Number :
 - f. E-Mail Address :
6. Please indicate details and strength of bidder Co. in respect of following:
Total value of revenue from related businesses conducted in the last three (3) years
7. Complete profile of company along with List of Projects with Value of Contract
(The above details shall be given year wise along with the name of clients in the form of self Certification along with the details as applicable)

(Name of the Authorized Signatory) For
and on behalf of (Name of the Bidder)
Designation

Place: Date:



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ANNEXURE - 4

FINANCIAL BID FORM

(To be submitted on company's letterhead)

Date:

To,

General Manager,
FOF
National Agricultural Cooperative
Marketing Federation of India Ltd. (NAFED),
NAFED House, Siddhartha Enclave
Ashram Chowk, Ring Road
New Delhi-110014

Sir,

With reference to the RFQ/ Tender No.____dated____inviting RFQ for " Civil and Associated work to set up of Honey Processing Plant at Bharatpur". We have carefully studied scope and objectives of contract/ agreement and based on these, I/ We hereby submit our Financial Bid for the captioned Bid. If the contract is awarded to me/us, I/ we agree to complete the Job as per Scope of Services and BOQs in compliance with the Technical Specifications and Data Sheets and Drawings / Sketches enclosed the document and as per terms and conditions set forth in the tender Document.

Note:

1. All the taxes i.e GST etc, as applicable shall be borne solely by the successful bidder(s).
2. Successful bidder shall be decided on the basis of **Evaluation Procedure** mentioned in the document, based on experience and figures quoted by bidder(s).
3. In case two bidders quote the same price, then bidder having highest number of completed similar jobs in last 3 financial year will be awarded the contract.
4. All the columns of price bid format should be filled. Incomplete financial bids will be considered Non-responsive and shall be rejected.

Affirmation:

- a) I / we affirm that the total price given above represents the Net Price to be paid by Nafed or its JV to us on account of Supply, Erection & Commissioning of Honey Processing Plant & Auxiliary Machinery along with Utility Equipments, Piping & Systems including Civil Works, if allotted to us, as per terms and conditions of tender and in accordance with the scope of work and price and is inclusive of all expenses and incidentals etc.
- b) This offer is being made by me/ us after taking into consideration all the terms and conditions stated in the Bid document, and after careful assessment of the Plot of Land allocated for the said Project as per Annexure -1 offered, all risks and contingencies and all other conditions that may affect the financial Bid.
- c) The utility charges like electricity, statutory dues/ taxes, local levies, etc. as applicable from time to time will be paid as extra charges by us to the concerned agencies directly without any delay or failure and proof of deposit of such taxes will be made available to Nafed, if required for any audit purpose.

Authorized signatory



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FINANCIAL BID - SCHEDULE-1

MINIMUM COST FOR THE COMPLETE SCOPE INCLUDING CIVIL AND ASSOCIATED WORK TO SET UP HONEY PROCESSING PLANT AT BHARATPUR

The minimum Cost payable by NAFED based on the Scope of Work on Terms and Conditions mentioned in the Tender Document shall be

S.NO	Item Head	Cost in INR, on allinclusive basis
1	CIVIL WORKS	
2	ELECTRIC WORKS	
3	FIRE FIGHTING	
	TOTAL	

1. CIVIL WORK

<u>SUMMARY</u>					
S.No.	Description	Unit	Qty.	Rate	Amount
1	Main Shed Repairing Works	Nos.	1.00		
2	Lignite shed Repairing Works	Nos.	1.00		
3	Clearing of Jungle	Nos.	1.00		
4	Renovation of Gate house	Nos.	1.00		
5	Construction of Rainwater drainage	Nos.	1.00		
6	Repair Works of Road	Nos.	1.00		
7	Civil works for ETP	Nos.	1.00		
8	Front Gate Painting Works	Nos.	1.00		
9	Repair of Old toilet in Production Block	Nos.	1.00		
10	Cooling Tower Foundation	Nos.	1.00		
11	Construction of Toilet Block	Nos.	1.00		
12	Construction of Ground Water Recharge Pit System	Nos.	1.00		
				Total	





BOQ FOR NAFED, HONEY PROJECT (BHARATPUR)

S.No 1 - BOQ FOR MAIN SHED REPAIRING WORK (BHARATPUR)

S.No.	Item Description	Unit	Qty.	Rate	Amount
1	Dismantling roofing including ridges, hips, valleys and gutters etc., and stacking the material within 50 metres lead of: For Asbestos Cement sheet	Sqm.	889.56		
2	Providing & Fixing of 40 mm. thick PUFF Panel Sheet	Sqm.	1642.81		
3	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Concrete of M25 grade with minimum cement content of 330 kg /cum	Cum.	121.30		
4	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.	KG	4852.13		
5	Providing & mixing of Steel fibre (Novocone Xerox 1050) 15KG/Cum. , Glass Fibre 1KG/Cum And Fibre mesh 300E3, as per manufacturer specification	KG	1819.55		
6	Providing & applying floor hardner of approved make at 4KG/Sqm.	Sqm.	808.69		
7	Providing & applying Lithium Silicate coating over RCC Floor as per specifications	Sqm.	808.69		
8	Strengthening of existing columns as required	Nos.	40.00		
9	12 mm cement plaster of mix : 1:4 (1 cement: 4 fine sand) in Insider wall with mixing of waterproofing compound as per specifications	Sqm.	707.56		
10	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade : Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture	Sqm.	1476.99		
11	Aluminium profiled Fixed windows with pc sheets	Sqm.	33.00		
12	Aluminium profiled Openable windows with pc sheets	Sqm.	9.00		



13	Fire rated door shutter made with 1.6 mm thick G.I sheet (120 minutes fire rating) including hinges (without glass panels)	Sqm.	32.40		
14	MS Structure in roof for extension of height	KG	5625.00		
15	Providing & Fixing Rainwater Gutter & Downpipe	Rm.	200.32		
16	Cleaning & painting of MS Structure	Lum Sum	1.00		
17	Providing & fixing Internal partitions in aluminium section as per design	Sqm.	186.00		
18	Providing and fixing false ceiling at all heights with integral densified calcium silicate reinforced with fibre and natural filler false ceiling tiles of Size 595x595mm of approved texture, design and patterns as per CPWD Specification 2019, to be laid in true horizontal level suspended on inter-locking metal T-Grid of hot dipped galvanised iron section of 0.33mmthick (galvanized @ 120 grams per sqm including both sides)comprising of main-T runners of size 24x38 mm of length 3000 mm,cross – T of size 24x32 mm of length 1200 mm and secondaryintermediate cross-T of size 24x32 mm of length 600mm to formgrid module of size 600 x 600 mm, suspended from ceiling usinggalvanised mild steel items (galvanizing @ 80 grams per sqm) i.e. 12x50 mm long dash fasteners, 6 mm dia fully threaded hanger rod upto 1000 mm length and L-shape level adjuster of size 76x25x25x1.6 mm fixed with grid and Z cleat of size 25x37x25x1.6mm thick with precut hole on both 25mm flange to pierce into 12x50mm or even bigger size dash fastener if require, fixed with Glavanised iron perimeter wall angle or size 24x24x0.40 mm of length 3000 mm to be fixed on periphey wall /	Sqm.	185.00		
19	Providing & Fixing Doors for Cold storage Area as per Specifications	Nos.	2.00		
				Total	



BOQ FOR NAFED, HONEY PROJECT (BHARATPUR)					
S.No-2 BOQ FOR LIGNITE SHED REPAIRING WORK (BHARATPUR)					
S.No.	Item Description	Unit	Qty.	Rate	Amount
1	Dismantling roofing including ridges, hips, valleys and gutters etc., and stacking the material within 50 metres lead of: For Asbestos Cement sheet	Sqm.	161.49		
2	Providing & Fixing of 40 mm. thick PUFF Panel Sheet	Sqm.	161.49		
3	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade : Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture	Sqm.	291.40		
4	Providing & Fixing Rainwater Gutter & Downpipe	Rm.	33.96		
5	Cleaning & painting of MS Structure	Lum Sum	1.00		
	Total				



ABSTRACT

S.No.	Item Description	Unit	Qty.	Rate	Amount
1	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth up to 30 cm measured at a height of 1 m above ground level and removal of rubbish up to a distance of 50 m outside the periphery of the area cleared.	Sqm.	5206.16		
2	Gate House				
A	Fixing of Aluminium windows	Sqm.	3.6		
B	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade : Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture	Sqm.	25.8		
		Sqm.	19.8		
		Sqm.	14.19		
		Sqm.	-2.1		
		Sqm.	-3.6		
		Sqm.	54.09		
			Total		
3	RAINWATER DRAINAGE				
A	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil.	Cum	309.248		
B	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering – All work up to plinth level : 1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)	Cum	28.416		



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C	1:1½:3 (1 Cement: 1½ coarse sand (zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources)	Cum	11.52		
D	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in Cement mortar 1:4(1 cement : 4 coarse sand)	Cum	82.432		
E	12 mm cement plaster of mix : 1:4 (1 cement: 4 fine sand)	Sqm	424.96		
F	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	Cum	309.248		
G	Providing & Laying 450 mm. Dia. RCC Hume pipe– NP2 with proper jointing of collar & as per specifications	RM	20.00		
			Total		



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4	ROAD REPAIR				
A	Scarifying metalled (water-bound) road surface including disposal of rubbish, lead upto 50 m and consolidation of the aggregate received from scarifying with power road roller of 8 to 10 tonne capacity.				
		Sqm.	180		
		Sqm.	391.5		
		Sqm.	121.5		
		Sqm.	180		
		Sqm.	112.5		
		Sqm.	985.5		
B	Providing and laying seal coat of premixed fine aggregate (passing 2.36 mm and retained on 180 micron sieve) with bitumen using 128 kg of bitumen of grade VG – 10 bitumen per cum of fine aggregate and 0.60 cum of fine aggregate per 100 sqm of road surface, including rolling and finishing with road roller all complete.	Sqm.	985.5		
C	Providing and applying tack coat using hot straight run bitumen of grade VG – 10, including heating the bitumen, spraying the bitumen with mechanically operated spray unit fitted on bitumen boiler, cleaning and preparing the existing road surface as per specifications : On bituminous surface @ 0.50 Kg / sqm	Sqm.	492.75		
			Total		
5	Supplying, installation, testing & commissioning of STP/ETP of appropriate technology including civil works (except plant room) tertiary treatment etc. for the campus	KLD	20		
6	Painting of Front gate	Nos.	1		
7	Repair of Existing toilet in production shed				
A	Sanitary & plumbing work	Nos.	1		
B	Septic tank	Nos.	1		
C	Painting work	Nos.	1		
			Total		



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8	Cooling Tower Foundation				
A	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering – All work up to plinth level : 1:4:8 (1 Cement : 4 coarse sand (zone–III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)	Cum			
		Cum	0.308385		
		Cum	0.308385		
B	1:1½:3 (1 Cement: 1½ coarse sand (zone–III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources)	Cum	1.8		
C	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo–Mechanically Treated bars of grade Fe–500D or more.	KG	144		
D	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in Cement mortar 1:4(1 cement : 4 coarse sand)	Cum	2.57922		
E	12 mm cement plaster of mix : 1:4 (1 cement: 4 fine sand)	Sqm	6.6038		
		Grand Total			



BOQ FOR NAFED, HONEY PROJECT

NOTE - BOQ FOR TOILET

S.No.	Item Description	Unit	Qty.	Rate	Amount
1 (a)	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil.	Cum.	144.58		
1 (b)	Extra for excavating trenches for pipes, cables etc. in all kinds of soil for depth exceeding 1.5 m, but not exceeding 3 m. (Rate is over corresponding basic item for depth upto 1.5 metre).	Cum.	49.15		
1 (c)	Extra for excavating trenches for pipes, cables, etc, in all kinds of soil for depth exceeding 3 m in depth, but not exceeding 4.5 m. (Rate is over corresponding basic item	Cum.			
2	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited	Cum.	125.26		
3	Supplying, filling, spreading & leveling stone boulders of size range 5 cm to 20 cm, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	Cum.	11.79		
4	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering – All work up to plinth level : 1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)	Cum.	6.45		



5	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Concrete of M25 grade with minimum cement content of 330 kg /cum	Cum.	21.05		
6 (a)	Centering and shuttering including strutting, propping etc. and removal of form for Foundations, footings, bases of columns, etc. for mass concrete	Sqm.	17.28		
6 (b)	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	Sqm.	20.16		
6 (c)	Lintels, beams, plinth beams, girders, bressumers and cantilevers	Sqm.	145.54		
6 (d)	Columns, Pillars, Piers, Abutments, Posts and Struts	Sqm.	28.43		
7	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.	KG	1458.55		
8	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in Cement mortar 1:4(1 cement : 4 coarse sand)	Cum	23.12		
9	12 mm cement plaster of mix : 1:4 (1 cement: 4 fine sand)	Sqm.	251.59		



10	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade . Two or more coats on new work	Sqm.	251.59		
11	Providing and fixing double glazed hermetically sealed glazing in aluminium windows, ventilators and partition etc. with 6 mm thick clear float glass both side, having 12 mm air gap, including providing EPDM gasket, perforated aluminium spacers, desiccants, sealant (Both primary and secondary sealant) etc. as per specifications, drawings and direction of Engineer-in-charge complete.	Sqm.	28.35		
12	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4 Coarse sand), Jointing with grey cement slurry @ 3.3 kg/sqm including pointing the joints with white cement and matching pigment etc., complete.	Sqm.	133.98		
13	Providing Septic tank with Civil work for Toilet	Nos.	1.00		
14	Sanitary & Inside Plumbing Work	Nos.	1.00		
15	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required: (White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests)	Nos.	7.00		



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16	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require: (White Vitreous China Wash basin size 630x450 mm with a single 15 mm C.P. brass pillar tap)	Nos.	4.00		
17	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430x260x350 mm or 340x410x265 mm sizes respectively.	Nos.	4.00		
			Grand Total		



BOQ FOR GROUND WATER RECHARGE PIT AT NAFED BHARATPUR

RECHARGE PIT

NOTE -2 NOS GROUND WATER RECHARGE PIT (Screen Chamber, Settlement Tank & Recharge Pit)

S.No.	Item Description	Unit	Qty.	Rate	Amount
1(a)	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil.	Cum.	225.27		
1 (b)	Extra for excavating trenches for pipes, cables etc. in all kinds of soil for depth exceeding 1.5 m, but not exceeding 3 m. (Rate is over corresponding basic item for depth upto 1.5 metre).	Cum.	133.65		
1 (c)	Extra for excavating trenches for pipes, cables, etc, in all kinds of soil for depth exceeding 3 m in depth, but not exceeding 4.5 m. (Rate is over corresponding basic item for depth upto 1.5 metre.)	Cum.	56.40		
2	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	Cum.	160.18		
3	Supplying, filling, spreading & leveling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer – incharge.	Cum	10.11		
4	Supplying, filling, spreading & leveling gravels of size range 5 mm to 10 mm, in the recharge pit, over the existing layer of boulders, in required thickness, for all leads & lifts, all complete as per direction of Engineer– in-charge.	Cum	12.99		



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5	Supplying, filling, spreading & leveling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	Cum.	7.23		
6	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering – All work up to plinth level : 1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)	Cum.	1.67		
7	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Concrete of M25 grade with minimum cement content of 330 kg /cum	Cum.	3.35		
8	Centering and shuttering including strutting, propping etc. and removal of form for Foundations, footings, bases of columns, etc. for mass concrete	Sqm.	22.34		
9	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.	KG	435.57		
10	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in Cement mortar 1:4(1 cement : 4 coarse sand)	Cum	33.08		



Grand Total

SUMMARY

OF

ELECTRICAL WORKS

Amount (in Rs)





Bill of Quantities for Electrical Works

S. No.	Description	Unit	Qty.	Rate	Amount
INTERNAL ELECTRICAL WORK					
1	SUB HEAD-I: WIRING & SUBMAIN				
1.0	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, with modular switch , modular plate, suitable GI box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required.				
1.1	Group C	Point	20		
2.0	Wiring for group controlled (looped) light point/fan point/exhaust fan point/ call bell point (without independent switch etc.) with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit, and earthing the point with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable etc. as required.				
2.1	Group C	Point	15		
3.0	Point wiring for DB controlled light points with 3 x 2.5 sq mm (P+N+E) FRLS PVC insulated 660/1100 volt grade stranded copper conductor wires in IS embossed black enamelled minimum 20mm dia 16 SWG PVC recessed and/or surface conduiting system including cost of providing saddles etc for surface conduiting and/or cost of cutting and filling chases for recessed conduiting in RCC slab/floor/walls complete as per specifications and as required (cost of MCB not included)	Point	40		
4.0	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 2 nos. 3 pin 5/6 A modular socket outlet and 2 nos. 5/6 A modular switch, connections etc. as required. (For light plugs to be used in non residential buildings).	Each	10		
5.0	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch , connection etc. as required. (For light plugs to be used in non residential buildings).	Each	15		
6.0	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 amps modular socket outlet and 15/16 amps modular switch , connection etc. as required.	Each	35		
7.0	Supplying and fixing 3 pin, 5 amp ceiling rose on the existing junction box/ wooden block including connection etc as required.	Each	5		
8.0	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required.				
8.1	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	1500		
8.2	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	Metre	700		
8.3	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	50		
8.4	2 X 10 sq. mm + 1 X 6 sq. mm earth wire	Metre	15		
8.5	4 X 4 sq. mm + 2 X 4 sq. mm earth wire	Metre	5		
8.6	4 X 6 sq. mm + 2 X 6 sq. mm earth wire	Metre	200		
8.7	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	50		
8.9	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	50		
TELEPHONE AND DATA SYSTEM					
10	Supplying and drawing following pair 0.5 mm dia FRLS PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required.				
10.1	2 pair	Mtr.	800.00		
11	Supplying and drawing PVC insulated, PVC sheathed multicore un-armored taped telephone cables of 0.61 mm dia size in existing conduit pipe, of the following sizes.				
11.1	20 Pair	RM	25		
12	Supplying and fixing of telephone distribution board (tag block) in hinged type MS box duly powder coated complete with bakelite sheet with terminal nation of incoming and outgoing telephone wire etc. complete as required.				
12.1	20 Pair	Nos.	1		
13	Supplying and fixing 2 pin Telephone modular socket & switch with modular plate, suitable size metal box and sheet cover including connection, testing, etc. as required.				
13.1	Telephone socket with shtrter outlet	Each	15.00		
14	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.				
14.1	1 or 2 Module (75mmX75mm)	EACH	15		
15	Supplying and fixing following Modular base & cover plate on existing modular metal boxes etc. as required.				
15.1	1 or 2 Module	EACH	15		



Bill of Quantities for Electrical Works

S. No.	Description	Unit	Qty.	Rate	Amount
16	Supplying and fixing 1 nos of CAT-6 , I/O with gang box, Face plate with G.I. box , RJ-45 Modem jack with shutter phenolic laminated sheet suitable size PVC/G.I. box as required. all complete as per instructions of Elec.Er. / Architect.	Each	15.00		
17.0	Supplying and drawing of UTP 4 pair CAT 6 LAN Cable in the existing surface/ recessed Steel/ PVC conduit as required.	RM	300		
18.0	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.				
18.1	25 mm dia	RM	200		
18.2	32 mm dia	RM	50		
	Item as stated above	Rs.			
	Total of Sub-Head - I carried to summary sheet				
2	SUB HEAD -II: DISTRIBUTION BOARD				
1.0	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/ Isolator)				
1.3	8 way (4 + 24), Double door	Each	3		
2.0	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)				
2.1	8 way , Double door	Each	1		
3.0	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
3.1	Single pole	Each	80		
4.0	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	1		
5.0	Supplying and fixing following rating, four pole, 415 volts, MCB in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
5.1	40 amps	Each	1		
5.2	63 amps	Each	2		
6.0	Supplying and fixing following rating, double pole, (single phase and neutral), 240 volts, residual current circuit breaker (RCCB), having a sensitivity current upto 300 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
6.1	40 amps	Each	3		
6.2	63 amps	Each	7		
	Total of Sub-Head - II Carried to summary sheet				
3	Sub-Head - III: LIGHTING FIXTURES				
1	Supply of Fixtures :				
1.1	Suppling and fixing single wall mounted 22watt LED type batten fitting compelet with electronic driver and LED Tube etc directly wall/ ceiling including conection with 1.5 SQMM FR PVC insulated copper conductor and earthing the body etc as requirede. havells ref. cat. ENDURALINEARNEOBS20WLED830SPCWH MAKE :HAVELLS/PHILIPS	Each	30.00		
1.8	Supply and fixing of Baybrite Flare HighBay 80 W LED Next generation, energy saving, environment friendly & robust highbay LED with PDC housing suitable for ceiling (Surface/Suspended) mounting with system efficacy upto 150 lm/W. LED Fitting complete with electronic deiver with PVC Unsheathed copper leads from terminals to the fitting and as directed by Clinte. HAVELLS : BAYBRITEFLAREHB80WLED857PWBBOLT G MAKE :HAVELLS/PHILIPS	Each	9.00		
1.9	Supply and installation of regular /standard model A.C ceiling fanof 1200mm sweep including wiring the down rods of standard length (up to 30cm) with 1.5sq mm FR PVC insulated copper conductor etc. as required .havells PACER WHITE				
a)	1200 mm sweep	Each	10.00		
1.10	Supplying and fixing two module stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	Each	10.00		
1.11	Supply and installation of 300mm, 230V A.C exhaust fan in the existing opening including making good the damage connection testing commissioning etc as required Havells : Ventil Air - DB	Each	2.00		
2	Erection of Fixtures:				



Bill of Quantities for Electrical Works

S. No.	Description	Unit	Qty.	Rate	Amount
2.1	Installation, testing and commissioning of wall bracket /ceiling fittings of all sizes and shapes containing upto two GLS/CFL/ LED lamps per fitting, complete with all accessories including connections etc. as required.	Each	39.00		
2.2	Installation, testing and commissioning of ceiling fan, including wiring the down rods of standard length (upto 30 cm) with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable, including providing and fixing phenolic laminated sheet cover on the fan box etc. as required.	Each	10.00		
2.3	Installation of exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc. as required.				
2.3.1	Upto 450 mm sweep	Each	5.00		
	Item as stated above	Rs.			
4	SUB HEAD - IV : UPS WORK				
1.1	Supplying, installation, testing and commissioning of online 1 phase UPS System with 30 minutes back up including batteries, interconnecting cables, battery racks etc.	PER KVA	5.00		
	TOTAL OF UPS				
5	SUB HEAD-V 11 HT System				
	11kv HT PANEL				
	630A 11 kV vacuum circuit breakers				
	Supplying, installation, testing & commissioning of H.V. air insulated distribution switchgear extendable type H.T. Board suitable for indoor installation for use on 11 KV 50 Hz earthed system having a symmetrical breaking capacity of 350 MVA at 11 KV comprising of 630A 11 kV vacuum circuit breakers. Cable box with single compression brass glands suitable size to receive 11 KV XPLE cable of 3 core 70 sq.mm. The panel shall be equipped with following accessories as per SLD and specification complete as required.				
	INCOMING PANELS - 1 Nos. EACH SHALL COMPRISING OF:				
	1No. -Metal Clad housing with having 630A Vacuum circuit breaker with Manual & Electric operated mechanism (spring charged motor - 230V AC)				
	1Set- Tripping coil & closing Coil 24V DC				
	1 - Set of isolating plug and receptacle				
	1 - Set of Automatic safety shutter				
	1- Set of breaker control switch (TNC)				
	1 -Set of dual core CT's as follows:				
	Core I - 20/5-5A class 5P-10 (15 VA)				
	Core II - 20/5-5A class -1 (15 VA)				
	1set of 11KV /√3 / 110/√3 Volt, 100 VA burden & accuracy class 1, 3 nos. single phase construction, dry type cast resin PT				
	1 - No. Ammeter(0-120A) with selector switch (Built-in)				
	1 - KW, KVA, KWH, PF, HZ & KVAH Meter				
	1 - Set of ON/OFF/Trip/ Spring Charged & Trip circuit healthy and phase indicating lamps.				
	1 No.-H.T. Cable joint box suitable for 2R -3C x 70 sq.mm aluminium conductor XLPE cable, 11 KV (E)				
	1-set of IDMTL relay with 3 elements of O/C protection(50%-200%), instantaneous O/C protection (200%-800%) & 1 element of E/F protection (10%-40%).				
	1 no. U/V & O/V relay				
	1 no. Anti Pumping Relay				
	1 no. Trip Circuit supervision relay.				
	1 no. Negative phase sequence protection relay.				
	1 no. Master Trip relay.				
	1 no. 12 window Annunciation system for alarm & Trip status of relays, HT Breakers complete with acknowledgement & Reset Button.	Set	1		
1	Supplying of following Aluminum conductor, XLPE insulated & armoured and over all PVC sheathed, 11 KV (E) grade earthed cable as per technical specifications				
a.	3C x 70 sq.mm. XLPE insulated Al. Ar. Cable	RM	100		
2	11 kv HT Cable Laying & Termination				



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Bill of Quantities for Electrical Works

S. No.	Description	Unit	Qty.	Rate	Amount
3	Supplying and making indoor cable end jointing with cast resin compound, including lugs and other jointing materials, for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required :				
	Indoor Type				
a)	70 sq. mm	Each	2		
4	Supplying and making outdoor cable end jointing with cast resin compound, including lugs and other jointing materials, for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required :				
	Outdoor Type				
a)	70 sq. mm	Each	4		
	Laying of Cables				
5	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size in the existing masonry open duct as required.				
a)	Upto 120 sq. mm	Metre	100		
	TOTAL OF HT Power Cable WORK				
6	SUB HEAD-VI Transformer				
	Transformer - 250 KVA 11/0.433kva Out Door Oil Type				
1	Supplying/Receiving, Installation/Erection, Testing and Commissioning of 250 KVA ONAN, Copper wound 11/0.433 KV, 50 C/S, Delta star connected, Dyn11 vector group, Oil immersed Outdoor transformer with On Load circuit Tap changer for Voltage regulation from -10% to +15% in steps of 1.25% on HV side complete with AVR and RTCC panel, including Bucholtz relay, MOG, Oil & Winding temperature alarm and trip contacts with wiring upto marshalling box, and all standard accessories as required, complete with Cable End box suitable for 3RX3C x 70 sq.mm. 11 KV(UE) XLPE insulated Al. Ar. Cable at HT side and XLPE insulated Al. Busduct for LT side, including S/F of M.S. channel of size 100 x 50 x 6mm for foundation support for transformer, including Drying/filteration of oil of transformer and OLTC Enclosure. Connection with Tap Changing Mechanism and RTCC Panel etc. as per specification and drawing.				
	Supply Rate for Transformer as described above	SET	1		
7	SUB HEAD- VII - MV PANELS				
1	PCC PANEL				
	Design, Fabrication, Supply, Erection, Testing and commissioning of Powder coated Main Distribution Panel fabricated out of 14 guage CRCA sheet steel in cubical, compartmentallised, free standing floor /wall mounted, dust and vermin proof, with reinforcement of suitable size angle iron, channel, T -iron or flats as required. Cable gland plates shall be provided on top as well as bottom of the panels. Panels shall be treated with all anti-corrosive process before painting as per specification. Panels shall be suitable for 415V, 3-Phase, Four wire, 50 Hz supply complete with earth bus and lifting hooks as required in case of large panels. Approval shall be taken for each panel before fabrication. (All hardwares like nuts and bolts used shall be Galvanized and Zinc passivated)				
	MAIN L.T. Panel				
	INCOMER FROM TRANSFORMERS (1 Nos. 250 KVA Each)				
	Incomer from each transformer shall be provided with the following:				
	1 Sets of 630A TP+N MCCB 50kA With Thermal Magnetic Based Release (O/C, S/C) Protection with 110A TP Power contactor (AC-3 duty)				
	IDMTL Protection for S/C, O/C & E/f releases.				
	U/V & O/V protection				
	Trip circuit supervision relay				
	Master trip relay				
	The ACB shall be complete with 3nos. 600A/5A, 15VA, 5P10 CTs for protection .				
	METERING & INDICATION				
	1 set of phase indicating lamps				
	1 set of Voltmeter (0-500V) with VSS with 3 nos. 2A SP MCBs each				
	1 Nos. Load Analyser cum digital Multifunction Meter with 3 nos. 600/5A, CL-1 CTs, as required.				
	1 Set of Breaker ON-OFF-TRIP, Spring charged indication Lamps				
	1 no. of 600/5A, 15 VA, class-1 CTs for APFC relay dule				
	1 No. 400V AC/12V DC, 100VA SMPS (Rectifiers) with TP MCB of suitable rating & 2nos 6way terminal strip .				
	INCOMER FROM 250KVA DG SET (1 nos.)				
	Each Incomer from DG SET shall be provided with the following:				
	1 Sets of 630A TP+N MCCB 50kA With Thermal Magnetic Based Release (O/C, S/C) Protection with 110A TP Power contactor (AC-3 duty)				
	IDMTL Protection for S/C, O/C & E/f releases.				
	U/V & O/V protection				
	Trip circuit supervision relay				
	Master trip relay				
	Reverse power Protection.				



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S. No.	Description	Unit	Qty.	Rate	Amount
	The ACB shall be complete with 3nos. 600A/5A, 15VA, 5P10 CTs for protection.				
	Each Incomer from DG Set I shall be provided with the following:				
	METERING & INDICATION				
	1 sets of phase indicating lamps				
	1 sets of Voltmeter (0-500V) with VSS each with 3 nos. 2A SP MCBs each				
	1 Nos. digital Multifunction Meter with 3 nos. 600/5A, CL-1 CTs, as required				
	1 Sets of Breaker ON-OFF-TRIP, Spring charged indication Lamps				
	BUS BAR:-				
	1 Sets of 800 A, TPN Aluminum bus bars with colour coded sleeves.				
	INTERLOCKING.				
	Incomers from Transformer and Incomers from D.Gs. shall be electrically interlocked.				
	OUTGOINGS				
	2 Sets of 400A TP+N MCCB 50kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 110A TP Power contactor (AC-3 duty)				
	2 Sets of 160A TP+N MCCB 50kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 110A TP Power contactor (AC-3 duty)				
	2 Sets of 100A TP+N MCCB 50kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 110A TP Power contactor (AC-3 duty)				
	7 Nos.63 A FP MCCB				
	11 Nos.40 A FP MCCB				
	CAPACITOR PANEL65 kvar				
	Metering & Indication				
	1 set of phase indicating lamps				
	1 No. (0-500V) Digital Voltmeter with Built-in VSS with 3 nos. 6A SP MCB				
	1No. (0-100A) Digital Ammeter with ASS and 3 nos. 100/5A, CL 0.5, 10VA CTs'				
	1 No. 4 step dual sense APFCR relay				
	1 No. Selector switch for auto-off-manual.				
	BUS-BAR				
	1 Set of 160A TP Aluminum Bus Bar with colour coded PVC Sleeves (Heat Shrinkable sleeve)				
	OUTGOINGS				
	2 Sets of 63 A TP+N MCCB 50kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 45 A TP Power contactor (AC-3 duty)				
	1 Sets of 32 A TP+N MCCB 50kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 32 A TP Power contactor (AC-3 duty)				
	1 Sets of 25 A TP+N MCCB 50kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 16 A TP Power contactor (AC-3 duty)				
	2 Nos. 25 KVAR capacitors MPP TYPE NORMAL DUTY				
	1 Nos. 10 KVAR capacitors MPP TYPE NORMAL DUTY				
	1 Nos. 5 KVAR capacitors MPP TYPE NORMAL DUTY				
	4 Sets self Illuminated Red-Green (ON-OFF) and push buttons.				
	Supply of LT Panel as Described above	Set	1.00		
	Note: The vendor shall submit GA drawing for approval to consultant/client.				
	UTILITY PANEL				
	Fabrication, supply, installation, testing and commissioning of cubicle type floor Mounted Main Distribution Board panel made out of 16mm thick CRCA sheet including connection, inter-connection along with 4 strip aluminum bus bar as per CP WD specifications, (Part IV - Sub-station) and IS: 8623 comprising of followings panel mounting switchgears etc. as required. As per specification.				
	Incoming				
	1 Nos.400 Amps FP MCCB With thermal magnetic release for O/C, & S/C Protection.				
	Protection Instrument				
	1 Set of (0-400Amps) CT operated of Multi Functional three phase Digital Meter (LCD) display				
	One (1) Set of Phase Indication & ON/OFF Lamp with control Fuse.				
	Busbar				
	500 Amps TP&N aluminum conductor bus bar (BPTM type Heat-shrinkable busbar insulation)				
	OUTGOING				
	2 Sets of 160A TP+N MCCB 25kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 110A TP Power contactor (AC-3 duty)				
	4 Sets of 100A TP+N MCCB 25kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 110A TP Power contactor (AC-3 duty)				
	6 Sets of 63A TP+N MCCB 25kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 110A TP Power contactor (AC-3 duty)				
	2 Sets of 40A TP+N MCCB 25kA With Thermal Magnetic Based Release (O/C,S/C) Protection with 110A TP Power contactor (AC-3 duty)				
	Fourteen (14) Set of LED ON Indication Lamp with 6 A sp MCB.	Set	1		
	Note: The vendor shall submit GA drawing for approval to consultant/clint.				
	Total of Sub-Head - VII carried to summary sheet				



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Bill of Quantities for Electrical Works

S. No.	Description	Unit	Qty.	Rate	Amount
8	SUB HEAD-VIII : CABLE & END TERMINATIONS				
	Supply of MV cable				
1.0	Supply, following sizes of PVC sheathed PVC/XLPE insulated Aluminium conductor multicore control armoured cable of 1.1 KV grade.				
1.1	3.5C- 300 sq mm Aluminium	Metre	25		
1.2	3.5C- 185 sq mm Aluminium	Metre	250		
1.3	3.5C- 35 sq mm Aluminium	Metre	100		
1.5	4C- 25 sq mm Aluminium	Metre	100		
1.6	4C- 16 sq mm Aluminium	Metre	150		
1.7	4C- 10 sq mm Aluminium	Metre	150		
1.8	4C- 6 sq mm Aluminium	Metre	550		
2.0	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				
2.1	3.5C- 240 sq mm Aluminium	Each	2		
2.2	3.5C- 185 sq mm Aluminium	Each	6		
2.3	3.5C- 35 sq mm Aluminium	Each	2		
2.4	4C- 25 sq mm Aluminium	Each	6		
2.5	4C- 16 sq mm Aluminium	Each	8		
2.6	4C- 10 sq mm Aluminium	Each	18		
3.0	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required.				
3.1	Upto 35 sq. mm	Metre	950		
3.2	Above 35 sq. mm and upto 95 sq. mm	Metre	100		
3.3	Above 185 sq. mm and upto 400 sq. mm	Metre	275		
	Perforated trays				
4.1	Supplying and installing following size of perforated painted with powder coating M.S. cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.				
4.1.1	450 mm width X 50 mm depth X 2.0 mm thickness	Mtr	100		
4.1.2	150 mm width X 50 mm depth X 1.6 mm thickness	Mtr	250		
	Total of Sub-Head - VI Carried to summary sheet				
9	SUB HEAD-IX :EARTHING SYSTEM				
1	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc. with charcoal/ coke and salt as required.	Set	10		
2	Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe from earth electrode including connection with G.I. nut, bolt, spring, washer excavation and re-filling etc. as required.	RM	115		
3	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required	RM	350		
4	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc. with charcoal/ coke and salt as required.	Set	4.00		
5	Providing and fixing 25 mm X 5 mm copper strip in 40 mm dia G.I. pipe from earth electrode including connection with brass	RM	50		
6	Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.	RM	100		
	Total of Sub-Head - VII carried to summary sheet			*	



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Bill of Quantities for Electrical Works					
S. No.	Description	Unit	Qty.	Rate	Amount
10	SUB HEAD-X EXTERNAL LIGHTING WORK				
1	FEEDER PILLAR-1				
	Design, manufacturer, supply, testing and commissioning of approx size 1200 mm heightx1000mm wide x 450mm deep of 2.5mm thick sheet metal enclosure, powder coated, weather proof, double door type feeder pillar with godown lock and padlock complete with interconnection with copper wires, LED indicating lights, providing holes for the glands. The base frame shall have angle iron of 50mm x 50mm x6mm of size 1000mm x 450mm with 600mm long legs of MS angle and coverage of underground cable under feeder pillar with 2.5 mm thick sheet, 450mm in width all round the base frame including grouting the feeder pillar in 1:4:8 cement concrete complete as required. Feeder Pillar shall be suitable for 415V, 3-Phase, Four wire, 50 Hz supply complete with earth bus and lifting hooks as required. Approval shall be taken for each panel before fabrication. (All hardwares like nuts and bolts used shall be Galvanized and Zinc passivated)				
	Feeder Pillar-1				
	INCOMER				
	1No. 63 A TPN MCCB				
	Protection Instrument				
	One (1) Nos. (0-500V) 96 x 96 Sq.mm voltmeter with control Fuse & selector switch.				
	1 Set of (0-60 Amps) 96 x 96mm CT operated Ammeter with 3 way selector switch and 60 /5A, CL-1, 10VA CT.				
	One (1) Set of Phase Indication & ON/OFF Lamp with 2A Fuse.				
	1 Nos.TIMER suitable for 24Hrs. Setting with Auto/Manual Selector switch				
	1 No. 25A TP CONTRACTOR				
	BUS-BAR				
	1 Set of 100A TPN Aluminium Bus Bar with colour coded PVC Sleeves (Heat Shrinkable sleeve)				
	OUTGOINGS				
	8 No. 20 A DP MCB				
	Feeder pillar-1 as described above	No.	1		



Bill of Quantities for Electrical Works					
S. No.	Description	Unit	Qty.	Rate	Amount
	All live accessible parts shall be shrouded and all equipment shall be finger touch proof. The busbar insulation shall be with heat shrinkable sleeves. SMC/DMC shrouds and busbar supports shall be used. Padlocking facility shall be provided.				
	The feeder pillar shall be complete with all interconnections, risers, internal wiring, labels etc.				
2	Providing, laying and fixing following dia G.I. pipe (medium class) in ground complete with G.I. fittings including trenching (75 cm deep) and re-filling etc as required				
2.1.1	50 mm dia	EACH	4		
2.3	Supplying and embedding following dia G.I. pipe (medium class) in pole collar/ foundation (during casting) for cable entry including bending the pipe to the required shape complete as required.				
2.3.1	32 mm dia.	Meter	18		
3	Light Fixture				
3.1	Supplying and fixing street light with high power LED of 1 to 3 W each assembled on single MCPCB, system lumens output with efficacy>90 lm/W. luminaire having color temp 6500K & 50000 burning hrs life with minimum @ L 70, The colour rendering index of LED light should be more than 70. Luminaire comprises of driver, PF 0.95 & surge protection 3KV. Housing made of pressure die cast aluminium with heat resistant flat glass / Lens type, IP65 protection. Submission LM 80-08 Form LED Source Manufacturer & LM79-08 / IS16106 from NABL approved lab. Manufacturer mandatory i/c 50mm.dia G.I. Pipe bracket upto 2 mtr. long in required angle/shape, connection lead, testing etc to complete the job. 2 Yrs Guarantee certificate from manufacturer. Havells ref cat : ENDURAPEARLPLUSL60WLED757SASYTOPC approved as equivalent.	Each	18.00		
3.2	Supplying, fixing & testing of approved Supplying and fixing integral post top lantern LED fitting comprises of copper dust finish cast aluminium spigot and spun aluminium canopy fixed with opal polycarbonate, pipe arrangement for vertical mounting, open construction driver and accessories are wired up to terminal block. LED of 1 to 3 W each assembled on single MCPCB, having color temp 6500K & having 50000 burning hrs life with minimum @ L 70, system lumen output should be minimum with efficacy>80lm/W. LED driver PF 0.95 & surge protection 2KV. The colour rendering index of LED light should be more than 70. Submission LM 80-08 Form LED Source Manufacturer & LM79-08 / IS16106 from NABL approved lab. Manufacturer mandatory. i/c connection wire, testing etc. to complete the job. 2 Yrs Guarantee certificate from manufacturer. Havells ref cat : CORALPT25WLED757PSYMTOPC approved as equivalent.	Each	4.00		
4	CABLE				
4.1	Supply, laying, testing and commissioning of 1100 Volt grade XLPE insulated aluminium conductor armoured cables including the cost of providing required gap between adjacent cables (minimum one cable dia.) and including the cost of providing identification tags etc. complete as per specification, as required.				
4.1.1	3 core, 10 sq. mm XLPE/PVC insulated PVC sheathed (Heavy duty) armoured electric	RM	450		
	Cable termination :				
4.2	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				
4.2.1	3X 10 sq. mm (19mm)	Nos.	36		
4.3	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required.				
4.3.1	3 x 2.5 sq. mm	RM	150		
	Notes :				
1	The cable quantities given are approximate and to cover various sizes. The contractor shall measure the cables required and procurement order shall be placed accordingly. The quantities shall be confirmed before start of work.				
2	Single Compression glands to be used for internal area, while double compression cable glands to be used for outdoor installation.				
4.4	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required.				
4.4.1	Upto 35 sq. mm	RM	450.00		
	Hume Pipe:				
4.5	Providing, laying and fixing following dia RCC pipe NP2 class (light duty) in ground complete with RCC collars, jointing with cement mortar 1:2 (1 cement : 2 fine sand) including trenching (75 cm deep) and refilling etc as required				
4.5.1	100 mm dia	RM	15		
	EARTHING SYSTEM				



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5.1	Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required	Set	2		
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Bill of Quantities for Electrical Works					
S. No.	Description	Unit	Qty.	Rate	Amount
5.2	Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe from earth electrode including connection with G.I. nut, bolt, spring, washer excavation and re-filling etc. as required.	RM	10		
	TOTAL				

Specifications & BoQ of Fire Fighting System

Sr. No.	Description of Items	Unit	Qty	Rate (Per Unit)	Amount
A	SUB HEAD -I (PUMP ROOM)				
1	Supplying Installation, testing and Commissioning of electric driven main fire pump suitable for automatic operation and consisting of following Complete in all respect as required.				
a)	Horizontal type, centrifugal pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal to ensure a minimum pressure of 3.5 kg/sq.cm. at highest and farthest outlet at specified flow of 2280 LPM and 60 Metres head conforming to IS 1520.				
b)	Suitable HP Squirrel cage induction motor, TEFC, synchronous speed 2900 RPM, suitable for operation on 415 volts, 3 phase 50 Hz. AC with IP 55 protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS-325.				
c)	M.S. fabricated Common base plate coupling, coupling guard, foundation bolts etc. as required.				
d)	Suitable Cement Concrete foundation with cement concrete plaster as per manufacturers design, complete with anti-vibration arrangement.	Sets	1		
2	Supplying, Installation, Testing and Commissioning of diesel engine driven main fire pump suitable for automatic operation and consisting of following : complete in all respect as required.				
a)	Horizontal type, centrifugal, pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal to ensure a minimum pressure of 3.5 kg/sq.cm. at highest and farthest outlet at specified flow of 2280 LPM at outlet head 60 Metres conforming to IS 1520.				
b)	Suitable HP 1800 RPM diesel engine conforming to BS :649/IS:1601/IS:10002 all amended upto date, continuous duty, multi cylinders vertical 4 stroke cycle water cooled, developing suitable BHP at operating speed specified to drive the fire pump capable of driving continuous non-stop operation for 2 hours.				



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c)	Common bed plate fabricated out of MS channel of suitable size for assembling the Pump and the Engine, flexible coupling and with coupling guard for protection/safety.				
d)	Making cement concrete foundation of 1:2:4 ratio (1 Cement: 2 coarse sand : 4 graded stone aggregate 40 mm nominal size) duly plastered suitable for Diesel engine pump set including vibration isolation by providing cushy foot mount pads as necessary, foundation bolts, brackets, clamps, fixtures, grouting etc, in accordance with manufacturer's design etc.as per specification complete as reqd.	Set	1		
3	Supplying, Installation, Testing and Commissioning of electric driven pressurisation pump suitable for automatic operation and consisting of following: complete in all respect as required.				
a)	Horizontal end suction, centrifugal pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal and flow of 180 LPM at 60 metre head conforming to IS:1520.				
b)	Suitable HP 2900 RPM SQ cage induction motor TEFC, synchronous speed 2900 RPM, suitable for operation on 415 volts, 3 phase 50 HZ. AC with IP 55 class of protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS : 325.				
c)	Suitable CC foundation of 1:2:4 ratio (1 Cement: 2 coarse sand : 4 graded stone aggregate 40 mm nominal size) duly plastered and with anti vibration pads.	Set	1		
4	Fabricating, Supplying, Installation, Testing and Commissioning Air Vessel of continuous welded construction with flanged discharge header in pump house fabricated out of 10 mm thick MS sheet, Air Release Valve, complete with drain arrangement with 25 mm dia gun metal ball valve complete with all accessories etc. as required of the following sizes				
5	2 Meter high and 450 mm dia suitable to operate Jockey Pump, Main Fire Pump & Diesel Engine Driven Fire Pump complete with all pressure switches as per specifications as reqd.	Nos.	1		
6	Providing and Fixing of "C" class grade MS Pipe IS:1239 (part-I) with special accessories such as tees, elbow, flanges, rubber insertion, nut and bolts, welded joints with suitable iron, clamps, brackets etc., painting of Two coats of Primer & One coat of Red Paint				
a)	200mm dia	Mtr	12		
b)	150 mm dia	Mtr	42		
c)	80mm dia	Mtr	12		
d)	25 mm dia	Mtr	6		
7	Providing, fixing, testing & commissioning of CI Butterfly Valve (suitable for test pressure of 15 kg / sqcm) with flanges, nut bolts, gaskets, painting and necessary pad locking arrangement complete required.				



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a)	80mm	Each	2		
b)	150mm	Each	6		
8	Providing, fixing, testing and commissioning of C.I. Slim Seal wafer type Non- Return Valve (As per IS:5312) of pressure 15 Kg/sq.cm with flanges, Nut, bolts & washers, painting etc. complete as required.				
a)	80 mm dia	Each	1		
b)	150mm	Each	3		
9	Fabricating, supplying, installation, testing and commissioning of electrical control panel of cubical construction, floor mounted type , fabricated from 2 mm thick CRCA sheet compartmentalised with hinged lockable doors, dust and vermin proof, powder coated of approved shade after 7 tank treatment process, cable alley,inter connection, having switchgears and accessories mounting and internal wiring, earth terminals numbering etc complete in all respect ,suitable for operation on 415 V ,3 phase,50 Hz AC supply with enclosure protection class IP 42 as reqd				
	PANEL IN FIRE PUMP HOUSE	Each	1		
10	Providing & Fixing Pressure switch in the M.S Pipe Line including connection etc. as required.	Nos.	1		
11	Supplying and Laying of PVC 1.1 KV grade armoured U.G. Cable of following sizes on surface/in existing cable tray suitably clamped as required.				
a	3 x 70 Sqmm (aluminium conductor)	Mtrs.	12		
b	3 x 10 Sq mm (aluminium conductor)	Mtrs.	6		
c	2 x 1.5 Sq mm (Copper conductor)	Mtrs.	30		
12	Supplying and making end termination with brass compression gland and Al. lugs for following sizes of PVC insulated, PVC sheathed/ XLPE Al. conductor cables of 1.1 KV grade as required.				
a	3 x 70 Sqmm	Sets	4		
b	3 x 10 Sq mm (For Copper conductor)	Sets	2		
13	Suppling and fixing following sizes of perforated pre-painted M.S cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts and nuts, painting suspenders etc as required.				
a	150 mm.	Mtrs.	12		
b	50 mm	Mtrs.	6		
14	Providing and fixing 25 mm x 5 mm G.I.Strip in on surface or in recess for loop earthing complete etc. as required.	Mtrs.	70		



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15	Providing, fixing, testing and commissioning 100 mm dia pressure gauge of range 0 -015 Kg / sqcm conforming to IS - 3624 having bourdon tube of stain steel 310 in cast aluminium, stove enamelled, black, weather proof case with outer, screwed aluminium bezel and complete with necessary U-type stainlesssteel siphon tube and cock complete as required.	Nos	3		
16	Providing and fixing metallic expansion bellows vibration eliminators with flange suitable for raw water upto 45 deg. C. temperature working pressure 7 kg/ sq.cm and test pressure 14 kg/sq.cm.				
a	80mm dia	Each	1		
b	150 mm dia	Each	4		
3	Suplying, installing, testing and commissioning of following dia Y Strainer of ductile body flanged with stainless steel strainer as required.				
3.1	150 mm dia	Each	2		
SUB HEAD -II (Hydrants, Piping & Accessories)					
1	Providing and fixing M.S Pipe to I.S. 1239 (Heavy class) complete with all fittings like, unions, couplings, bends, elbows, tees, offsets, reducers, flanges as per table 'E' etc. to complete the work as per the requirement at site including painting with two coats of synthetic enamel paint, over the two or more coats of red oxide, upto the satisfaction of engineer in charge, cutting and making good the walls good complete				
a	150 mm dia	Metre	130		
b	80 mm dia	Metre	60		
c	65 mm dia	Metre	12		
2	Providing and Fixing of 4 mm thick wrapping coating for under ground pipe for road crossing.				
a	80 mm dia	RM	10		
3	Supplying of Butterfly valves of PN 1.6rating of following sizes with EPDM rubber lining seat and CF-8 stainless steel disc duly ISI marked and stainless steel stem with lever operation and cast iron body in powder coated finish for fire fighting application complete in all respects confirming to IS: 13095 as required.				
a	150mm dia	Nos.	8		
b	80 mm dia	Nos.	9		
4	Supplying and fixing Single Headed Internal Hydrant Valve oblique pattern with instantaneous Stainless Steel coupling of 63 mm dia with cast iron wheel ISI marked, conforming to IS : 5290 (Type A), with 80 mm dia flanged inlet, with ABS cap and chain complete with all accessories etc. as required.	Nos.	8		



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5	Supply, Installation, Testing and Commissioning 63 mm dia. 15 Mtr. Long RRL hose pipe with 63 mm dia. male and female stainless steel couplings duly binded with GI wire rivets etc. ISI marked, IS 636 (type-A) as required.	Nos.	8		
6	Supplying and fixing 4 way fire brigade connection of cast iron body with 4 nos. Stainless steel male instantaneous inlet couplings complete with cap and chain as required	No.	2		
7	Providing,fixing,testing and commissioning of one number Stainless steel fire brigade section hose coupling (Fire brigade withdrawal connection) i/c foot valve in the bottom etc. as per specification complete as required. (M.S pipe of 100 mm dia will be paid in pipe item.	Nos.	1		
8	Providing and fixing flow switches in 100/150mm dia M.S Pipe as required.	Nos.	3		
9	Providing & Fixing testing & commissioning of installation control valve of cast iron body and brass/bronze working parts comprising of water motor alarm. Bronze seat clapper, and clapper arm, hydraulically driven mechanical gong bell to sound continuous alarm when the Wet riser/ sprinkler System activates, pressure gauges, emergency release, strainer, pressure switch, cock valve complete with drain valve and bypass, test control box, ball valves, MS pipe of required size m flanges, orifice plate, gasket etc. of size 150mm dia as required.	Nos.	1		
10	Supplying, Installation, Testing and Commissioning of standard Fire Man's axe with heavy insulated rubber conforming to IS : 926	Each	4		
11	Supplying, installation, testing and commissioning of M.S cabinet size 750 mm x 600 mm x 250mm deep fabricated from 1.6mm thick complete with glass, locking arrangements.	Each	8		
SUB HEAD - III (FIRE EXTINGUISHERS & MISC)					
1	Providing and fixing with bracket/supports etc. wall mounted fire extinguishers as per detail below:				
1.1	Providing and fixing ABC type extinguishers consisting of welded M.S. cylindrical body, squeeze lever discharge valve 30 cms long high pressure discharge hose, discharge nozzle, suspension bracket, ISI marked as per IS:15683 finished externally with red enamel paint and fixed to wall with brackets complete with internal charges.	Each	6		
	Capacity 6 lit.				
1.2	Providing and fixing CO2 extinguisher consisting of seamless MS cylindrical body squeeze lever discharge valve, internal discharge tube, 30 cms long high pressure discharge hose, discharge nozzle ISI marked as per IS:15683 including fixing with dash fasteners etc. complete.	Each	2		



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	Capacity 4.5 Kg				
1.3	Providing and fixing mechanical foam type (ISI marked) fire extinguishers consisting of welded M.S. cylindrical body squeeze lever discharge valve 30 cm long high pressure discharge hose, discharge nozzle suspension bracket as per IS:15683 marked finished externally with red enamel paint and fixed to wall with brackets complete with internal charger.	Each	2		
	Capacity 50 lit.				
	SUB HEAD - IV (MISC.)				
1	Providing and fixing Manual Call Point	Each	3		
2	Providing and fixing Sounder .	Each	1		
3	Providing and fixing 4 zone apnel.	Each	1		
4	Supplying and Laying of PVC 1.1 KV grade armoured U.G. Cable of following sizes on surface/in existing cable tray suitably clamped as required.				
a	2 x 1.5 Sq mm (Copper conductor)	Mtrs.	450		

Authorized signatory
(with stamp)



ANNEXURE-5

FORMAT FOR NON REFUNDABLE SECURITY DEPOSIT/BANK GUARANTEE

(The Bank Guarantee shall either be from State Bank of India or any other Nationalized Bank or other Scheduled Commercial Banks with branches located in New Delhi only on non-judicial stamp paper of appropriate value)

BANK GUARANTEE NO. dated

This Deed of Guarantee executed at by (Name of Bank) having its Head / Registered office at (hereinafter referred to as "the Guarantor") which expression shall unless it be repugnant to the subject or context thereof include its successors and assigns;

In favour of General Manager, FIFA / FOF National Agricultural Cooperative Marketing Federation of India Ltd. (NAFED), NAFED House, Siddhartha Enclave Ashram Chowk, Ring Road New Delhi-110014 which expression shall unless it be repugnant to the subject or context thereof include its successors and assigns;

WHEREAS: -

1. Nafed, with a view to augment its income through non-operating revenue, had earlier invited tender for "allotment of contract for Supply, Erection & Commissioning of Honey Processing Plant & Auxiliary Machinery along with Utility Equipments, Piping & Systems including Civil Works at designated plots of Land allotted by NAFED
2. The Contractor shall setup, commission and handover the Unit as specified in this agreement at cost mentioned in the agreement.
3. Nafed has agreed to provide to the Contractor the Plot (as per annexure 1) on "as is where is basis", on the terms and conditions contained in the agreement for the Project to be completed earlier or extended further as per agreement.
4. This implementation and handing over period is 6 months from the date of Letter of acceptance (LOA) and may be extended on the basis of site conditions and work performance as deemed necessary by Nafed.
5. The tender offer submitted by M/s _____ having their registered office at _____ has been accepted by Nafed vide LOA No. _____ dated _____.
6. As per the terms of the above mentioned LOA, the Contractor has to Supply, Erect & Commission the Honey Processing Plant & Auxiliary Machinery along with Utility Equipments, Piping & Systems including Civil Works as per terms of the Bid invited by Nafed and the agreement on the said plot during the defined period.
7. The Contractor shall also: -
 - i. bear and pay all expenses, costs and charges incurred in the fulfillment of all its obligations under the agreement; and
 - ii. not assign or create any lien or encumbrance on the Plot of Land hereby allotted for setting up the Project or on the whole or any part of the Project Facility nor transfer,



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lease/ or part possession therewith save and except as expressly permitted by the agreement.

8. The Contractor is required to furnish an unconditional irrevocable Bank Guarantee for an amount of Rs. _____ (Rupees _____ only) i.e. valid for period of 6 months as per provisions of the agreement, as security for the performance and fulfillment of all its responsibilities and obligations as per the agreement. The Contractor has requested the Guarantor to issue the said Bank Guarantee in favour of Nafed, New Delhi
10. Now, therefore at the request of the Contractor, the Guarantor has agreed to execute this Guarantee in favour of Nafed for the due payment of Rs. _____ (Rupees _____ only) valid till _____.

NOW, THEREFORE, THIS BANK GUARANTEE WITNESSETH AS FOLLOWS: -

- a) The Guarantor, as primary obligor shall, without demur, reservation, contest, recourse or protest and/or without reference to Contractor, pay to Nafed an amount not exceeding Rs. _____ (Rupees _____ only), on the same working day of receipt of a written demand from Nafed, calling upon the Guarantor to pay the said amount and stating that the Bank Guarantee provided by the Contractor has been forfeited.
- b) The Guarantor agrees that Nafed shall be the sole judge to decide as to whether the Contractor has defaulted in the performance of its obligations as per the agreement, and the decision of Nafed in this regard shall be final and binding on the Guarantor, notwithstanding any differences in this regard between Nafed and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other Authority.
- c) Any such demand made on the Guarantor by Nafed shall be conclusive, absolute, final and binding on the Guarantor, and the amount due and payable by the Guarantor under this Guarantee will be honored by the Guarantor, simply on demand, without demur, reservation, contest, protest, recourse whatsoever and without need for ascribing any reason to the demand. The liability of the Guarantor under this guarantee is absolute and unequivocal. The above payment shall be made without any reference to the Contractor or any other person.
- d) This Guarantee shall be irrevocable, valid and remain in full force till the end of the execution Period, or for such extended period as may be mutually agreed between Nafed and the Contractor, and shall continue to be enforceable till all amounts under this Guarantee are paid. The said Guarantee shall be released by Nafed after the expiry of the execution Period subject to fulfillment of all handover requirements by the Contractor, to the satisfaction of Nafed and further subject to adjustment for all damages suffered by Nafed
- e) This Guarantee is unconditional and irrevocable till such time Nafed discharges this guarantee by issuing a letter to the Guarantor in this behalf.
- f) The Guarantor undertakes to pay the amount mentioned herein as principal debtor and not a surety and it shall not be necessary for Nafed to proceed against the Contractor before proceeding against the Guarantor, notwithstanding the fact that Nafed may have obtained or obtains from the Contractor, any other security which at the time when proceedings are taken against the Guarantor hereunder, is outstanding and unrealized.



- g) The obligations of the Guarantor shall not be affected by any variations in the terms and conditions of the agreement or other documents or by extension of time of performance of any obligations granted to the Contractor or postponement / non-exercise / delayed exercise of any of its rights by Nafed against the Contractor or any indulgence shown by Nafed to the Contractor, and, the Guarantor shall not be relieved from its obligations under this Bank Guarantee on account of any such variation, extension, postponement, non exercise, delayed exercise or omission on the part of Nafed or any indulgence by Nafed to the Contractor to give such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving the Guarantor.
- h) The Guarantee shall not be affected by any change in the constitution or winding up of the Contractor/the Guarantor or any absorption, merger or amalgamation of the Contractor / the Guarantor with any other person.
- i) The Bank agrees that Nafed at its option shall be entitled to enforce this guarantee during its currency against the bank as a Principal Debtor in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee that Nafed may have in relation to Contractor's liabilities.
- j) The guarantee hereinbefore contained shall not be affected by any change in the constitution of the Bank or of the Contractor.
- k) The expressions "Bank" and "Contractor" hereinbefore used shall include their respective successors and assigns. l) The Courts at Delhi shall have exclusive jurisdiction to adjudicate on any or all matter arising under this Guarantee. m) The Guarantor declares that it has power to issue this Guarantee and discharge the obligations contemplated herein and the undersigned is duly authorized to execute this Guarantee. n) This guarantee shall come into effect forthwith and shall remain in force up to or the extended period if any and shall not be revoked by the Guarantor at any time without Nafed's prior consent in writing. This Guarantee is valid for a period of _____ Months from the date of signing.

[The initial period for which this Guarantee will be valid must be for at least for six months from the date of Agreement.]

IN WITNESS WHEREOF THE GUARANTOR HAS EXECUTED THIS GUARANTEE ON THE DAY, MONTH AND YEAR FIRST ABOVE MENTIONED THROUGH ITS DULY AUTHORISED REPRESENTATIVE.

For and on behalf of the _____ Bank.

Signature of authorized Bank official

Name: _____

Designation: _____

I.D. No.: _____

Stamp/Seal of the Bank: _____

Signed, Sealed and Delivered for and on behalf of the Bank by the above named

In the presence of:

Witness-1

Signature _____

Name _____

Address _____

Witness-2

Signature _____

Name _____

Address _____