Construction of Phase A works at Jawahar Navodaya Vidyalaya (JNV) at Tufanganj, District Cooch Behar, West Bengal (WB)

comprising

School Buildings, Girls & Boys Hostels, Warden Residences, Principal Residence, Vice - Principal Residence, Kitchen & Dining, Type III Quarters, Type II Quarters, Guest House, Sub Station Building, Pump House, Sentry Booth, including Site Development and Bulk Services

Tender Documents

VOLUME-I

Notice Inviting Tender, Instruction to Bidders (ITB), Annexures, General Conditions of Contract (GCC), Additional Conditions of Contract, Project Execution & Supervision Aspects, Contract Management Framework & Completion Schedule, Safety Code, Safety with Scaffolding, Model Rules, Contractor's Labour Regulations, Schedule of Quantities

Project Management Consultant:

WAPCOS LIMITED
76-C, Institutional Area, Sector-18, Gurgaon,
Haryana-122015

July, 2023

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DISCLAIMER

WAPCOS Limited has prepared this document as Project Management Consultant (PMC) on behalf of Navodaya Vidyalaya Samiti (NVS) to give information on the Project to the interested Bidder. The information is provided to Bidders on the terms and conditions set out in this document and any other terms and conditions subject to which such information is provided.

The purpose of this document is to provide Bidders with information to assist the formulation of their bid. The information is not intended to be exhaustive. Bidders are required to make their own inquiries and respondents will be required to confirm in writing that they have done so and they do not rely solely on the information in the document.

The information is provided on the basis that it is non-binding on NVS or WAPCOS Limited, any of its authorities or agencies or subsidiaries or any of their respective officers, employees, agents or advisors.

NVS and WAPCOS Limited reserve the right to not proceed with the Project or to change the configuration of the Project, to alter the timetable reflected in this document or to change the process or procedure to be applied. It also reserves the right to decline to discuss the Project further with any party submitting the Bid.

While WAPCOS Limited and NVS have taken due care in the preparation of the information contained herein and believe it to be accurate, neither NVS nor WAPCOS Limited, any of its authorities or agencies nor any of their respective officers, employees, agents or advisors gives any warranty or make any representations, express or implied as to the completeness or accuracy of the information contained in this document or any information which may be provided in association with it.

Section-I
Notice Inviting Tender (NIT)

Section-I: Notice Inviting Tender (NIT)

WAPCOS Limited, as a Project Management Consultant on behalf of Navodaya Vidyalaya Samiti (NVS), invites open online Percentage Rate (Single Percentage Basis) tender from experienced, competent and eligible Contractors in a two-envelope system for the below mentioned work:

Tender No.	**WAP/CMU - II/NVS/JNV/Cooch Behar/2023/21**
Tender Name	**Construction of Phase A works at Jawahar Navodaya Vidyalaya (JNV) at Tufanganj, District Cooch Behar, West Bengal (WB)**
Tender Invitation date	**06th July, 2023**
Name of Work	Construction of Phase A works at Jawahar Navodaya Vidyalaya (JNV) at Tufanganj, District Cooch Behar, West Bengal (WB) comprising of School Buildings, Girls & Boys Hostels, Warden Residences, Principal Residence, Vice - Principal Residence, Kitchen & Dining, Type III Quarters, Type II Quarters, Guest House, Sub Station Building, Pump House, Sentry Booth, including Site Development and Bulk Services
Owner	Navodaya Vidyalaya Samiti (NVS)
Joint Venture	Joint Ventures / Consortia of firms shall not be allowed
Time limit for Completion of Work	***18 Months***
Brief Scope of Work	Construction of Phase A works at Jawahar Navodaya Vidyalaya (JNV) at Tufanganj, District Cooch Behar, West Bengal (WB) comprising of School Buildings, Girls & Boys Hostels, Warden Residences, Principal Residence, Vice - Principal Residence, Kitchen & Dining, Type III Quarters, Type II Quarters, Guest House, Sub Station Building, Pump House, Sentry Booth, including internal water supply, sanitary installation, drainage and providing electrical installations, street lighting & fire extinguishers, footpaths, kerbs and road protection, land protection with retaining walls, Boundary wall etc. as per the relevant architectural, structural and other details as outlined in bidding document.
Estimated Cost of Project	Estimated Cost of the Project shall be **Rs. 47,97,89,511.68/-** (Inclusive of GST, which shall be payable extra as per prevailing rates) All project costs are based on Delhi Schedule Rates 2021, Delhi Schedule of Rates (E&M)-2022 with applicable cost index as on 01.04.2022 and Market rates for non-DSR items
Tender Processing Fee	***Rs. 30,600/-*** **(*Rupees Thirty Thousand and Six Hundred Only*) as Tender Processing Fee**
Earnest Money Deposit (EMD)	Rs. 57.98 Lakhs (Refundable) in the form of RTGS/NEFT/D.D./Banker's cheque/ Insurance Surety Bonds/ FDR in favor of 'WAPCOS Limited' payable at Gurugram, Haryana. OR A part of earnest money is acceptable in the form of bank guarantee also. In such Rs. 30 lakhs have to be deposited in form RTGS/NEFT/DD/ Banker's Cheque/FDR and balance Rs. 27.98 Lakhs can be accepted in form of bank Guarantee in prescribed format issued by a scheduled bank

	which shall remain valid up to one year from date of submission of tender including extensions, if any. The bank account as per details: Name of Bank: Indian Overseas Bank Bank Account Number: 193502000000290 IFSC Code: IOBA0001935 Branch Name: National Horticulture Board (NHB) Building, G-85, Industrial Area, Sector-18, Gurugram-122015, Haryana
Solvency Certificate	**Rs. 19.19 Crore** (Rupees Nineteen Crore and Nineteen Lakh only) in original from a Nationalized/ Scheduled Commercial Bank approved by Reserve Bank of India (RBI). The Certificate should be issued between the publishing of NIT & last date of submission of Bids, including extensions if any and shall be addressed to the tendering authority quoting the name of the work.
Bid Validity	180 days from the date of submission of Bid
Tender Download start date	06.07.2023
Pre-Bid Meeting	On 13.07.2023 at 14:00 hours at WAPCOS Limited, Gurugram
Start date of Submission of Tender	14.07.2023 from 11:00 hours
Last date of Online Submission of Bid	By 26.07.2023 by 14:00 Hours
Date & Time of opening of Bid	27.07.2023 at 15:00 Hours

The bidding document can be downloaded from the website: www.wapcos.co.in, https://etenders.gov.in/eprocure/app. The tenders shall be uploaded on https://etenders.gov.in/eprocure/app. Further, any information or any issuance of corrigendum/addendum/amendment related to this tender will be available only on the website mentioned above and not be published elsewhere.

The technical bid shall be uploaded on the e-tendering portal on or before the last date of submission of tender. The Bidders must read all the terms and conditions of bidding document carefully and only submit the bid if eligible and in possession of all the documents required. The Bidder must ensure that the quoted rate shall be inclusive of all indirect costs such as (and not limited to) Logistics, Accommodation, TA/DA of personnel, Communication, Documentation, Transportation, Travel, Insurance, and other necessary and relevant taxes.

In case the office of WAPCOS Limited, Gurgaon happens to be closed on the last date and time mentioned for any of the event such as opening of technical and financial bids, the said event shall take place on the next working day at the same time and venue.

s/d
(Additional Chief Engineer)
WAPCOS Limited

Section-II
Instructions to Bidders (ITB)

Section-II - Instructions to Bidders (ITB)

2.1 Introduction

WAPCOS Limited, as Project Management Consultant on behalf of Navodaya Vidyalaya Samiti (NVS), Ministry of Education, Govt. of India invites percentage rate bid from interested Bidders for the "Construction of Phase A works at Jawahar Navodaya Vidyalaya (JNV) at Tufanganj, District Cooch Behar, West Bengal (WB)", herein after referred to as the Project.

The successful Bidder shall be expected to complete the works by the intended completion date specified in the Contract.

Throughout these bidding documents, the terms 'Bid' and 'Tender' and their derivatives (Bidder/ Tenderer, Bid/ Tender, Bidding/ Tendering, etc.) are synonymous.

The Bidder shall provide a preliminary description of the proposed work method and schedules for both locations separately. The proposed methodology should include programme of construction backed with equipment planning and deployment duly supported with broad calculations and quality assurance procedures proposed to be adopted justifying their capability of execution and completion of work as per technical specifications, within stipulated period of completion.

2.2 Scope of Work

2.2.1 General

The scope of work covered in this tender shall be as per the Schedule of Quantities, specifications, drawings, instructions, orders issued to the Contractor from time to time during the entire period of work. The broad items of work covered are as listed but not limited to the following:

Construction comprising of School Buildings, Girls & Boys Hostels, Warden Residences, Principal Residence, Vice - Principal Residence, Kitchen & Dining, Type III Quarters, Type II Quarters, Guest House, Sub Station Building, Pump House, Sentry Booth, including internal water supply, sanitary installation, drainage and providing electrical installations, street lighting & fire extinguishers, footpaths, kerbs and road protection, land protection with retaining walls, Boundary wall as per the relevant architectural, structural and other details as defined in the tender documents. The Contractor shall create land protection work through retaining walls to protect the different levels of site, as applicable.

The detail Topographical Survey work of entire site has already been carried out. However, Contractor/Bidder shall do site detail survey at his own cost to verify the survey data and demarcation of site as provided in the tender. The Contractor shall do the site survey as per the approved Master Layout Plan, Drawings and scope of work to ensure the proper demarcation of the land before start of the execution & related activities in consultation with JNV/NVS officials. In case, any deviation in the approved area/boundary line, the approval of revised MLP with reference to actual available land area/boundary shall be

obtained by WAPCOS / NVS. In any case, WAPCOS shall be informed regarding final position of buildings at site including site development plan, contour level, etc. before commencement of building works. No claim of Contractor in respect of discrepancy in topographical survey /levels shall be entertained.

The contractor shall be responsible to obtain all statutory and local bodies' approvals/clearances to start the construction works, occupy and commission the buildings, preparation of As-Built drawings, pre
paration of completion report including all repairs, if any, during Defect Liability Period.

The drawings for this work, which may be referred for tendering, provide a general idea only about the work to be performed under the scope of this Contract. These may not be the final drawings and may not indicate the full range of the work under the scope of this Contract.

The work shall be executed according to the drawings to be released as "GOOD FOR CONSTRUCTION" from time to time by the Engineer-in-Charge of the Employer and according to any additions/ modifications/ alterations/ deletions made from time to time, as required by any other drawings that would be issued to the Contractor progressively during execution of work. It shall be the responsibility of the Contractor to incorporate the changes that may be in the scope of work, envisaged at the time of tendering and as actually required to be executed.

The quantities of various items as mentioned in the "SCHEDULE OF QUANTITIES" are indicative only and may vary depending upon the actual requirement. The Schedule of Quantities are mentioned separately for both the locations. The Contractor shall be bound to carry out and complete the stipulated work irrespective of the variation in individual items specified in the Schedule of Quantities. The variation of quantities shall be governed as per Clause-12 of Section IV of Volume - I.

All Drawings (except Bar Bending Schedule, Shop & Fabrication Drawings) for all works shall be supplied to the Contractor for all buildings services and development works by the Employer in phased manner as the works progress. However, it shall be the duty and responsibility of the Contractor to bring to the notice of the Employer in writing as to any variation, discrepancy or any other changes required and to obtain revised drawings and designs and / or approval of the Employer in writing for the same.

One copy of contract documents including Drawings furnished to the Contractor shall be kept at the Site and the same shall at all reasonable times be available for inspection.

Contractor shall have to prepare the Bar Bending Schedule, Shop and Fabrication Drawings free of cost for any of the items of work. Five copies of these Drawings each including for revision shall be submitted to the Employer. Before executing the item, Bar Bending Schedule, Shop & Fabrication Drawings should be submitted to the Employer.

2.2.2 Reference to the Standard Codes of Practice

All Standards, Technical Specifications and Codes of practice referred to shall be latest editions including all applicable official amendments and revisions. The Contractor shall make available at site hard copies of all latest editions of relevant codes and specifications such as CPWD Specifications, Delhi Schedule Rates (2021), CPWD Specifications for Horticulture and Landscaping work (2020), and relevant/ applicable BIS codes.

Wherever Indian Standards do not cover some particular aspects of design/ construction, relevant International Standards shall be referred to. The Contractor shall make available at site such standard codes of practice.

2.2.3 Dimensions

The levels, measurements and other information concerning the existing site as shown on the conceptual / layout drawings are believed to be correct, but the Bidders should verify the same for themself and also examine the nature of the ground as no claim or allowance whatsoever shall be entertained on account of any errors or omissions and commissions in the levels or strata turning out different from what is shown on the drawings.

2.3 Period of Completion

The completion period shall be 18 months from the date of commencement of the work. The completion period is for the entire work of planning, execution, approvals, arrangement of materials, equipment, delivery at site including transportation, construction/ installation, testing, commissioning and handing over of the entire project to the satisfaction of the Engineer-in-charge.

The Defect liability period of 12 months will commence from the date of handing over the project to the Employer/Owner.

2.4 Eligible Bidders

The interested Bidders should meet the following minimum eligibility criteria:

2.4.1 Work Experience

i. Experience of having successfully completed similar works during the last **7 years ending last day of the month previous to the one in which bids are invited:**

Three similar works each costing not less than Rs. 19.19 Crore
OR
Two similar works each costing not less than Rs. 23.99 Crore
OR
One similar work costing not less than Rs. 38.38 crore

Similar work shall mean completed buildings with RCC framed structure including Mechanical/ Electrical/ Plumbing works during last seven years.

The value of executed works shall be brought to the current level by enhancing the actual value of work done at a simple rate of 7% per annum, calculated from the date of completion of last day of the month previous to the one in which applications are invited.

The past experience in similar nature of work and also for additional experience should be supported by certificates issued by the Client's organization. The completion / experience certificates, along with the supporting documents, shall be got verified from the issuing authority / organizations prior to award of works. In case, the works / certificates are not verified by the issuing authority, WAPCOS reserves the right to not consider for the award of works. For work experience of private sector, the completion certificates shall be supported with copies of corresponding TDS certificates.

ii. The Bidder should have valid electrical license or the Bidder shall submit Memorandum of Understanding (MoU) with the agency to be engaged for electrical works.

iii. The Bidder should have not been barred/ blacklisted presently by any Department, Authority or body corporate under the Govt. of India or any state Govt.

iv. The interested Bidder shall be an Indian Registered Company under Companies Act 1956/2013, Proprietorship Firm/ Partnership Firm. Copy of Certificate of Incorporation/ Registration/ Partnership Deed Registration or any other relevant document, as applicable, shall be submitted along with a copy of address proof.

v. The Bidder must possess valid License, GST Registration Certificate, PAN card and Company Registration Certificate.

vi. Preferably, the agency should have EPF registration. In case, EPF registration is not there, the agency should obtain EPF registration on allotment of work. In case of failure, WAPCOS reserves the right to deduct EPF & deposit as per EPF norms.

vii. Form of Integrity Pact as per format enclosed in Annexure - 4

2.4.2 Joint Venture / consortia of firms or companies shall not be allowed to participate in the Bidding process.

2.4.3 Certificates of Subsidiary/Group Companies/ Parental Company

The companies/ firms, who intend to get qualified on the basis of experience of the subsidiary/Group Companies/parental company, shall not be considered and vice versa. In case of a Company/ firm, formed after merger and/ or acquisition of other companies/firms, past experience and other antecedents of the merged/ acquired companies/firms will be considered for qualification of such Company/firm provided such Company/firm continues to own the requisite assets and resources of the merged/ acquired companies/firms relevant to the claimed experience.

2.4.4 Financial Strength

i. The average annual financial turnover on construction works during the immediate last three consecutive financial years, ending March 2022 shall be at least Rs. 23.99 Crore. Audited Balance Sheet for 5 (five) years ending financial year 2021-22 are to be enclosed. The requisite certificates must be certified by statutory auditor of the firm/company. Any such certificate must carry the UDIN (Unique Document Identification Number). The tender evaluation sheet must carry the verification report of UDIN generated from ICAI Portal.

i. Bank Solvency Certificate issued from a Nationalized/ Scheduled Commercial Bank approved by Reserve Bank of India (RBI) should be at least Rs. 19.19 Crore. The Certificate should be issued between the publishing of NIT & last date of submission of Bids, including extensions if any and shall be addressed to the tendering authority quoting the name of the work. The certificate shall be submitted in original and the colour / b&w copy / scanned copy shall not be accepted. The certificate should carry name, designation & power of attorney of the bank official.

ii. The net worth of the bidder should be positive during the last financial years ending 2021-22. The requisite certificates must be certified by statutory auditor of the firm/company. Any such certificate must carry the UDIN (Unique Document Identification Number). The tender evaluation sheet must carry the verification report of UDIN generated from ICAI Portal.

iii. The Bidder should not have incurred any loss (Profit after tax should be positive) in more than two years during the last Five financial years ending on the financial year 2021-22. The Bidders are required to submit detailed Balance Sheet of last five Financial Year (Audited) and also detailed pages of Profit & Loss Account (Audited) for last five years, the requisite certificates must be certified by statutory auditor of the firm/company. Any such certificate must carry the UDIN (Unique Document Identification Number). The tender evaluation sheet must carry the verification report of UDIN generated from ICAI Portal.

iv. The Bidder should be financially sound and should not have applied or be under corporate debt Restructuring on the last date of submission of Bid. The bidder shall submit the undertaking to this effect along with relevant documents.

2.5 Site Location and Site Visit

- Intending Bidder(s) are advised to inspect and examine the site at their own cost and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A Bidder(s) shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed.
- The bidder and any of its personnel or agents will be granted permission by the Employer/Owner to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the bidder, its personnel, and agents will release and Indemnify

the Employer/Owner and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.

- The Bidder(s) shall be responsible for arranging and maintaining at their own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a Bidder implies that they have read this notice and all other bidding documents and has made themself aware of the scope and specifications of the work to be done, local conditions and other factors having a bearing on cost & time factor of the execution of the work.
- If as per the rules of the local authority, the huts for labour are not to be erected at the site of work by the Contractors, the Contractors are required to provide such accommodation as is acceptable to local bodies and nothing extra shall be paid on this account. The Contractor shall make their own arrangements for stores, field office, etc. Before tendering, he shall assess the manner in which he is able to arrange the above facilities. The Engineer-in-Charge shall in no way be responsible for any delay on this account and no claim, whatsoever, on this account shall be entertained.

2.6 Cost of Bidding

The Bidder shall bear all the costs associated with the preparation and submission of Bid and the Employer in no case will be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.

2.7 Tender Documents

The tender documents are as stated below and should be read in conjunction with any corrigendum/modification issued on these documents:

Volume - I

- Notice Inviting Tender (NIT)
- Instructions to Bidders (ITB)
- Annexures for Bid Submission
- General Conditions of Contract (GCC)
- Additional Conditions of Contract
- Project Execution & Supervision Aspects, Contract Management Framework & Payment Schedule
- Safety Codes
- Safety with Scaffolding
- Model Rules
- Contractor’s Labour Regulations
- Schedule of Quantities

Volume - II

- Technical Specifications

Volume - III

- Tender Drawings

The Bidder is expected to examine carefully the contents of all the above documents. Failure to comply with the requirement of the Bid submission will be at the Bidder's own risk. Bids which are not substantially responsive to the requirement of the bidding document shall be rejected.

2.8 Clarification of Bid Documents and Pre-Bid Meeting

Prospective Bidder requiring any clarification of the bidding documents may notify the Employer via email sent to: ckr@wapcos.co.in at least one working day prior to pre-bid meeting. The queries shall be discussed during the pre-bid meeting and the last date for submission of any further queries of Bidders shall be within two days from the date pre-bid meeting. Thereafter no further queries/clarifications shall be entertained. The Employer will reply to only those queries which received before the scheduled time as mentioned above via e-portal which are essentially required for submission of bids. The Employer will not reply to the queries which are not considered fit like replies of which can be implied /found in the NIT/Tender Documents or which are not relevant or in contravention to NIT/Tender Documents.

The pre-bid meeting shall be held, as per the schedule mentioned in the Notice Inviting bid, through video conferencing. The bidders who are interested in attending the pre-bid meeting may send their contact details viz. organization name, Name of the official, email address, mobile number etc. to ckr@wapcos.co.in at least one working day prior to the pre-bid meeting. The bidder shall be shared a link of video conferencing to attend the pre-bid meeting. The bidder may attend the meeting at the time mentioned.

Minutes of the meeting, including the text of the questions raised and the responses given will be uploaded on e-portal only.

While all efforts have been made to avoid errors in the drafting of the tender documents, the Bidder is advised to check the same carefully. No claim on account of any errors detected in the tender documents shall be entertained.

2.9 Amendment of Bid Documents

At any time prior to the deadline for submission of bids, the Employer may, for any reason (s), whether at their own initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding Documents by the issuance of a corrigendum/ addendum. No modification of Bid shall be permissible after last date of submission, whatever may be the reason. The Employer may at their discretion may extend the deadline for submission of Tender/ Bid, if considered necessary.

Any corrigendum/ addendum thus issued shall be part of the bidding documents. Prospective Bidders shall download the same from the e-portal and submit along with the submission of Bid as token of acceptance.

2.10 Preparation of Bids

2.10.1 Language of Bid

The Bid prepared by the Bidder and all correspondence and documents relating to the Bid exchanged between the Bidder and Employer shall be written in the English language only.

2.10.2 Bidders Responsibility

a) The Bidder is solely responsible for the details of their Bid and the preparation of bids. In no case shall the Employer be responsible for any part of the tender documents submitted by him. Any Site information given in this tender document is for guidance only. The Bidder is advised to visit and examine the Site of works and its surroundings at their cost and obtain for themself on their own responsibility, all information that may be necessary for preparing the tender and entering into a Contract.
b) Irrespective of whether or not the Bidders have attended the pre-bid meeting, they shall be deemed to have inspected the Site and its surroundings beforehand and taken into account all relevant factors pertaining to the Site and clarifications/ modifications/ additions given in Pre-Bid meeting or addendum issued as per Clause 2.8 of ITB, Section-II of Volume-I, in the preparation and submission of the Bid.
c) The Bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will in no case be responsible and liable for those costs.

2.10.3 Documents Required for Physical Submission of Technical Bid

The Bid submitted by the Bidder for consideration shall comprise of the following:

I. Technical Bid

The Technical Bid shall be uploaded with coloured scanned copies of following documents. All the documents must be Serial wise as stated below and clearly marked page no. on each page.

The Technical Bids shall consist of two separate envelopes (Part-A1 & Part-A2) comprising the documents as mentioned below:

Part - A1:

1. Receipt of payment towards Tender Processing Fees deposited through RTGS.
2. Notarized Power of Attorney / Authorization Letter in case of Proprietor firm, to sign the Tender in original as per clause 2.18 of Instructions to Bidders.
3. Receipt of EMD submission through RTGS/NEFT and EMD in form of Bank Guarantee

The documents submitted in Part-A1 shall be examined first. Any bids not complying with the above-mentioned requirements shall not be evaluated further and shall be summarily rejected.

Part - A2:

This part of Technical Bid shall consist of the documents as mentioned below:

1. Letter of Transmittal.
2. Provident Fund Certificate, ESIC Certificate
3. GST Registration Certificate. If not registered till date of submission of bid, Bidder will give undertaking on their letter head stating that in case the work is awarded they will get registered in GST as per Govt. norms before submission of bills
4. Copy of PAN card.
5. Name, address, details of the organization, Name(s) of the Owner/Partners/ Promoters and Directors of the firm / company as Annexure - 1
6. Undertaking (Rule 144(XI) in the General Finance Rules (GFRs) 2017 as per format enclosed in Annexure -2
7. Form of Integrity Pact as per format enclosed in Annexure - 4
8. Declaration by Bidder as per format enclosed in Annexure - 5
9. Details of similar type of works executed indicating value of works in each Contract with self-attested documentary evidence such as copy/ copies of completion Certificate(s) preferably as per Annexure-8, along with Letter of Intent (s)/ Work Order (s) / Contract Agreement (s) from respective Owner(s)/ Client(s) mentioning name and nature of work(s), date(s) of commencement and value(s) of the job(s) executed during seven years as per format enclosed in Annexure - 6
10. Details of similar type of work executed during last seven years indicating the value of works meeting the minimum eligibility criteria clause 2.4.1 Work Experience as per Annexure – 7
11. Format for No-Conviction Certificate as per Annexure - 8
12. Undertaking of the bidder to depute required manpower at site as per Annexure-10.
13. List of Minimum number of plant and machinery to be deployed by Contractor as per Annexure - 11
14. Time Schedule to be provided by the Bidder enclosed as Annexure - 14
15. Annual Turnover, Net worth and Audited Balance Sheets for Last 5 (Five) years ending on the financial year 2021-22 as per Annexure - 16
16. Profit or Loss and Profit/Loss Statements for last 5 (five) years ending on the financial year 2021-22 as per Annexure - 17
17. Solvency Certificate as per format enclosed in Annexure - 18
18. Proforma of Site Visit by Bidder as per Annexure - 19
19. Constitution & Legal Status along with attested copies of Deeds/Articles and Memorandum of Association etc. as Applicable
20. No Deviation Certificate as per Annexure -20
21. Undertaking for Preference to Make in India
22. Copy of valid electrical license of the bidder or Memorandum of Understanding (MoU) with the agency to be engaged for electrical works along with their electrical license. In case of MoU, the date of MoU shall be prior to the submission of bid including extensions, if any.

No information relating to financial terms of services should be included in the Technical Bid

2.11 Financial Bid

The Financial Bid shall be submitted online only as per Annexure-21 & 22 along with Bid before last date & time of submission of Tender Document.
The Financial bid is to be submitted online only and directly submitted on CPP Portal only.
Annexure-21 shall be filled in PDF & uploaded online only.
Annexure-22 shall only be filled in Excel format (not in PDF format) and also to be uploaded online only.

2.12 Bid Price

Unless stated otherwise in the Bidding Documents, the Bid Price shall be for the whole scope of work as described in ITB Clause-2.2

a) The total price quoted by the Bidder shall be firm during the performance of the Contract. Price quoted by the Bidder with any condition shall not be accepted and same is liable to be rejected.

b) Prices quoted by the Bidder shall include all Materials, Tools & Plant, labour, supervision, profit; other levies together with all general risks, liabilities and obligations set out or implied in the contract, applicable Labour Cess, cost of insurance to this contract, all applicable tax liabilities like Income Tax & Surcharges, etc. Any other taxes /cess as per Government directives shall be deducted from each bill paid to the Contractor, from time to time. GST shall be payable extra as per prevailing rates.

c) The Contractor shall issue Tax Invoices to the Employer showing (i) Basic Amount (ii) GST Amount separately in each bill and the payment of GST amount shall be reimbursed to Contractor only after uploading of GST amount by Contractor on GST portal to avail input benefit of GST by the Employer.

d) Anti-Profiteering Clause: Upon implementation of GST or any reduction in tax on account of anti-profiteering on supply of goods or services, the benefit of input tax credit shall be passed on to the employer by way of commensurate reduction in prices.

e) In case of any law requires WAPCOS to pay tax on the contract price on reverse charge basis, the amount of tax deposited by WAPCOS would be considered as per Income tax act, GST Laws or any other law as applicable.

f) The Employer shall be performing all its duties of deducting TDS and other deductions on payments made to Contractor as per applicable legislation in force on the date of submission of Bid or to be newly/amended introduced during the execution of the Contract.

g) The Bidder shall keep the contents of his tender and rates quoted by him confidential.

h) The Bidder shall utilize Indian labour, staff and materials to the maximum extent possible in execution of Works.

2.13 Currency of Bid and Payment

The payment shall be made in Indian Rupees only.

2.14 Bid Validity Period

Bids shall remain valid for acceptance for a period of 180 days (One hundred eighty days) from the date of opening of Bids

The last date for submission of bid shall be reckoned from the last extension of bid, if any.

In exceptional circumstances, prior to expiry of the original bid validity period, the Employer may request the Bidder for a specified extension in the period of validity. The request and the responses thereto shall be made in writing or by e-mail. A Bidder may refuse the request. A Bidder agreeing to the request will not be required/nor permitted to modify his bid.

2.15 Earnest Money Deposit and Tender Processing Fee

a) The bidder has to submit the EMD of Rs. 50.66 Lakhs (Refundable) in the form of RTGS/NEFT/D.D./Banker's cheque/ Insurance Surety Bonds/ FDR in favor of 'WAPCOS Limited' payable at Gurugram, Haryana.
OR
A part of earnest money is acceptable in the form of bank guarantee also. In such Rs. 30 lakhs have to be deposited in form RTGS/NEFT/DD/ Banker's Cheque/FDR and balance Rs. 27.98 Lakhs can be accepted in form of bank Guarantee in prescribed format issued by a scheduled bank which shall remain valid up to one year from date of submission of tender including extensions, if any.
The bank account as per details:

Name of Bank: Indian Overseas Bank
Bank Account Number: 193502000000290
IFSC Code: IOBA0001935
Branch Name: National Horticulture Board (NHB) Building, G-85, Industrial Area, Sector-18, Gurugram-122015, Haryana

b) The unique transaction reference of RTGS/ NEFT shall have to be uploaded by the Tenderer in the e-tendering system by the prescribed date. The Tender Inviting Authority will get the earnest money & Tender Processing Fee verified from financial department based on the UTR number against each RTGS/ NEFT payment before the tenders are opened.

c) The EMD of bidders other than the successful bidder will be returned not later than 45 (forty-five) days after the expiry of bid validity.

d) The EMD shall be forfeited:
    a) if a bidder withdraws the bid after bid opening during the period of validity;

b) In the case of a successful bidder; if the bidder fails to Sign the Agreement within the 15 days from the date of issue of LOA or fail to furnish the required performance security or fail to commence the work within the stipulated time period prescribed in the contract.

e) The bidder has to submit the Rs. 30,600/- (Rupees Thirty Thousand and Six Hundred Only) as Tender Processing Fee (Non-Refundable)

2.16 Bidding Condition

The Bidder shall submit offers which comply fully with the requirements of the Bid Document. Any deviation in submitted Bid for the Bidding Documents shall be liable for rejection.

2.17 Format for Submittal

Format for submittal of related information for Bid shall be as per the Annexures of Section-III and shall be strictly adhered to.

The Bid shall contain no overwriting, alternations or additions. Any corrections/cuttings should be signed by the tenderer.

All witnesses and sureties shall be persons of status and probity and their full names, occupations and addresses shall be written below their signatures.

2.18 Power of Attorney

a) Power of Attorney duly notarized and on a stamp paper of an appropriate value, issued and signed by the member authorizing the person signing the tender documents to sign documents, make corrections/ modifications, to interact with the Employer and act as the contact person shall be submitted along with Technical Bid. The Power of Attorney shall be submitted in original and shall be specific to the Bid submission only. The Power of Attorney shall have been issued after the date of publishing of the tender.

b) In case of proprietary firm, the Application shall be signed by the Proprietor with full name and name of the firm with his/ her current address.

c) In case of a limited Company or Corporation, the Application shall be signed by an authorized person holding the Power of Attorney for signing the Application. A certified copy of the Power of Attorney shall accompany the Application.

2.19 Submission of Bids

Online submission of Bid

The complete set of Technical Bid shall also be submitted physically at the address mentioned in NIT on or before the last date of submission of Bid, however, Financial Bid shall be submitted online only.

This tender/ Bid shall follow a Single Stage Two Envelope Bid System i.e., Technical Bid and Financial Bid as given below.

a. Technical Bid

The Technical bid may be declared non-responsive / invalid, if the Bid is not accompanied by the requisite documents as stipulated in clause 2.10.3.

The Technical Bid should not contain any financial information related to Financial Bid.

b. Financial Bid

The Financial Bid shall not include any Commercial or Technical conditions/ information. Financial offers shall be submitted as per prescribed format given in ***Annexure-21 & 22*** **of** ***Section-III*** of Bid document in a percentage basis. Financial Bid shall be uploaded on E-tender portal only as per given format of Excel uploaded on CPP portal. No hard copy of Financial Bid needs to be submitted.

c. The Bidders are advised to submit complete details with their bids. In case of discrepancy between hard copy and soft copy, the Technical Bid Evaluation will be done on the basis of documents uploaded on e-tendering website by the Bidder. The information should be submitted in the prescribed proforma. Bids with incomplete/ambiguous information shall be summarily rejected.

2.20 Broad Outline of Activities from Bidder's Perspective

i. **Submission of Bids**

Online submission of Bid

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal. More information useful for submitting online bids on the CPP Portal may be obtained at: https://etenders.gov.in/eprocure/app.

ii. General

The Special Instructions (for e-Tendering) supplement 'Instruction to Bidders', as given in these Tender Documents. Submission of Online Bids is mandatory for this Tender.

iii. Broad Outline of Activities from Bidder's Perspective

REGISTRATION

1. Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: https://etenders.gov.in/eprocure/app) by clicking on the link "Online bidder Enrollment" on the CPP Portal which is free of charge.
2. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
3. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.

4. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g., Sify / nCode / eMudhra etc.), with their profile.
5. Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse.
6. Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

SEARCHING FOR TENDER DOCUMENTS

1. There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.

2. Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / email in case there is any corrigendum issued to the tender document.

3. The bidder should make a note of the unique Tender ID assigned to each tender; in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS

1. Bidder should take into account any corrigendum published on the tender document before submitting their bids.
2. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.

3. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
4. To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g., PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" or ''Other Important Documents'' area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

Note: *My Documents space is only a repository given to the Bidders to ease the uploading process. If Bidder has uploaded his Documents in My Documents space, this does not automatically ensure these Documents being part of Technical Bid.*

SUBMISSION OF BIDS

1. Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e., on or before the bid submission time. Bidder will be responsible for any delay due to other issues.

2. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.

3. Bidder has to select the payment option as "offline" to pay the tender fee / EMD as applicable and enter details of the instrument.

4. Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise, the uploaded bid will be rejected.

5. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.

6. The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.

7. All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128-bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid opener's public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.

8. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.

9. Upon the successful and timely submission of bids (i.e., after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.

10. The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

ASSISTANCE TO BIDDERS

1. Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.

2. Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk.

PHYSICAL SUBMISSION OF BIDS

The Bidder shall follow the procedure as indicated below:

- The documents which shall be mandatorily submitted in Physical form as below:
    - Notarized Power of Attorney / Authorization Letter in case of Proprietor firm, to sign the Tender in **original** as per clause 2.18 of Instructions to Bidders.
    - Solvency Certificate in **original**
    - Receipt of payment towards Tender Processing Fees deposited through RTGS.
    - Receipt of EMD submission through RTGS/NEFT and EMD submitted in form of Bank Guarantee.
- The physical submission of remaining part of Technical Bids is not mandatory. However, if bidder desires, the remaining part of the Technical Bid may also be submitted.
- In case of any discrepancy, the online version of the bids uploaded on CPP Portal shall be considered as final. The clarifications, if sought from the bidder, and submitted by bidder through email / hard copy through courier shall be considered.
- The Technical bid shall be wrapped in an envelope addressed to **Additional Chief Engineer (CMU-II), WAPCOS Ltd. Room No. D-14, Institutional Area, Sector-18, Gurugram, Haryana** duly super scribing on top, tender number, name of work and time and last date for submission. The envelope should also bear the name and address of the Bidder. The financial bid is not be submitted in sealed cover physically. However, the same is to be uploaded online only.
- The contents of the Technical Bid and Financial Bid shall be as detailed under relevant clauses of ITB herein.

- No responsibility will be accepted by WAPCOS for the misplacement or premature opening of a tender/bid, not sealed or marked as per aforesaid instructions.
- The Bid should be submitted in the office of **Sr. General Manager (CMU-II) Development, WAPCOS Ltd. Room No. D-14, Plot No. 76-C, Institutional Area, Sector-18, Gurugram, Haryana.**

2.21 Deadline for Submission of Bids

The Employer may, at their discretion, extend the deadline for submission of Bids by issuing an amendment, in which case all rights and obligations of the Employer and the Bidders previously subject to the original deadline shall thereafter be subject to the new deadline as extended.

2.22 Modification and Withdrawal of Bids

The Bidder may modify or withdraw his Bid prior to deadline for submission of Bid by giving modification or withdrawal notice in writing to Employer. Any modification shall be done in online bid along with the submission of modified physical bid.
The Bidder's modifications or notice of withdrawal shall be prepared, sealed and clearly marked as "Modification" or "Withdrawal" as appropriate and delivered prior to deadline for submission of Bid in accordance with *ITB Clause-2.21*.
No Bid will be modified after the deadline for submission of the Bid. Withdrawal of Bid between deadline for submission and expiry of Bid validity will result in suitable actions as per the conditions mentioned in the relevant clauses of contract.

2.23 Bidding Documents

Entire set of Bid Document shall be submitted after filling it wherever required & signing each page as a token of acceptance of all terms & conditions of the Bid.

2.24 Employer's Right to accept any Bid and to reject any or all Bids

The Employer reserves the right to accept or reject any Bid, and to annul the bidding process and reject all Bids, at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Employer's action.

2.25 Bid Opening and Evaluation

The Employer shall open the Bids as per the schedule. The Bidder will be at liberty to be present either in person or through an authorized representative at the time of opening of the Bid. The Employer will open the Bids in the presence of Bidders' representative who wish to attend on the time, date and venue as mentioned in NIT. The physical Bid shall also be opened on the day of Tender opening.

2.26 Shortfall Documents

The Employer may ask the Bidder for submission of additional documents, if required, in case of shortfall documents during the evaluation of the Bids. Request for documents and the response shall be in writing and no changes in the prices of the Bid shall be sought, offered or permitted. No modification of the Bid and any form of communication with the Employer or submission of any additional documents, not specifically asked for by the Employer, will be allowed and even when submitted, they will not be considered by the Employer.

2.27 Confidentiality of Bids

After the public opening of Bids, information relating to the examination, clarification, evaluation and comparison of Bids and recommendations concerning the Award of Contract shall not be disclosed to Bidders or other persons not officially concerned with such process.

Any effort by a Bidder to influence the Employer in the process of examination, clarification, evaluation and comparison of Bids, and in decisions concerning Award of Contract, may result in the rejection of their Bid.

2.28 Clarification of Bids

To assist in the examination, comparison and evaluation of Bid, the Employer may ask Bidders for clarification of the Bids, if any. But no change in price or substances of Bid will be sought, agreed or permitted. The request for clarification and its response shall invariably be in writing.

To assist in the examination, evaluation, and comparison of Bids, the Employer may, at their discretion, ask the lowest evaluated Responsive Bidder for clarification of his Bids. The request for clarification and the response shall be in writing or e-mail, but no change in the price or substance of the Bid shall be sought, offered, or permitted.

No Bidder shall contact the Employer on any matter relating to his Bid from the time of the Bid opening to the time the Contract is awarded. If the Bidder wishes to bring additional information to the notice of the Employer, it should do so in writing.

Any effort by the Bidder to influence the Employer in the Bid evaluation, bid comparison or Contract award decisions may result in the rejection of the Bidders' Bid.

2.29 Determination of Responsiveness

Prior to detailed evaluation of Bid it will be determined whether each Bid:

i) has been properly signed.
ii) is accompanied by required securities.
iii) is substantially responsive to the requirement of the Bidding document.
iv) provides necessary clarification or substance.

A Substantially Responsive Bid is one which conforms to all the terms, conditions & specifications without material deviation or reservation which

i) affects in any substantial way the quality or scope of the work.
ii) limits in any substantial way the scope of work
iii) is inconsistent with the Bidding document
iv) affects unfairly the competitive position of other Bidder(s).

Bids not found Substantially Responsive are liable to be rejected. Conditions if added by the Bidder, which have adverse bearing on the cost and scope of tendered work shall make the Tender/ Bid liable to disqualification.

2.30 Corrections of Errors in Bids

Bids will be checked for any arithmetical error and will be corrected by the Employer irrespective of concurrence of the Bidder. If the Bidder does not accept the corrected amount of Bid, his Bid will be rejected and the EMD will be forfeited.

2.31 Evaluation and Comparison of Bids

a) The Employer shall first evaluate the Technical Bid in accordance with the requirements of the Bidding documents to ensure responsiveness of the Bids. A responsive bid shall only be considered as Technically Qualified. Bid(s) which are not found responsive shall be rejected.
b) The Employer will evaluate and compare only the Bids determined to be substantially responsive.
c) The evaluation of financial proposals by the Employer will take into account, in addition to the tender amounts, the following factors:
d) Arithmetical errors corrected by the Employer in accordance with Clause 2.30 of this Section.
e) Such other factors of administrative nature as the Employer may consider to have a potentially significant impact on Contract execution, price and payments, including the effect of items or rates that are unbalanced or unrealistically priced.
f) Evaluation of Financial Bid will be based on percentage above/below or at par quoted by the Contractor.
g) If the Financial Bids of lowest two Bidders are equal, then the Bidders shall be asked to resubmit the Financial Bid. No upward revision will be allowed.
    i. In case all the lowest Bidders those have same tendered amount (as a result of their quoted rate of individual items), refuse to submit revised offers, then tenders are to be recalled after forfeiting 50% of EMD of each lowest Bidders.
h) Any subsequent alteration in prices shall not be given any cognizance.

2.32 Award of Contract

Subject to Clause 2.33 of ITB, the Employer shall award the Contract to the Bidder whose tender has been determined to be substantially responsive, complete and in accordance with the tender documents, and whose total evaluated price for undertaking the entire project as detailed in tender documents is the lowest.

2.33 Notification of Award

Prior to the expiry of the period of Bid validity prescribed by the Employer or any extension thereof, the Employer shall notify the successful Bidder by email and confirmed in writing by registered letter that his Bid has been accepted.

This "Letter of Award" shall contain the contract price payable to the successful Bidder in consideration of the execution, completion and maintenance of the Works by the successful Bidder as prescribed in the Contract (hereinafter and in the Conditions of Contract called "the Contract Price"). The notification of Award will constitute the part of the Contract agreement.

2.34 Signing of the Contract

Subsequent to receipt of the Letter of Award, on a date and time mutually agreed upon, or as specified in the Letter of Award, the successful Bidder or his authorized representative shall attend the office of Sr. General Manager (CMU-II), WAPCOS Limited, Plot No-76C, Institutional Area, Sector-18, Gurgaon-122015, Haryana for signing of the Contract Agreement as per Annexure-23. Failure on the part of the successful Bidder to comply with the above requirements will constitute sufficient grounds for the annulment of the Award and forfeiture of the EMD.

2.35 Performance Security

a) Within 15 (Fifteen) days of receipt of the Letter of Award, but not later than the date of the signing of the Agreement, the successful Bidder shall deliver to the Employer a Performance Security in any of the forms given below for an amount equivalent to 3% of the Contract price:
   - a Bank Guarantee issued by a Nationalized/Scheduled Commercial Bank approved by Reserve Bank of India (RBI) as per Annexure 3 of Bid document; or
   - a deposit receipt of a Scheduled Commercial Bank approved by Reserve Bank of India (RBI) in favour of WAPCOS Limited payable at Delhi/ Gurgaon.

b) The confirmation of the Bank Guarantee shall be sought from the issuing bank through Structured Financial Messaging System (SFMS), as per details given below:

   Indian Overseas Bank
   NHB, Gurgaon
   Branch Code: 1935
   IFSC code: IOBA0001935
   Beneficiary: WAPCOS Limited

   This shall also be applicable in respect of confirmation of any extension of the Bank Guarantee as and when required.

c) The period for submission of the Performance Security can be extended by the competent authority upon written request received from the Bidder stating the reason

for delays in procuring the Performance Security to the satisfaction of the Competent Authority.

d) Failure of the successful Bidder to comply with the requirements of performance security shall constitute sufficient grounds for cancellation of the award.

e) The Performance Security shall be valid until the date of 60 days after issuing of the Taking Over Certificate or Completion Certificate whichever is later. The performance guarantee shall be returned to the Contractor without any interest.

2.36 Corrupt or Fraudulent Practices

It is required that the Bidders /Contractor observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, it is defined, for the purposes of this provision, the terms set forth below as follows:

- "Corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in Contract execution
- "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 Employer 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 Government of the benefits of free and open competition.

The Employer will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the Contract in question and will declare the firm ineligible, either indefinitely or for a stated period of time, to be awarded a Contract.

SECTION-III
ANNEXURES

Section-III - Annexures

Letter of Transmittal/ Covering Letter

From:

To
The Additional Chief Engineer
WAPCOS Limited

Subject: Submission of bids for the work of _____

Sir,
Having examined the details given in Bid document for the above work, I/we hereby submit the relevant information.

1. I/we hereby certify that all the statement made and information supplied in the enclosed Annexures (Annexure __to __) and accompanying statement are true and correct.

2. I/we have furnished all information and details necessary for eligibility and have no further pertinent information to supply.

3. I/we submit the requisite certified solvency certificate and authorize the Employer to approach the Bank issuing the solvency certificate to confirm the correctness thereof. I/we also authorize Employer to approach individuals, our previous employers, firms and corporation to verify our competence and general reputation.

4. I/we submit the following certificates in support of our suitability, technical knowledge and capability for having successfully completed the following eligible similar works:

Name of work	Certificate from

Certificate:
It is certified that the information given in the enclosed eligibility Bid are correct. It is also certified that I/we shall be liable to be debarred, disqualified/ cancellation of enlistment in case any information furnished by me/us found to be incorrect.

Enclosures: Seal of Bidder
Date of submission:

Signature(s) of Bidder.

Annexure 1 - General Information

1.	Name of Contractor	
2.	Address for correspondence	
3.	Official e-mail for communication	
4.	Contact Person: Telephone Nos. Fax Nos. Mobile	
5.	Type of Organization:	
6.	Place and Year of Incorporation	
7.	Details of Registration of Proprietor/ Partners / Directors with various Institutions	
8.	Name of Directors/Partners in the organization and their status along with their qualifications.	
9.	Name(s) of the persons along with their qualification and designation, who is authorized to deal with Employer (Attach copy of power of Attorney)	
10.	Organization Chart of Key Personnel	
11.	Details of Awards/Appreciations supported with document to be submitted.	
12.	Bank Details Name of the Bank: Account Number: IFSC Code: Name & Address of the Branch: MICR Code:	

Signature of Bidder with Seal

Annexure 2 - Undertaking for Rule 144 (XI)

(Undertaking)

[RULE 144 (XI) IN THE GENERAL FINANCIAL RULES (GFRS), 2017]

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I hereby certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered.

Date:
Place:

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

Annexure 3 - Form of Performance Security

To
WAPCOS Limited,
76-C, Sector 18, Gurgaon - 122015

In consideration of _____ (Employer's name) hereinafter referred to as "the Employer" (which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators and assigns) having awarded to _____ (Contractor's name & address) hereinafter referred to as "the Contractor " (which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) a Contract, by issue of Employer's Notification of Award No. _____ dated _____ and the same having been unequivocally accepted by the Contractor, resulting into a Contract valued at Rs. _____ (Rupees only) for _____ (name of work) hereinafter called "the Contract" and the Contractor having agreed to provide a Contract Performance Security for the faithful performance of the entire Contract equivalent to Rs. _____ (3% of the said value of the Contract to the Employer). We, _____ (name & address of Bank) hereinafter referred to as "the Bank" (which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby Guarantee and undertake to pay the Employer, on demand any or, all monies payable by the Contractor to the extent of Rs._____(Rupees only) as aforesaid at any time up to _____ without any demur, reservation, contest, recourse or protest and/or without any reference to the Contractor. Any such demand made by the Employer on the Bank shall be conclusive and binding notwithstanding any difference between the Employer and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The Bank undertakes not to revoke this Guarantee during its currency without previous consent of the Employer and further agrees that the Guarantee herein contained shall continue to be enforceable till the Employer discharges this Guarantee.

We the said Bank further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged or till the Employer certifies that the terms and conditions of the said Contract have been fully and properly carried out by the said Contractor and accordingly discharges the Guarantee.

The Employer shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee, from, time to time to extend the time for performance of the Contract by the Contractor. The Employer shall have the fullest liberty without affecting this Guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor and to exercise the same at any time in any manner and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the Employer and the Contractor or any other course or remedy or security available to the Employer. The Bank shall not be released of its obligations under these presents by any exercise by the Employer of its liberty with reference to the matters aforesaid or any of them or by reason

of any other act or forbearance or other acts of omission or commission on the part of the Employer or any other indulgence shown by the Employer or by any other matter or thing whatsoever which under law would but for this provision, have the effect of relieving the Bank. The Guarantee shall not be affected by a change in the constitution of the Bank or of the Employer.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance, without proceeding against the Contractor and notwithstanding any security or other Guarantee that the Employer may have in relation to the Contractor's liabilities.

We the Said Bank do hereby declare that we have absolute and unconditional power to issue this Guarantee in your favour under the Memorandum and Articles of Association or such other constitutional documents of the Bank and the undersigned have full power to execute this Guarantee under the Power of Attorney/ Post Approval Authorization dated _____ of the Bank granted to him / us by the Bank.

We the said Bank do hereby declare and undertake that your claim under the Guarantee shall not be affected by any deficiency or other defect in the powers of the Bank or its officials and the Guarantee shall be deemed to have been issued as if the Bank and its officials have all the powers and authorization to give this Guarantee on behalf of the Bank.

We the said Bank do hereby certify the genuineness and appropriateness of the Stamp paper and stamp value used for issuing the Guarantee. We the said Bank do hereby declare and undertake that your claim under the Guarantee shall not be affected by any deficiency or other defect in the stamp paper or its stamp value.

We the said Bank do hereby declare that our payments hereunder shall be made to you, free and clear of and without and deduction, reduction on account of any reasons including any and all present and future taxes, levies, charges of withholding whatsoever imposed or collected with respect thereto.

Notwithstanding anything contained hereinabove our liability under this Guarantee is restricted to Rs. _____ (Rupees only) and it shall remain in force up to and including _____ and shall be extended from time to time for such period as may be desired by M/s WAPCOS Limited to whom this Bank Guarantee has been given.

Notwithstanding anything contained herein,

i) Our liability under this Guarantee shall not exceed Rs. _____(Rupees only)

ii) This Bank Guarantee shall be valid until the date of 60 days after issuing of the Taking Over Certificate or Completion Certificate by the Engineer-in-Charge, whichever is later; and

iii) We are liable to pay up to the Guaranteed amount only and only if we receive from you a

written claim or demand within the claim period not later than 12 months from the said expiry date relating to default that happened during the period and shall your rights under this Bank Guarantee shall be extinguished and our liability under the Bank Guarantee shall stand discharged unless such written claim or demand is received by us from you on or before _____ being the date of expiry of the claim period. (**Indicate a date 12 months after validity of Guarantee**).

Dated this _____day of _____at____

Annexure 4 - Form of Integrity Pact

(To be submitted on Bidder's Letter Head)

To,
WAPCOS Limited,
……..,
……..

Sub: Submission of Tender for the work of ……....…….....

Dear Sir,

I/We acknowledge that WAPCOS Limited is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the Tender/Bid document.

I/We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I/We will sign the enclosed Integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process. I/We acknowledge that **the making of the bid shall be regarded as an unconditional and absolute acceptance** of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main Contract, which will come into existence when Tender/Bid is finally accepted by WAPCOS. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 6 of the enclosed Integrity Agreement.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the Tender/Bid, Employer shall have unqualified, absolute and unfettered right to disqualify the Tenderer/Bidder and reject the Tender/Bid is accordance with terms and conditions of the Tender/Bid.

Yours faithfully
(Duly authorized signatory of the Bidder)

Integrity Agreement

[To be submitted on Stamp paper of minimum Rs. 100 duly attested by Notary / Magistrate]

This Integrity Agreement is made at ..... on this..... day of ..... 20…

BETWEEN

WAPCOS Limited, Gurgaon
hereinafter referred as "the Employer" (which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

.....
(Name and Address of the Contractor)
hereinafter referred to as the "Bidder/ Contractor" (which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

(Details of duly authorized signatory)

Preamble

WHEREAS the Employer has floated the Tender (NIT No. .....) (Hereinafter referred to as "Tender/Bid") and intends to award, under laid down organizational procedure, Contract for..... (Name of work) hereinafter referred to as the "Contract".

AND WHEREAS the Employer values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidders.

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as "Integrity Pact" or "Pact"), the terms and conditions of which shall also be read as integral part and parcel of the Tender/ Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under:

Article 1: Commitment of the Employer

(1) The Employer commits itself to take all measures necessary to prevent corruption and to observe the following principles:

(a) No employee of the Employer, personally or through any of his/her family members, will in connection with the Tender, or the execution of the 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 Employer will, during the Tender process, treat all Bidder(s) with equity and reason. The Employer 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 advantage in relation to the Tender process or the Contract execution.

(c) The Employer shall endeavor to exclude from the Tender process any person, whose conduct in the past has been of biased nature.

(2) If the Employer obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/ Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Employer will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

Article 2: Commitment of the Bidder(s)/ Contractor(s)

(1) It is required that each Bidder/ Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Employer all suspected acts of fraud or corruption or Coercion or Collusion of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a Contract.

(2) The Bidder(s)/ Contractor(s) commits himself to take all measures necessary to prevent corruption.

He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:

(a) The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Employer's employees involved in the Tender process or 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) will not enter with other Bidder(s) into any undisclosed agreement 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 cartelize in the bidding process.

(c) The Bidder(s)/ Contractor(s) will not commit any offence under the relevant IPC/PC Act.

Further the Bidder(s)/ Contract(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Employer 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) of foreign origin shall disclose the names and addresses of agents/ representatives in India, if any. Similarly, Bidder(s)/ Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could Bid in a tender but not both. Further, in cases where an agent participates in a tender on behalf of one Manufacturer, he shall not be allowed to quote on behalf of another Manufacturer along with the first Manufacturer in a subsequent/parallel tender for the same item.

(e) The Bidder(s)/ Contractor(s) will, when presenting his Bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.

(3) The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

(4) The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Employer interests.

(5) The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/her reputation or property to influence their participation in the tendering process).

Article 3: Consequences of Breach

Without prejudice to any rights that may be available to the Employer under law or the Contract or its established policies and laid down procedures, the Employer shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/ Contractor(s) and the Bidder/ Contractor accepts and undertakes to respect and uphold the Employer's absolute right:

1. If the Bidder(s)/ Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Employer after giving 14 days' notice to the Contractor shall have powers to disqualify the Bidder(s)/ Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/ Contractor from future Contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Employer. Such exclusion may be forever or for a limited period as decided by the Employer.

2. Forfeiture of EMD/Performance Security/Security Deposit: If the Employer has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Employer apart from exercising any legal rights that may have accrued to the Employer, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Security and Security Deposit of the Bidder/ Contractor.

3. Criminal Liability: If the Employer obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Employer has substantive suspicion in this regard, the Employer will inform the same to law enforcing agencies for further investigation.

Article 4: Previous Transgression

1. The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his 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 for banning of business dealings/ holiday listing of the Bidder/ Contractor as deemed fit by the Employer.

3. If the Bidder/ Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Employer may, at its own discretion, revoke the exclusion prematurely.

Article 5: Equal Treatment of all Bidders/ Contractors/Subcontractors

1. The Bidder(s)/ Contractor(s) undertake(s) to demand from all Subcontractors a commitment in conformity with this Integrity Pact. The Bidder/ Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Subcontractors/sub- vendors.

2. The Employer will enter into Pacts on identical terms as this one with all Bidders and Contractors.

3. The Employer will disqualify Bidders, who do not submit, the duly signed Pact between the Employer and the Bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

Article 6: Duration of the Pact

This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 12 months after the completion of work under the Contract or till the continuation of defect liability period, whichever is more and for all other Bidders, till the Contract has been awarded.

If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority or the Employer.

Article 7: Other Provisions

1. This Pact is subject to Indian Law, place of performance and jurisdiction is the Headquarters of the Employer, who has floated the Tender.

2. Changes and supplements need to be made in writing. Side agreements have not been made.

3. If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.

4. Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intensions.

5. It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action taken by the Employer in accordance with this Integrity Agreement/ Pact or interpretation thereof shall not be subject to arbitration.

Article 8: Legal and Prior Rights

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contact documents with regard any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses:

..... (For and on behalf of the Employer)

..... (For and on behalf of the Bidder/ Contractor)

WITNESSES:

1. ..... (Signature, name and address)

2. ..... (Signature, name and address)

Place: Dated:

Annexure 5 - Declaration by the Bidder

[Affidavit on Non-Judicial Stamp Paper of Rs.10/- duly attested by Notary / Magistrate]

This is to certify that We, M/s _____, in submission of this offer confirm that:-

We have inspected the site of work and have made myself/ourselves fully acquainted with local conditions in and around the site of work. We have carefully gone through the Instructions to Bidders (ITB) and all the documents, Forms & Annexure, etc. mentioned therein. We have also carefully gone through the ITB, Additional Conditions of Contract, General Conditions of Contract, Forms & Annexures etc. to be submitted duly filled up & notarized in the form of Affidavit, where applicable, and time of completion (which is sacrosanct) of work of "_____".

i. Our tender is offered taking due consideration of all factors including site information and conditions of each and every proposed location of the upcoming Institute stated in the detailed Instructions to Bidders to execute the work up to the standards as laid out in Employer's Requirements and other sections of ITB.

ii. We promise to abide by all the stipulations of the Contract documents and carry out and complete the work to the satisfaction of the Employer.

iii. We also agree to procure Plants and Machineries at our cost required for the work. We also submit that we have Organizational Structure comprising adequate Technical Personnel in the line of requirement. We also agree to accomplish the job entrusted to us in the stipulated time laid out in document except situations not under our control.

iv. We have not made any misleading or false representation in the forms, statement and attachments in proof of the qualification requirements;

v. We do not have records of poor performance such as abandoning the work, not properly completing the Contract, inordinate delays in completion, litigation history or financial failures etc.

vi. Business has not been banned with us by any Central / State Government Department/Public Sector Undertaking or Enterprise of Central / State Government.

vii. We are not barred/ blacklisted presently by any Department, Authority or body corporate under the Govt. of India or any state Govt.

viii. We have submitted all the supporting documents and furnished the relevant details as per prescribed format.

ix. We are financially sound and have not applied or be under corporate debt restructuring.

x. List of Similar Works satisfying Qualification Criterion as indicated hereinafter, does

not include any work which has been carried out by us through a Subcontractor on a back-to-back basis.

xi. The information and documents submitted with the tender by us are correct and we are fully responsible for the correctness of the information and documents submitted by us.

xii. We understand that in case any statement/information/document furnished by us or to be furnished by us in connection with this offer, is found to be incorrect or false, our business dealing will be banned.

SEAL, SIGNATURE & NAME OF THE BIDDER (Authorized Person Signing this document)

Annexure 6 - Details of Similar Works Executed During Last 07 Years

Sl. No.	Name of work and its location	Name of Client	Date of Start	Date of Completion	Date of issue of Completion Certificate	Cost of Construction of the work on completion	Cost of Construction of the Work on current cost level	Litigation / Arbitration cases pending / in progress with details	Reference and Page No. of Documentary Proof
1.									
2.									
3.									
4.									
5.									
6.									

Certified that the Completion Certificates of above works are enclosed with the Tender Documents. Details mentioned in the above Form are as per Completion Certificates and have not been presumed. If any detail is not mentioned in the Work Completion Certificate, documentary proof of detail is to be submitted with the Completion Certificate.

Signature of Bidder with Seal

Annexure 7 - Details of Similar Works Executed during Last 07 Years Meeting the Minimum Eligibility Criteria 2.4.1 i.e., Work Experience

Sl. No.	Name of work and its location	Name of Client	Date of Start	Date of Completion	Date of issue of Completion Certificate	Cost of Construction of the work on completion	Cost of Construction of the Work on current cost level	Litigation / Arbitration cases pending / in progress with details	Reference and Page No. of Documentary Proof
1.									
2.									
3.									
4.									
5.									
6.									

Certified that the Completion Certificates of above works are enclosed with the Tender Documents. Details mentioned in the above Form are as per Completion Certificates and have not been presumed. If any detail is not mentioned in the Work Completion Certificate, documentary proof of detail is to be submitted with the Completion Certificate.

Signature of Bidder with Seal

Annexure 8 - Format for No-Conviction Certificate

(To be submitted on Bidder's Letter Head)

Subject: No-Conviction Certificate for --- (Name of the work / project)

This is to certify that……. (Name of the organization), having registered office at……..(Address of the registered office) has never been blacklisted or restricted to apply for any such activities by any Central / State Government Department or Court of law anywhere in the country.

This is also to certify that M/s……(Name of the organization), is not involved in any form of Corrupt and Fraudulent Practices in past and will never be involved in future.

Yours faithfully,

Date: (Signature, name and designation of the Authorized signatory)

Place:

Annexure 9 - Desired Site Organization Structure

Minimum Level of Execution Team and Qualification/Experience of Key Staff to be deployed is as follows during execution of relevant works/fields:

Sl. No	Designation	Qualification	Experience Level	Minimum No. Required
	A: Principal Technical Representative			
1	Project Head/Project Manager	Graduate Engineer (Civil)	10 years	1
	B: Other Technical Representative			
	Name	**Qualification**	**Experience**	
2	Civil Engineer/s	Graduate Engineer (Civil)	5 years	1
	Name	**Qualification**	**Experience**	
3	Electrical Engineer	Graduate Engineer (Electrical)	5 years	1
	Name	**Qualification**	**Experience**	
4	Safety Engineer	Graduate Engineer (Safety)	5 years	1
	Name	**Qualification**	**Experience**	
5	Quality Engineer/s	Graduate Engineer	5 years	1
	Name	**Qualification**	**Experience**	
6	Surveyor	Diploma Engineer	3 years	1
	Name	**Qualification**	**Experience**	

Annexure 10 - Undertaking for Manpower Deployment

[Affidavit on Non-Judicial Stamp Paper of Rs.10/- duly attested by Notary / Magistrate]

This is to certify that We, M/s _____, in submission of this offer confirm that:-

We have carefully gone through the Instructions to Bidders (ITB) and all the documents, Forms & Annexures, etc. mentioned therein. (which is sacrosanct) of work of "_____".

i. Our tender is offered taking due consideration of all factors including site requirements information and conditions of each and every proposed location of the upcoming Institute stated in the detailed Instructions to Bidders to execute the work up to the standards as laid out in Employer's Requirements and other sections of ITB.
ii. We agree to employ at our cost the adequate number of technical staff during the execution of this work depending upon the requirement of work. For this purpose, the numbers to be deployed, their qualification, experience as decided by WAPCOS shall be final and binding on us. We shall not be entitled for any extra payment in this regard.
iii. WAPCOS shall have full power and without giving any reason to us, immediately to get removed any representative, staff and workmen or employees on account of misconduct negligence or incompetence or whose continued employment may in his opinion be undesirable. We shall not claim any compensation on this account.
iv. The minimum number of Technical Staff required is mentioned in the tender documents. However, the decision of the Engineer-in-charge as to the number of Technical Staff to be adequate for the project and the period for which the required technical staff is required shall be binding on us.
v. We shall deploy additional manpower as deemed fit and required to complete the project within stipulated completion period, without any additional cost to the Employer.

SEAL, SIGNATURE & NAME OF THE BIDDER (Authorized Person Signing this document)

Annexure 11 - Deployment of Minimum no. of Plant and Machinery by the Contractor

[To be furnished as AFFIDAVIT in Non-Judicial Stamp paper of Rs. 10/- duly notarized]

Whereas it is entirely the responsibility of the Bidder to deploy sufficient plant and modern mechanical equipment to ensure compliance with the Contract, the following list is an indicative list of the minimum number of plant and machinery which the Bidder must provide by way of undertaking in the form of AFFIDAVIT to this effect is to be submitted.

Sl. No.	List of Plants and Machineries	Nos.
1	Batch Mix Concrete Plant with the provision of SCADA of adequate capacity (18 Cubic metres per hour and above) at each site	
2	Field testing equipment	
3	Rock Drilling Equipment	
4	Latest model of Theodolite + Levelling	
5	Total Station	
6	Truck & tipper	
7	Transit Mixer (at least 6 cubic metre capacity)	
8	Vibrator equipment (electrical & fuel type)	
9	Concrete pump of capacity atleast 15 cubic metre per hour	
10	Mechanical excavator (Crawler mounted)	
11	Loader with Backhoe (tyre mounted)	
12	Minimum Steel staging & shuttering material	
13	Water Pumps	
14	Compaction Roller	

Note: The Bidder shall deploy additional plant & machinery as deemed fit and required to complete the project within stipulated completion period, without any additional cost to the Employer.

Annexure 12 - Equipment for Testing of Materials & Concrete at Site Laboratory

(Indicative Only)

All necessary equipment for conducting necessary tests shall be provided at the site laboratory by the Bidder at his own cost.

Sl. No.	Equipment	Quantity
1	Cube testing machine	1 No.
2	Slump Cone	2 Nos.
3	Tensile Briquette testing machine	1 No.
4	Vicats apparatus with Desk Pot	1 No.
5	Megger & earth resistance tester	4 Nos.
6	Pumps and pressure gauges for hydraulic testing of pipes	1 No.
7	Weighing scale platform type 100 kg capacity	1 No.
8	Graduated glass cylinder	As per requirement
9	Sets of sieves for coarse aggregate (40,20,10,4.75mm)	2 Nos.
10	Sets of sieves for fine aggregate [4.75; 2.36, 18; 600; 300 & 150 micron	2 Nos.
11	Core cutter for soil compaction with accessories	1 No.
12	Cube moulds size 150mm x 150mm x 150mm	30 Nos.
13	Moisture content rapid moisture meter standard	1 No.
14	Hot Air Oven Temp. Range 50^{o}C to 300^{o}C	1 No.
15	Electronic balance 600g x 0.01g. 10kg and 50kg	1 No.
16	Physical balance weight up to 5kg	1 No.
17	Digital thermometer up to 1500^{o}C	1 No.
18	Poker Thermometer (Concrete Road) 0^{o}C to 100^{o}C	1 No.
19	Measuring Jars 100ml, 200ml, 500ml	1 set of each size
20	Gauging trowels 100mm & 200mm with wooden	2 Nos.
21	Spatula 100mm & 200mm with long blade wooden handle	2 Nos. set of each size.
22	Vernier calipers 12” and 6” sizes	1 No. each
23	Digital pH meter least count 0.1pH	1 No.
24	Digital Micrometer least count 0.01mm	1 No.

25	Digital paint thickness meter for steel 500-micron range	1 No.
26	GI tray 600x450x50mm, 450x300x40mm, 300x250x40mm	1 Nos. Each
27	Electric Mortar mixer 0.25 Cum capacity	1 No.
28	Rebound hammer test Digital rebound hammer	1 No.
29	Screw gauge 0.1mm – 10mm, least count 0.05 mm	1 No.
30	Water testing Kit	1 No.
31	Aggregate impact value testing machine with blow counter	As per requirement
32	Crushing value apparatus	As per requirement
33	Thickness gauge for measuring flakiness index	As per requirement
34	Elongation gauge	As per requirement
35	Measuring Cylinder 3,5,10 & 15 litre Cylinder	As per requirement
36	Pycnometer	1 No.
37	Motorized Sieve shaker	1 No.

NOTE: Any other equipment for laboratory tests at site will be the way it is outlined in relevant IS Codes and / or as directed by the Employer's Representative. Quality Control Engineer shall monitor collection of Sample and conducting regular testing at site maintaining propriety and the very best standard followed in industry of construction.

All relevant IS Codes, special publications as per latest amendment/edition shall be referred.

Annexure 13 - Site Organization

(Head Office & Site Office)

(To be Provided by the Bidder)

(Details of duties to be undertaken by manpower at head office and site office)

Annexure 14 - Time Schedule

(To be Provided by the Bidder)

(Time Schedule of the project in the form of CPM, etc. detailing overall work program and a bar chart indicating the duration and timing of all major activities, manpower deployment keeping in view the deliverables as mentioned in Section VI of Volume I)

Annexure 15 - Form of Advance Payment Guarantee

M/s WAPCOS Limited,
…….
…….

In consideration of WAPCOS Limited (hereinafter referred to as “the Employer") which expression shall, unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to (Contractor’s name) with its Registered /Head Office at (hereinafter referred to as "the Contractor “which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) a Contract, by issue of Employer’s Notification of Award No dated and the same having been unequivocally accepted by the Contractor, resulting into a Contract valued at Rs. (Rupees only) for (hereinafter called “the Contract”) and the Employer having agreed to make an advance payment to the Contractor for performance of the above Contract amounting to Rs. (Rupees only) as an advance against Bank Guarantee to be furnished by the Contractor.

We, (name & address of Bank) having its Head Office at (hereinafter referred to as "the Bank" which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby Guarantee and undertake to pay the Employer immediately on demand any or, all monies payable by the Contractor to the extent of Rs. (Rupees only) as aforesaid at any time upto without any demur, reservation, contest, recourse or protest and/or without any reference to the Contractor. Any such demand made by the Employer on the Bank shall be conclusive and binding notwithstanding any difference between the Employer and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. We agree that the Guarantee herein contained shall be irrevocable and shall continue to be enforceable till the Employer discharges this Guarantee. We further agree that no change in the constitution of the Bank or of the Employer shall affect this Guarantee.

The Employer shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee, from time to time, to vary the advance or to extend the time for performance of the Contract by the Contractor. The Employer shall have the fullest liberty without affecting this Guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor and to exercise the same at any time in any manner, and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the Employer and the Contractor or any other course or remedy or security available to the Employer. The Bank shall not be released of its obligations under these presents by any exercise by the Employer of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Employer or any other indulgence shown by the Employer or by any other matter or thing whatsoever which under law would but for this provision, have the effect of relieving the Bank.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee

against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other Guarantee that the Employer may have in relation to the Contractor's liabilities.

We, the Said Bank do hereby declare that we have absolute and unconditional power to issue this Guarantee in your favour under the Memorandum and Articles of Association or such other constitutional documents of the Bank and the undersigned have full power to execute this Guarantee under the Power of Attorney / Post Approval Authorization dated _____ of the Bank granted to him / us by the Bank. We the said Bank do hereby declare and undertake that your claim under the Guarantee shall not be affected by any deficiency or other defect in the powers of the Bank or its officials and the Guarantee shall be deemed to have been issued as if the Bank and its officials have all the powers and authorization to give this Guarantee on behalf of the Bank.

We the said Bank does hereby certify the genuineness and appropriateness of the Stamp paper and stamp value used for issuing the Guarantee. We the said Bank does hereby declare and undertake that your claim under the Guarantee shall not be affected by any deficiency or other defect in the stamp paper or its stamp value.

We the said Bank do hereby declare that our payments hereunder shall be made to you , free and clear of and without and deduction, reduction on account of any reasons including any and all present and future taxes, levies, charges of withholding whatsoever imposed or collected with respect thereto.

Notwithstanding anything contained hereinabove our liability under this Guarantee is limited to Rs._____(Rupees _____only) and it shall remain in force upto and including _____and shall be extended from time to time for such period (not exceeding one year), as may be desired by M/S _____on whose behalf this Bank Guarantee has been given.

Notwithstanding anything contained herein:

i) Our liability under this Guarantee shall not exceed Rs. (Rupees_____only);
ii) This Bank Guarantee shall be valid upto and
iii) We are liable to pay up to the Guaranteed amount only and only if we receive from you a written claim or demand within the claim period not later than 12 months from the said expiry date relating to default that happened during the Guarantee period and shall your rights under this Bank Guarantee shall be extinguished and our liability under the Bank Guarantee shall stand discharged unless such written claim or demand is received by us from you on or before _____ being the date of expiry of the claim period. (**Indicate a date one year after validity of Guarantee**).

Dated this _____day of _____at Gurgaon

WITNESSES

1 2

(Signature) (Signature)

_____ _____

(Name) (Name)

_____ _____

(Official address) (Designation with Bank stamp)

Attorney as Power of Attorney

(Signature) No.

Dt._____

(Name)

_____

Annexure 16 - Financial Information - Turnover

Financial Analysis: Details to be furnished duly supported by figures in balance sheet for last 5 years duly certified by the Chartered Accountant, as submitted by the applicant to the Income Tax Department

Years	Annual turnover	Net Worth as on last date of the financial year
2017-2018		
2018-2019		
2019-2020		
2020-2021		
2021-2022		
Average		

Signature of Chartered Accountant (with Seal)
UDIN No.

Signature of Bidder(s) (with Seal)

Annexure 17 - Financial Information – Profit & Loss

Profit/ Loss Statement: Details to be furnished duly supported by figures in profit/ loss statement sheets for last 5 years duly certified by the Chartered Accountant, as submitted by the applicant to the Income Tax Department

Years	PROFIT	LOSS
2017-2018		
2018-2019		
2019-2020		
2020-2021		
2021-2022		

Signature of Chartered Accountant (with Seal)
UDIN No.

Signature of Bidder(s) (with Seal)

Annexure 18 - Form of Solvency Certificate

(From a Nationalized/ Scheduled Commercial Bank approved by Reserve Bank of India (RBI))

To,

Addl. Chief Engineer (CMU - II)
WAPCOS Limited,
76-C, Sector 18, Gurgaon - 122015

Name of the work: Construction of Phase A works at Jawahar Navodaya Vidyalaya (JNV) at Tufanganj, District Cooch Behar, West Bengal (WB)

This is to certify that to the best of our knowledge and information that M/s. ……. having marginally noted address, a customer of our Bank are/is respectable and can be treated as good for any engagement up to a limit of Rs…… (Rupees……..).

This certificate is issued without any Guarantee or responsibility on the Bank or any of the officers.

(Signature) For the Bank with seal
Name:
Designation:
Power of Attorney No. :

NOTE:

1. Solvency certificate shall be on letter head of the Bank

Annexure 19 - Proforma for Understanding the Project Site

(Affidavit on Non-Judicial Stamp Paper of Rs. 10/- duly attested by Notary / Magistrate)

I/we hereby certify that I/we have examined & inspected the site & it's surrounding satisfactorily, where the project is to be executed. I/ We are well aware about the following:

- Location of the proposed building and its allied works.
- Site clearance and location of matured trees.
- Topography, contouring and any other relevant feature like Pond, nallah etc. of the land where the project is to be executed to understand the cutting & filling during the construction and about depth of column/ foundation below the plinth level.
- Nature of the ground & sub-soil of the site and accessibility to the site.
- Location of local Sewer line, local Water pipeline and local electrical supply line and other relevant services to connect the proposed building and allied works to make the building functional after taking proper permission and approvals from the concerned Departments.

I / We hereby submit our Bid considering above all facts gathered during site visit and each & every aspect have been considered in the Quoted Percentage Rate & Price.

Signature of Bidder
with seal

Annexure 20 - Format of no Deviation Certificate

(To be submitted on Bidder's Letter Head)

To
Additional Chief Engineer,
WAPCOS Limited,

Subject: No Deviation Certificate for ------ (name of Work /Project)

Dear Sir,

With reference to above this is to confirm that as per Tender conditions we have visited site before submission of our Offer and noted the job content and site condition etc. We also confirm that we have not changed/modified the above tender document and in case of observance of the same at any stage it shall be treated as null and void.

We hereby also confirm that we have not taken any deviation from Tender Clause together with other reference as enumerated in the above referred Notice Inviting Tender and we hereby convey our unconditional acceptance to all terms & conditions as stipulated in the Tender Document including any corrigendum / addendum and replies to pre-bid queries. In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null and void.

Yours faithfully,

Signature, name and designation of
the Authorized signatory)

Name and seal of Bidder

Date:
Place:

Annexure 21 - Format for Financial Bid

(To be submitted online only)

(On the letter head of the Company)

To
The Additional Chief Engineer
WAPCOS Limited

Sub: Submission of Financial of Bid

Sir,

Having reviewed and fully understood all the requirements of Bid submission provided in the tender document, pertaining to (Name of Work) _____, I/we hereby submit our Financial Proposal on percentage rate (Single Percentage Basis) as per scope of work and other terms & conditions mentioned in tender document.

I/We have read and examined the all the Sections/Volumes of Bid document i.e., Notice Inviting Tender, Instruction to Bidders, General Conditions of Contract, Additional Conditions of Contract, Schedule of Quantities, etc. Specifications, Drawings, and all other contents in the bid document for the work of _____.

I/We hereby agree for the execution of the work within the specified time as mentioned in the bidding document.

I/We hereby submit that our percentage rate & quoted amount includes all associated costs with the project including any out of pocket / mobilization expenses, buildings and other construction workers welfare cess, insurance, TDS, taxes, royalties, as applicable as per Government norms, in accordance with Clause 33 of GCC (Section-IV). We shall be reimbursed only the actual amount of GST on submission of proof of deposit of GST. It also includes the cost towards packing, forwarding, insurance, freight and delivery installation, testing and commissioning, etc.

I/we hereby agree that if at any time during the entire period of contract the Employer observes that I/we have not deposited the GST to the Government as per norms, the same shall be deducted from any amount payable to us.

I/We hereby submit that I/We have gone through the Scheduled of Quantities and agree that the rate provided against each item(s) of Scheduled of Quantities are correct and the Employer are not bound to share with us the detail analysis of the rate(s) of non-scheduled/non-DSR items.

I/We hereby agree that there may be certain differences in Description of item(s) provided in Scheduled of Quantities with Description of item(s) of Delhi Schedule of Rates (DSR), however, I/we agree to accept the rate provided in the Schedule of Quantities and execute the work as per the direction of Engineer-in-Charge without any additional cost.

I/We agree to keep the bid open for One hundred eighty (180) days from the last date of submission of Bid, including extension, if any.

I/we understand that you are not bound to accept the lowest evaluated Bid or any other bid that you may receive.

If our Bid is accepted, we commit to submit a Performance Security in accordance with the Bidding Documents.

I/We agree to be bound by this offer if we are the selected Contractor for this project.

For and on behalf of:

Signature:

Name of Authorized Signatory:

Designation:

Annexure 22 - Format for Financial Bid

(To be submitted online only)

Validate Print Help

Percentage BoQ

Tender Inviting Authority: WAPCOS Limited

Name of Work: Construction of Phase A works at Jawahar Navodaya Vidyalaya (JNV) at Tufanganj, District Cooch Behar, West Bengal (WB)

Contract No: WAP/CMU - II/NVS/JNV/Cooch Behar/2023/21

Name of the Bidder/ Bidding Firm / Company :						

PRICE SCHEDULE

(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)

The Price Schedule in excel format should be uploaded of Section- XI of Volume-I of Tender Document

NUMBER #	TEXT #	NUMBER #	TEXT #	NUMBER	NUMBER #	TEXT #
Sl. No.	Item Description	Quantity	Units	Estimated Rate in Rs. P	TOTAL AMOUNT Inclusive Taxes in Rs. P	TOTAL AMOUNT (Inclusive GST/Taxes) In Words
1	2	3	4	5	6	7
1	Total estimated cost as per Bill of Quantities attached in Section- XI (in Rs.)	1.000	Nos	479789511.68	479789511.68	INR Forty Seven Crore Ninety Seven Lakh Eighty Nine Thousand Five Hundred & Eleven and Paise Sixty Eight Only
Total in Figures					479789511.68	INR Forty Seven Crore Ninety Seven Lakh Eighty Nine Thousand Five Hundred & Eleven and Paise Sixty Eight Only
Quoted Rate in Figures			Select		0.00	INR Zero Only
Quoted Rate in Words		INR Zero Only				

a) No conditions should be attached.
b) In case of difference between the words and figures, words would prevail.
c) Prices includes GST and all tax/cess, as applicable and insurance to this contract, etc. GST shall be payable extra as per prevailing rates.
d) The contractor shall issue Tax Invoices to WAPCOS Limited showing (i) Basic Amount (ii) GST Amount separately and the payment of GST will be made to contractor only after uploading of bill by contractor on GST portal "to avail Input benefit of GST"
e) "WAPCOS shall be performing all its duties of deducting TDS and other deductions on payments made to contractor as per applicable legislation in force on the date of submission of bid or to be newly/amended introduced during the execution of the contract

We agree to be bound by this offer if we are the selected contractor for this project

Annexure 23 - Format for Agreement

[Note; This Proforma is included in the Bidding Documents only for the information of Bidders. Only the successful Bidder shall, in due course, be required to fill this Proforma.]

THIS AGREEMENT IS MADE the _____ day of _____ between WAPCOS Limited_____of (Mailing address of WAPCOS Limited) _____ (hereinafter called "Employer" of the one part) and (Name of Contractor) ____ _____of (Mailing address of Contractor) _____ (hereinafter called "the Contractor" of the other part).

WHEREAS the WAPCOS Limited is desirous that "_____". (Herein after referred to as "the Work") should be executed by the Contractor AND WHEREAS by a Letter of Award No._____ dated _____WAPCOS Limited has accepted a Bid by the Contractor for the execution and completion of such Works AND WHEREAS the Contractor has agreed to undertake such work and furnish a performance security/bond pursuant to the Clause 2.35 of the section-II 'Instructions to Bidders'

NOW THIS AGREEMENT WITNESSETH as follows;

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the conditions of Contract hereinafter referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz;
    a) The Agreement
    b) The Letter of Award
    c) Corrigendum/Amendments if any
    d) Notice Inviting Tender (NIT)
    e) Instructions to Bidders
    f) General Conditions of the Contract
    g) Additional Conditions of Contract
    h) Schedule of Quantities
    i) General Technical specifications
    j) Annexures
    k) Clarifications / Correspondences
    l) Any other documents as forming part of the contract
3. The aforesaid documents shall be taken as complementary and mutually explanatory of one another.
4. In consideration of the payment to be made to the Contractor as mentioned in the NIT, the Contractor hereby covenants with the Employer to execute and complete the Works in conformity, in all respects, with the provisions of the Contract & NIT.
5. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein the Contract Price or such other sum as may become payable under the provisions of the contract at the time and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused their respective common Seals to be hereunto affixed (or have hereunto set their respective hands and Seals) the day and year first above written.

SIGNED, SEALED AND DELIVERED

By the said

_____

NAME _____

on behalf of the Contractor
in the presence of:

_____

NAME _____
Address _____
_____

By the said

_____

NAME _____

on behalf of the Employer
in the presence of;

_____

NAME _____
Address _____
_____

Annexure 24 - Contract for removal of defects after completion in respect of water proofing works

(To be submitted on Non-Judicial Stamp paper of minimum Rs. 100 duly attested by Notary / Magistrate)

(TOILET/ SHOWER/ UNDER GROUND TANK/ ROOF)

The Agreement made this _____ day of _____ Two thousand and _____ between _____son of _____ (hereinafter called the Guarantor of the one part) and the NVS (hereinafter called the Owner of the other part).

WHEREAS This agreement is supplementary to a contract (hereinafter called the contract) dated _____ and made between the GUARANTOR OF THE ONE part and the Employer of the other part, whereby the contractor, inter alia, undertook to render the buildings and structures in the contract recited completely water and leak-proof.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said structures will remain water and leak-proof for **ten years** from the date after the Defect Liability Period prescribed in the contract. NOW THE GUARANTOR hereby guarantees that water proofing treatment given by him will render the structures completely leak proof and the minimum life of such water proofing treatment shall be **ten years** to be reckoned from the date after the maintenance period prescribed in the contract.

Provided that the Guarantor will not be responsible for the leakage caused by earthquake or structural defects or misuse of roof or alteration and for such purpose:

(a) Misuse of roof shall mean any operation which will damage proofing treatment, like chopping of firewood and things of the same nature which might cause damage to the roof.
(b) Alteration shall mean construction of an additional storey or a part of the roof or construction adjoining to existing roof whereby proofing treatment is removed in parts.
(c) The decision of the owner with regard to cause of leakage/seepage shall be final.

During this period of guarantee the guarantor shall make good all defects and in case of any defect being found, render the building water proof to the satisfaction of the owner at his cost and shall commence the work for the rectification within seven days from the date of issue of the notice from the owner calling upon him to rectify the defects failing which the work shall be done by the department by some other agency contractor at the GUARANTOR's risk and cost. The decision of the owner as to the cost payable by the Guarantor shall be final and binding. That if guarantor fails to make good all defects or commits breach there under then the Guarantor will indemnify the principal and his successors against all loss, damage, cost expense otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and/or cost incurred by the owner the decision of the owner will be final and binding on the parties.

IN WITNESS WHEREOF these presents have been executed by the Obliger_____ and by _____ and for and on behalf of the NVS on the day, month and year first above written

SIGNED, SEALED AND delivered by OBLIGOR in the presence of :

1. …….
2. …….

SIGNED FOR AND ON BEHALF OF NVS BY _____
_____ in the presence of:

1. …….
2. …….

ANNEXURE 24 (a)

Form of Bank Guarantee Bond for Security Deposit for the Work of Water-Proofing Works.

1. In considerable of the Navodaya Vidyalaya Samiti (NVS) (hereinafter called "The Owner") having agreed to exempt..... (Hereinafter called the said contractor(s)) from the demand, under the terms and conditions of the Agreement No..... dated.....Made between ..... and ..... For the work of..... (hereinafter called "The said Agreement") security deposit for the due fulfillment by the said contractor(s) of the terms & conditions contained in the said Agreements for the work of Anti water proofing work on production of an irrevocable Bank Guarantee for Rs. 10,00,000/- (Rupees Ten Lakhs only), for ten years we ..... (Indicate the name of the bank) (Hereinafter referred to as "the Bank) hereby undertake to pay to the Owner an amount not exceeding Rs. 10,00,000/- (Rupees Ten Lakhs only) on demand by the Owner.

2. We..... (indicate the name of the bank) do hereby undertake to pay the amounts due and payable under this Guarantee without any demure, merely on a demand from NVS stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the bank under the Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. 10,00,000/- (Rupees Ten Lakhs only).

3. We..... (indicate the name of the bank) further undertake to pay to NVS any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.
   The payment so made by as under this bond shall be a valid discharge of our liability for payment there under and the contractor(s) shall have no claim against us for making such payment.

4. We..... (indicate the name of the Bank) further agree that the guarantee hereinafter contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of NVS under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till NVS certified that the terms and condition of the said agreement have been fully and properly carried out by the said contractor(s) and accordingly discharges this guarantee.

5. We…….. (indicate name of the bank) further agree with NVS that NVS shall have the fullest liberty without our consent and without effecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by NVS against the said contractor(s) and to for bear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said contractors(s) or for any bearance, act of commission of the part of NVS or any indulgence by NVS to the said contractor(s) or by any such matter of thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of Bank or the contractor(s).

7. We…… (indicate the name of the Bank) lastly undertake not to revoke this guarantee except with the previous consent of NVS in writing

8. This guarantee shall be valid upto ..... unless extended on demand by NVS. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. 10,00,000/- (Rupees Ten Lakhs only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged

Dated the..... Day of.....
for..... . (indicate the name of Bank)

Annexure 25 - Contract Data

Sl. No.	Brief Description	Clause /Ref. No.	Remarks
1.	Name of Work		Construction of Phase A works at Jawahar Navodaya Vidyalaya (JNV) at Tufanganj, District Cooch Behar, West Bengal (WB) comprising of School Buildings, Girls & Boys Hostels, Warden Residences, Principal Residence, Vice - Principal Residence, Kitchen & Dining, Type III Quarters, Type II Quarters, Guest House, Sub Station Building, Pump House, Sentry Booth, including Site Development and Bulk Services
2.	Approximate cost of work	Section-I	Rs. 47.98 Crore inclusive GST
3.	Engineer-in-Charge		Engineer as may be duly appointed and authorized in writing by Employer to act as "Engineer-in-Charge" on its behalf for the purpose of the Contract.
4.	Period for commencement of work	Section-I	The date of start of work shall be reckoned from the 15th day of date of issue of Letter of Award
5.	Time for completion of entire scope of works	Section-I	18 Months (Eighteen months) from date of commencement of work
6.	Pre-Bid Meeting	Section-I	13.07.2023 at 14:00 hours at WAPCOS Gurgaon office
7.	Deliverables/ Schedule for completion of tasks	Clause 10 of Section VI	Refer Relevant Sections
8.	Bid Validity	Clause 2.14 of Section-II	The Bid should be valid for a period of 180 days from the date of opening of the Bids.
9.	Amount of Bank Guarantee as Performance Security	Clause 2.35 of Section-II	3% of the Total Contract Price.
10.	Key Personnel	Clause 1 of Section VI	As per Annexure 9
11.	Undertaking for Manpower Deployment	Clause 1 of Section VI	As per Annexure 10

12.	Supply of Water for Construction Purpose		To be arranged by Contractor
13.	Supply of Electricity for Construction Purpose:		To be arranged by Contractor
14.	Insurance	Clause 3 of Section V	All Risk Insurance Policy (CAR policy) in the joint names of the Employer and the Contractor
15.	Discoveries	Clause 10D of Section-IV	Property of Employer
16.	Disputes	Clause 25 of Section-IV	Within Court of Delhi jurisdiction
17.	Procedure for Settlement of Disputes:	Clause 25 of Section-IV	Refer Relevant Section
18.	Extension of the Intended Completion Date	Clause 5 of Section-IV	To be decided by Employer
19.	Change of Scope (Variations) and Procedure for change of Scope:	Clause 12 of Section-IV	Modifications/alterations to the construction works vide notice to Contractor before the issue of the completion certificate
20.	Payments for Change of Scope (Variations):	Clause 12A of Section-IV	Refer Relevant Section
21.	Time Compensation Events	Clause 49 of Section-IV	Refer Relevant Section
22.	Security Deposit	Clause 1A of Section-IV	2.5% of the gross amount of each running and final bill
23.	Amount of liquidated damages in case of extension of completion date due to delays by the Contractor	Clause 2 of Section-IV	@ 1% (one percent) per month of delay to be computed on per day basis on the part of Contractor
24.	Advance Payment (Mobilization advance)	Clause 10B of Section-IV	10% of the work contract price
25.	Secured Advance	Clause 10B of Section-IV	Applicable
26.	Final Account	Clause 9 of Section-IV	Refer Relevant Section
27.	Termination	Clause 50 of Section-IV	Contractor causes a fundamental breach of the Contract
28.	Statutory Approval	Clause 8 of Section-IV	As required to complete the project
29.	Environmental Mitigation Measures During	Clause 43 of Section-IV	Refer Relevant Section

30.	Arbitration	Clause 25 of Section-IV	Refer Relevant Section
31.	Defect Liability Period from the date of issue of "Taking-over Certificate & Completion Certificate"	Clause 17 of Section-IV	12 months from the date of issue of the Taking Over Certificate or Completion Certificate whichever is later.
32.	Alternative Bids		Not accepted
33.	Authority for fixing compensation		Engineer-in-Charge
34.	Specifications to be followed		Clause 1.1 of Technical Specification in Volume II
35.	Enter into Contract/ signing of the Contract		Within 15 days from the date of issue of Letter of Award or signing of agreement whichever is earlier.
36.	Validity of Performance Security	Clause 1 of Section-IV	Valid until the date of 60 days after issuing of the Taking Over Certificate or Completion Certificate whichever is later.
37.	Minimum Payment to Contractor as running Account bill		Rs. 1 Crore

Section-IV
General Conditions of Contract (GCC)

Section-IV - General Conditions of Contract

A. Definitions

In the Contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them: -

1. **Applicable Law** means the laws and any other instruments having the force of law in India.
2. **"Employer"** means WAPCOS Limited who proposes to get the works executed as mentioned in the Contract on behalf of Navodaya Vidyalaya Samiti (NVS), Ministry of Education, Govt. of India.
3. **WAPCOS Limited** shall means a company registered under the Indian Company Act 1956, with its registered office at New Delhi or its Administrative officers or its Engineer or other employees authorized to deal with any matter with which these persons are concerned and authorized on its behalf.
4. **"Principal Employer/Owner/Client/Competent Authority"** NVS who has appointed WAPCOS Ltd. as Project Management Consultant for the work of "***Construction of Phase A works at Jawahar Navodaya Vidyalaya (JNV) at Tufanganj, District Cooch Behar, West Bengal (WB)***" and who shall act as an Employer on behalf of NVS to implement the project.
5. **"Project Management Consultant"** means WAPCOS Limited.
6. **"Project**" means "**Construction of Phase A works at Jawahar Navodaya Vidyalaya (JNV) at Tufanganj, District Cooch Behar, West Bengal (WB) comprising of School Buildings, Girls & Boys Hostels, Warden Residences, Principal Residence, Vice - Principal Residence, Kitchen & Dining, Type III Quarters, Type II Quarters, Guest House, Sub Station Building, Pump House, Sentry Booth, including Site Development and Bulk Services"**.
7. **'Approval'** means approved by WAPCOS Limited on behalf of NVS in writing.
8. The **Contract** means the documents forming the tender and acceptance thereof and the formal agreement executed between the Employer on behalf of the NVS and the Contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in-Charge and all these documents taken together, shall be deemed to form one Contract and shall be complementary to one another.
9. **"Contract Price"** or Contract value means the sum indicated in the Letter of Award for the performance of the Services, in accordance with conditions of the Contract, and includes adjustments in accordance with the Contract.
10. The **"Bidder/Tenderer/Contractor"** shall mean the individual, firm or company, whether incorporated or not, undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the permitted assignees of such individual, firm or company who are participating in Bidding process and will Execute the project after award of the Works as Contractor.

11. **Engineer-in-Charge means** the Engineer as may be duly appointed and authorized in writing by the Employer to act as "Engineer-in-Charge" on its behalf for the purpose of the Contract, to perform the duty set forth in this General Condition of Contracts and other Contract documents.
12. **Estimated Cost** means estimated cost put to tender for inviting Financial Bid from the interested Bidders.
13. **Effective Date** means the date on which this Contract comes into force and effect pursuant.
14. **In writing** means communicated in written form with proof of receipt.
15. **Language** means all documents and correspondence in respect of this Contract shall be in English Language.
16. **Letter of Award (LOA)** shall mean the Employer's letter or notification conveying his acceptance of the tender subject to such conditions as may have been stated therein.
17. **Month** means English Calendar month 'Day' means a Calendar Day of 24 Hrs. each.
18. **"Bid" or "Bids" or "Tender"** shall mean the offer submitted by a Bidder in accordance with this document for the above project.
19. **Schedule of Rate** means Delhi Schedule of Rates.
20. **Works** or **Work** shall unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the Contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional.
21. The words Tenderer, Bidder, Applicant, Contractor, shall have the same meaning.
22. The words Project Management Consultant, Consultant shall have the same meaning.
23. The words WAPCOS Ltd., WAPCOS Limited, WAPCOS shall have the same meaning.
24. The words Engineer-in-Charge, Engineer shall have the same meaning
25. Shop Drawings: Shop drawing are drawings or set of drawings produced by the Contractor, Supplier, Manufacturer, Subcontractor, or Fabricator.
26. The **Site** or **Location** shall mean the land/or other places on, into or through which work is to be executed under the Contract or any adjacent land, path or street through which work is to be executed under the Contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the Contract.
27. The Contractor's Bid is the completed Bidding document submitted by the Bidder to the Employer and includes Technical and Financial bids;
28. A Defect is any part of the Works not completed in accordance with the Contract;
29. The Defects Liability Period is the period named in the Contract Data and calculated from the date of handing over the project to the Employer/Owner.
30. Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works
31. Intended Completion Date is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Employer by issuing an extension of time.

32. Materials are all supplies, including consumables, used by the Contractor for incorporation in the Works.

33. Plant is integral part of the Works, which is to have a mechanical, electrical, electronic or chemical or biological function.

34. Specification means the Specification of the works included in the Contract and any modification or addition made or approved by the Employer.

35. A Sub Contractor is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.

36. Temporary Works are works designed, constructed, installed, and removed by the Contractors, which are needed for construction or installation of the Works;

37. "Permanent Works" means the permanent works to be executed and maintained in accordance with the Contract

38. A Variation or Change in Scope is an instruction given by the Engineer-in-Charge, which varies and change the scope of Works.

B. Interpretation

I. In interpreting the Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their general meaning under the language of the Contract unless specifically defined. The Employer provides instructions clarifying queries about the Conditions of Contract.

II. If sectional completion is specified in the Contract Data, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion date for the whole of the Works).

III. The documents forming the Contract shall be interpreted in the following order of priority:

- Contract Agreement
- Letter of Award, notice to proceed with the works
- Schedule of Quantities
- Corrigendum/ Addendum
- Additional Conditions of Contract
- General Conditions of Contract
- Contract Data
- Technical Specifications
- CPWD Specifications
- Drawings
- Indian Standards Specifications of BIS
- Correspondence with the Bidders (as applicable)
- Signed Copy of Documents submitted at the time of Bid Submission
- Contractor's Financial Bid
- Any other document listed in the Contract Data as forming part of the Contract

C. Discrepancies and Adjustment of Errors

i) The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale and Additional Conditions of Contract in preference to General Conditions of Contract.

ii) In the case of discrepancy between the schedule of Quantities/Building Components, the Specifications and/ or the Drawings, the following order of preference shall be observed: -

   a. Description of Schedule of Quantities.

   b. Particular Specification and Additional Condition, if any.

   c. Drawings.

   d. CPWD Specifications

   e. Indian Standard Specifications of B.I.S

iii) If there are varying or conflicting provisions made in any one document forming part of the Contract, the Engineer-in-Charge shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the Contractor.

iv) Any error in description, quantity or rate in Schedule of Quantities or any omission therefrom shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the Contract.

D. Sufficiency of Tender

i) The Contractor shall be deemed to have satisfied himself before bidding as to the correctness and sufficiency of his Bid for the Works and of the rates and prices stated in the Schedule of Quantities, which Bid rates and prices shall, except in-so far as it is otherwise provided in the Contract, cover all his obligations under the Contract, and all matters and things necessary for the proper execution/completion and maintenance of the works.

ii) The Contractor shall, subject to the provisions of the Contract, and with due care and diligence, execute and maintain the Works and provide all labour, including the supervision thereof, materials, constructional plant and all other things, whether of a temporary or permanent nature, required in and for such execution and maintenance, so far as the necessity for providing the same is specified in or is reasonably to be inferred from the Contract.

iii) The Contractor shall take full responsibility for the adequacy, stability and safety of all site operations and methods of construction, provided that the Contractor shall not be responsible, except as may be expressly provided in the Contract, for the design or specification of the Permanent Works, or for the design or specification of any Temporary Works prepared by the Engineer-in-Charge.

iv) The Contractor shall promptly inform the Engineer-in-Charge of any error, omission, fault and other defect in the design of or specifications for the Works which are discovered when reviewing the Bidding Documents or in the process of execution of the Works.

v) All instructions and orders given by the Engineer-in-Charge at Site are to be maintained in the Site Order Book and shall be taken to have been conveyed to the Contractor for his compliance.

vi) Rectification of defects (if any) in Defects Liability Period.

vii) Clearance of site before Handing over of the facilities after fulfilling all the Obligations as per the Contract

E. Clauses of Contract:

Clause 1: Performance Security

i) The Contractor shall submit an irrevocable Performance Security of 3% (Three percent) of the contract price in addition to other deposits mentioned elsewhere in the Contract for his proper performance of the Contract agreement, (not withstanding and/or without prejudice to any other provisions in the Contract) within period and as per format as well as other conditions as specified in Clause 2.35 of Section-II of volume-I.

ii) The Engineer-in-Charge shall not make a claim under the performance Security except for amounts to which the Employer is entitled under the Contract (not withstanding and/or without prejudice to any other provisions in the Contract agreement) in the event of:

(a) Failure by the Contractor to extend the validity of the Performance Security as described herein above, in which event the Engineer-in-Charge may claim the full amount of the Performance Security.

(b) Failure by the Contractor to pay Employer any amount due, either as agreed by the Contractor or determined under any of the Clauses/Conditions of the agreement, within 30 days of the service of notice to this effect by Engineer-in-Charge.

iii) In the event of the Contract being determined or rescinded under provision of any of the Clause/Condition of the agreement, the Performance Security shall stand forfeited in full and shall be absolutely at the disposal of the Employer.

iv) The Performance Security shall be valid until the date of 60 days after issuing of the Taking Over Certificate or Completion Certificate whichever is later. The performance guarantee shall be returned to the Contractor without any interest.

Clause 1A: Recovery of Security Deposit

i) The Bidder whose tender may be accepted (hereinafter called the Contractor) shall permit Employer at the time of making any payment to him for work done under the Contract to deduct a sum at the rate of 2.50% of the gross amount of each running and final bill.

ii) The Security Deposit as deducted above shall be released within 60 days of successful completion of 12 months of Defect Liability as Certified by the Engineer-in-Charge or till the final bill has been prepared and passed whichever is later.

Clause 2: Compensation for Delay

i) If the Contractor fails to maintain the required progress in terms of clause 5 or to complete the work and clear the site on or before the contract or justified extended date of completion as per clause 5 (excluding any extension under Clause 5.5) as well as any extension granted under clauses 12 and 15, he shall, without prejudice to any other right or remedy available under the contract on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below as the authority specified in Contract Data (whose decision in writing shall be final and binding) may decide on the amount of Contract price of the work for every completed day/month (as applicable) that the progress remains below that specified in construction programme or that the works remain incomplete.

This will also apply to items or group of items for which a separate period of completion has been specified.

a) Compensation for delay of work	1% (one percent) per month of delay to be computed on per day basis on the part of Contractor.

ii) Provided always that the total amount of compensation for delay to be paid under this Condition shall not exceed 10% of the Contract price of work or of the Contract price of the item or group of items of work for which a separate period of completion is originally given, as the case may be in line with instructions issued by CPWD.

iii) In case action under clause 2 has not been finalized and the work has been determined under clause 3, the right of action under this clause shall remain post determination of contract but levy of compensation shall be for days the progress is behind the schedule on date of determination, as assessed by the Engineer-in-Charge as the provision of Contract, after due consideration of justified extension. The compensation for delay, if not decided before the determination of contract, shall be decided after of determination of contract.

iv) The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other Contract with the Employer. In case, the Contractor does not achieve a particular mentioned milestone in schedule as per accepted Construction Schedule, or the re-scheduled milestone (s) if any, the amount shown against that milestone shall be withheld, to be adjusted against the compensation levied at the final grant of Extension of Time. Withholding of this amount on failure to achieve a milestone, shall be automatic without any notice to the Contractor. However, if the Contractor catches up with the progress of work on the subsequent milestone(s) the withheld amount shall be released.

v) In case the Contractor fails to make up for the delay in subsequent milestone(s) amount mentioned against each milestone missed subsequently also shall be withheld. However, no interest, whatsoever shall be payable on such withheld amount.

Clause 3: When Contract can be Determined

Subject to other provisions contained in this clause, the Engineer-in-Charge may, without prejudice to his any other rights or remedy against the Contractor in respect of any delay, inferior workmanship, any claims for damages and/or any other provisions of this Contract or otherwise, and whether the date of completion has or has not elapsed, by notice in writing absolutely

determine the Contract in any of the following cases:

i. If the Contractor having been given by the Engineer-in-Charge a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or un-workman like manner shall omit to comply with the requirement of such notice for a period of seven days thereafter.

ii. If the Contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence so that in the opinion of the Engineer-in-Charge (which shall be final and binding) he will be unable to secure completion of the work by the date for completion and continues to do so after a notice in writing of seven days from the Engineer-in-Charge.

iii. If the Contractor fails to complete the work or section of work with individual date of completion on or before the stipulated or justified extended date, on or before such date of completion; and the Engineer-in-Charge without any prejudice to any other right or remedy under any other provision in the contract has given further reasonable time in a notice given in writing in that behalf as either mutually agreed or in absence of such mutual agreement by his own assessment making such time essence of contract and in the opinion of Engineer-in-Charge the Contractor will be unable to complete the same or does not complete the same within the period specified.

iv. If the Contractor persistently neglects to carry out his obligations under the Contract and/ or commits default in complying with any of the terms and conditions of the Contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge.

v. If the Contractor shall offer or give or agree to give to any person in the Employer's service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other Contract for WAPCOS Limited.

vi. If the Contractor shall enter into a Contract with the Employer in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Engineer-in-Charge.

vii. If the Contractor had secured the Contract with the Employer as a result of wrong tendering or other non-bonafide methods of competitive tendering or commits breach of Integrity Agreement.

viii. If the Contractor being an individual, or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of his estate made against him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport so to do, or if any application be made under any Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors.

ix. If the Contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.

x. If the Contractor shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days.

xi. If the Contractor assigns, transfers, sublets (engagement of labour on a piece- work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Engineer-in-Charge.

When the Contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in-Charge on behalf of the Employer shall have powers:

a) To determine the Contract as aforesaid (of which termination notice in writing to the Contractor under the hand of the Engineer-in-Charge shall be conclusive evidence). Upon such determination, the Security Deposit already recovered and Performance Security under the Contract shall be liable to be forfeited and shall be absolutely at the disposal of the Employer.

b) After giving notice to the Contractor to measure up the work of the Contractor and to take such whole, or the balance or part thereof, as shall be un-executed out of his hands and to give it to another Contractor to complete the work. The Contractor, whose Contract is determined as above, shall not be allowed to participate in the tendering process for the balance work.

In the event of above courses being adopted by the Engineer-in-Charge, the Contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the Contract. And in case action is taken under any of the provision aforesaid, the Contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this Contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

Note:

Actions under Clause 2 and 3 are independent.

The compensation under Clause 2 is for loss caused due to delay in performance, whereas, the compensation under Clause 3 is for consequential losses due to non-performance of the Contract. Hence, the Employer is entitled to compensation under Clause 3 and Clause 2 independently. Hence, the Employer is empowered to take action under Clause 2 for levy of compensation depending on liability of Contractor under Clause 2 based on the delay at the stage of Clause 3 action, before determination.

Clause 3A- Closure of Contract on Non- commencement of Work:

In case, the work cannot be started due to reasons not within the control of the Contractor

within 1/8th of the stipulated time for completion of work or one month whichever is higher, either party may close the Contract. In case Contractor wants to close the Contract, he shall give notice to the Employer stating the failure on the part of Employer. In such eventuality, the Performance Security of the Contractor shall be refunded, but no payment on account of interest, loss of profit or damages etc. shall be payable at all.

Neither party shall claim any compensation for such eventuality. This clause is not applicable for any breach of the contract by either party.

Clause 4: Contractor Liable to Pay Compensation Even if Action not Taken under Clause 3

In any case in which any of the powers conferred upon the Engineer-in-Charge by **Clause 3** thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the Contractor and the liability of the Contractor for compensation shall remain unaffected. In the event of the Engineer-in-Charge putting in force all or any of the powers vested in him under the preceding clause he may, if he so desires after giving a notice in writing to the Contractor, take possession of (or at the sole discretion of the Engineer-in-Charge which shall be final and binding on the Contractor) use as on hire (the amount of the hire money being also in the final determination of the Engineer-in-Charge) all or any tools, plant, materials and stores, in or upon the works, or the site thereof belonging to the Contractor, or procured by the Contractor and intended to be used for the execution of the work/or any part thereof, paying or allowing for the same in account at the Contract rates, or, in the case of these not being applicable, at current market rates to be certified by the Engineer-in-Charge, whose certificate thereof shall be final, and binding on the Contractor, clerk of the works, foreman or other authorized agent to remove such tools, plant, materials, or stores from the premises (within a time to be specified in such notice) in the event of the Contractor failing to comply with any such requisition, the Engineer-in-Charge may remove them at the Contractor's expense or sell them by auction or private sale on account of the Contractor and his risk in all respects and the certificate of the Engineer-in-Charge as to the expenses of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the Contractor.

Clause 5: Time and Extension for Delay

The time allowed for execution of the Works as specified in the Contract data or the extended time in accordance with these conditions shall be the essence of the Contract. The execution of the works shall commence from such time period as mentioned in Contract data. If the Contractor commits default in commencing the execution of the work as aforesaid, the Employer shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the Performance Security absolutely.

5.1 As soon as possible but within 7 (seven) days from the date of commencement of work, the Contractor shall submit a Time and Progress Chart for each milestone and get it approved by the Engineer-in-Charge. The Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Employer

and the Contractor within the limitations of time imposed in the Contract documents, and further to ensure good progress during the execution of the work, the Contractor shall in all cases in which the time allowed for any work, exceeds one month (save for special jobs for which a separate programme has been agreed upon) complete the work as per milestones given in **Clause No. 10 of Section VI of Volume I.**

In case of non-submission of construction programme by the Contractor, the program approved by the Engineer-in-Charge shall be deemed to be final.

The approval by the Engineer-in-Charge of such programme shall not relieve the Contractor of any of the obligations under the contract.

Programme Chart

(i) The Contractor shall prepare an integrated programme chart in MS Project/Primavera software for the execution of work, showing clearly all activities from the start of work to completion, with details of manpower, equipment and machinery required for the fulfilment of the programme within the stipulated period or earlier and submit the same for approval to the Engineer-in- Charge within the specified time.

(ii) The programme chart should include the following:

(a) Descriptive note explaining sequence of the various activities.

(b) Network (PERT / CPM / BAR CHART).

(c) Programme for procurement of materials by the Contractor.

(d) Programme of procurement of machinery/equipment having adequate capacity, commensurate with the quantum of work to be done within the stipulated period, by the Contractor.

In addition to above, to achieve the progress of Work as per programme, the Contractor must bring at site adequate shuttering material required for cement concrete and R.C.C. works etc. within one month from the date of start of work till the completion of RCC work as per requirement of work. The Contractor shall submit shuttering schedule adequate to complete structure work within laid down physical milestone.

(iii) If at any time, it appears to the Engineer-in-Charge that the actual progress of work does not conform to the approved programme referred above or after rescheduling of milestones, the Contractor shall produce a revised programme within 7 (seven) days, showing the modifications to the approved programme to ensure timely completion of the work. The modified schedule of programme shall be approved by the Engineer-in-Charge.

(iv) The submission for approval by the Engineer-in-Charge of such programme or such particulars shall not relieve the Contractor of any of the duties or responsibilities under the Contract. This is without prejudice to the right of Engineer-in-Charge to take action against the Contractor as per terms and conditions of the agreement.

(v) The Contractor shall submit the progress report using MS Project/ Primavera software with base line programme referred above for the work done during previous month to the Engineer-in-charge on or before 5th day of each month.

The Contractor shall furnish to the Engineer-in-Charge monthly progress report in

triplicate on 5th day of every month also indicating the following:

Sl. No.	Item of work	Scheduled progress for the month	Actual short- fall if any	Reasons for short-fall	Steps taken to make-up the short-fall

The Contractor shall employ sufficient number of skilled and unskilled labour required for the work for maintaining the progress of work as stipulated in the Time schedule. The trade-wise labour strength should be intimated to the Engineer-in-Charge in writing. The skilled labour shall be increased if required by Engineer-in-Charge to maintain progress of the work. However, no additional payment shall be made for the same.

5.2 If the work(s) be delayed by:-

(i) Force majeure, or

(ii) Abnormally bad weather, or

(iii) Serious loss or damage by fire, or

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

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

(vi) Non-availability or break down of tools and Plant to be supplied or any other cause which, in the absolute discretion of the Engineer-in-Charge is beyond the Contractor's control.

Then upon the happening of any such event causing delay give notice thereof in writing to the Engineer-in-Charge but shall nevertheless use constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the works.

The Contractor shall have no claim of damages for extension of time granted or rescheduling of milestone/s for events listed in sub-clause 5.2.

5.3 In case the work is hindered by the Employer or for any reason / event, for which the Employer is responsible, the Engineer-in-Charge, if justified, give a fair and reasonable extension of time and reschedule the mile stones for completion of work. Such extension of time or rescheduling of milestone/s shall be without prejudice to any other right or remedy of the parties in contract or in law; provided further that for concurrent delays under this sub-clause and sub-clause 5.2 to the extent the delay is covered under sub-clause 5.2 the Contractor shall be entitled to only extension of time and no compensation/damages.

5.4 Request for rescheduling of Milestones and extension of time, to be eligible for

consideration, shall be made by the Contractor in writing within fourteen days of the happening of the event causing delay on the prescribed form to the Engineer-in-Charge. The Contractor may also, if practicable, indicate in such a request the period for which extension is desired. The Contractor shall indicate in such a request the period by which rescheduling of milestone/s or extension of time is desired. With every request for rescheduling of milestones, or if at any time the actual progress of work falls behind the approved programme by more than 10% of the stipulated period of completion of contract, the Contractor shall produce a revised programme which shall include all details of pending drawings and decisions required to complete the contract and also the target dates by which these details should be available without causing any delay in execution of the work. An amount as deemed appropriate by the Engineer-in-Charge shall be deducted on per day basis in case of delay in submission of the revised programme.

5.4.1 In any such case the Engineer-in-Charge may give a fair and reasonable extension of time for completion of work or reschedule the mile stones. Engineer-in-Charge shall finalize/ reschedule a particular mile stone before taking an action against subsequent mile stone. Such extension or rescheduling of the milestones shall be communicated to the Contractor by the Engineer-in-Charge in writing, within 21 days of the date of receipt of such request from the Contractor in prescribed form. In event of non-application by the Contractor for extension of time Engineer-in-Charge after affording opportunity to the Contractor, may give, supported with a programme (as specified under 5.4 above), a fair and reasonable extension within a reasonable period of occurrence of the event.

5.5 In case the work is delayed by any reasons, in the opinion of the Engineer-in-Charge, by the Contractor for reasons beyond the events mentioned in subclause 5.2 or subclause 5.3 or subclause 5.4 and beyond the justified extended date; without prejudice to right to take action under Clause 3, the Engineer-in-Charge may grant extension of time required for completion of work without rescheduling of milestones. The Contractor shall be liable for levy of compensation for delay for such extension of time.

Clause 6: Measurements of Work Done/ Computerized Measurement Book

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement the value of work done in accordance with the contract.

All measurements of all items having financial value shall be entered by the Contractor and compiled in the shape of the Computerized Measurement Book having pages of A-4 size as per the format of the Employer so that a complete record is obtained of all the items of works performed under the contract.

All such measurements and levels recorded by the Contractor or his authorized representative from time to time, during the progress of the work, shall be got checked by the Contractor from the Engineer-in-Charge or his authorized representative as per interval or program fixed in consultation with Engineer-in-Charge or his authorized representative. After the necessary corrections made by the Engineer-in-Charge, the measurement sheets shall be returned to the Contractor for incorporating the corrections and for resubmission to the Engineer-in- Charge for the dated signatures by the Engineer-in-Charge and the Contractor or their representatives in token of their acceptance.

Whenever bill is due for payment, the Contractor would initially submit draft computerized measurement sheets and these measurements would be got checked/test checked from the Engineer-in-Charge and/or his authorized representative. The Contractor will, thereafter, incorporate such changes as may be done during these checks/test checks in his draft computerized measurements, and submit to the Employer a computerized measurement book, duly bound, and with its pages machine numbered. The Engineer-in-Charge and/or his authorized representative would thereafter check this MB and record the necessary certificates for their checks/test checks.

The final, fair, computerized measurement book given by the Contractor, duly bound, with its pages machine numbered, should be 100% correct, and no cutting or over-writing in the measurements would thereafter be allowed. If at all any error is noticed, the Contractor shall have to submit a fresh computerized MB with its pages duly machine numbered and bound. The Contractor shall submit two spare copies of such computerized MB's for the purpose of reference and records.

The Contractor shall also submit to the Employer separately his computerized Abstract of Cost and the bill based on these measurements, duly bound, and its pages machine numbered along with two spare copies of the bill. Thereafter, this bill will be processed by the Engineer-in-Charge.

The Contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for checking of measurements/levels by the Engineer-in-Charge or his representative.

Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available then a mutually agreed method shall be followed.

The Contractor shall give not less than seven days' notice to the Engineer-in-Charge or his authorized representative in charge of the work before covering up or otherwise placing beyond the reach of checking and/or test checking the measurement of any work in order that the same may be checked and/or test checked and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of checking and/or test checking measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-Charge or his authorized representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of checking and/or test checking measurements without such notice having been given or the Engineer-in-Charge's consent being obtained in writing the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the Employer to check the measurements recorded by Contractor and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.

It is also a term of this contract that checking and/or test checking the measurements of any item of work in the measurement book and/or its payment in the interim, on account of final bill shall

not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the Contractor from liabilities from any over measurement or defects noticed till completion of the defect's liability period.

Clause 7: Payment on Intermediate Certificate to be Regarded as Advances

The interim or running account bill shall be submitted by the Contractor for work executed on the basis of recorded measurements on the format of the Employer in triplicate on or before the date of every month fixed for the same by the Engineer-in-Charge. The value of interim or running account bill shall not be less than Rs. 1 (one) crore. Contractor shall submit the bill with all requisite certificates/ documents. Engineer-in-Charge shall arrange to have the bill verified by taking or causing to be taken where necessary, the requisite measurement of the work within 15 working days. Observations if any shall be conveyed by the Engineer-in-Charge to the Contractor within 25 working days. Contractor shall resubmit the bill after compliance of observations. Payment on account of amount admissible shall be made by the Engineer-in-Charge certifying the sum to which the Contractor is considered entitled by way of interim payment at such rates as decided by Engineer-in-Charge. The amount shall be paid by 45 working days after the day of presentation of the corrected bill by the Contractor to the Engineer-in-Charge or his representative, subject to fulfillment of clause 42 of this section. Any delay in release of payment by Employer shall not entitle the Contractor to any compensation / interest from Employer.

All such interim payments shall be regarded as payment by way of advances against final payment only and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected. Any certificate given by the Engineer-in-Charge relating to the work done or materials delivered forming part of such payment, may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates is/are in accordance with the Contract and specifications. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer-in-Charge under the Contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the Contract.

Pending consideration of extension of date of completion, interim payments shall continue to be made as herein provided without prejudice to the right of the Employer to take action under the terms of this Contract for delay in the completion of work, if the extension of date of completion is not granted by the Competent Authority.

It is clearly agreed and understood by the Contractor that notwithstanding anything to the contrary that may be stated in the agreement between Employer and the Contractor; the Contractor shall become entitled to payment only after Employer has received the corresponding payment(s) from the Owner for the work done by the Contractor. Any delay in the release of payment by the Owner to Employer leading to a delay in the release the corresponding payment by Employer to the Contractor shall not entitle the Contractor to any compensation/interest from Employer.

All payments shall be released by way of e-transfer through RTGS in India directly at their Bank account by Employer.

Clause 7A

No Running Account Bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC / BOCW Welfare Board, whatever applicable are submitted by the Contractor to the Engineer-in-Charge.

Clause 8: Completion Certificate and Completion Plans

Within ten days of the completion of the Works, the Contractor shall give notice of such completion to the Engineer-in-Charge and within ninety (90) days of the receipt of such notice, the Engineer-in-Charge shall inspect the work and if there is no defect in the work, shall furnish the Contractor with a final certificate of completion, otherwise a provisional certificate of physical completion indicating defects (a) to be rectified by the Contractor and/or (b) for which payment will be made at reduced rates, shall be issued. But no final certificate of completion shall be issued, nor shall the work be considered to be complete until the Contractor shall have removed from the premises on which the work shall be executed all scaffolding, surplus materials, rubbish and all huts and sanitary arrangements required for his/their work people on the site in connection with the execution of the works as shall have been erected or constructed by the Contractor(s) and cleaned off the dirt from all wood work, doors, windows, walls, floor or other parts of the building, in, upon, or about which the work is to be executed or of which he may have had possession for the purpose of the execution; thereof, and not until the work shall have been measured by the Engineer-in-Charge. If the Contractor shall fail to comply with the requirements of this Clause as to removal of scaffolding, surplus materials and rubbish and all huts and sanitary arrangements as aforesaid and cleaning off dirt on or before the date fixed for the completion of work, the Engineer-in-Charge may at the expense of the Contractor remove such scaffolding, surplus materials and rubbish etc., and dispose of the same as he thinks fit and clean off such dirt as aforesaid, and the Contractor shall have no claim in respect of scaffolding or surplus materials as aforesaid except for any sum actually released by the sale thereof.

The completion certificate shall be issued to the Contractor after submission of all necessary completion/ occupational certificates from all concerned departments such as local urban bodies, Fire Department, State Electricity Board etc. of that area in accordance with statutory approvals as given hereunder to enable Employer/Owner to occupy and commission the project with services. No part completion certificate/ occupational certificate will be issued to Contractor.

Statutory Approvals

The scope includes pre- and post-construction approvals and permits from local authorities and statutory bodies to start the construction works and also to take occupancy. The Contractor on behalf of Employer shall obtain all approvals and statutory Clearances from Local Bodies, Explosive Department, State Government, Water Authority, Ground Water Authority, Pollution Control Board, Urban Development Ministry, Fire Department, Civil Aviation Department, Forest Department, etc. of that area to enable to start the construction works and also to enable Owner to occupy and commission with services. Unless the Contractor submits the statutory Clearances for post construction, the Works shall not be considered as complete. The Statutory fee shall be paid by Contractor in order to get clearances from the concerned departments. However, the same shall be reimbursed by the

Employer on production of documentary evidence without overhead or any additional charges.

Clause 8a: Completion Plans to be submitted by the Contractor

i) The Contractor shall submit completion plans for Internal and External Civil, Electrical, Plumbing and Fire Fighting Services within 30 days of the completion of the work, provided that the service plans having been issued for execution by the Engineer-in-Charge, unless the Contractor, by virtue of any other provision in the contract, is required to prepare such plans.

ii) The "As Built" Drawings and completion report shall be submitted by the Contractor within 30 days from the date of completion works.

Clause 9: Payment of Final Bill

The final bill shall be submitted by the Contractor in the same manner as specified in interim bills within three months of physical completion of the work or within one month of the date of the final certificate of completion furnished by the Engineer-in- Charge whichever is earlier. No further claims shall be made by the Contractor after submission of the final bill and these shall be deemed to have been waived and extinguished. Payments of those items of the bill in respect of which there is no dispute and of items in dispute, for quantities and rates as approved by Engineer-in-Charge, will be made within six months, the period being reckoned from the date of receipt of the bill by the Engineer-in-Charge or his authorized representative.

Clause 9A: Payment of Contractor's Bills to Banks: Not applicable

Clause 10: Materials Supplied by the Employer: Not applicable

Clause 10A: Materials to be Provided by Contractor

The Contractor shall, at his own expense, provide all materials, required for the works.

The Contractor shall, at his own expense and without delay, supply to the Engineer-in-Charge samples of materials to be used on the work and shall get these approved in advance. All such materials to be provided by the Contractor shall be in conformity with the specifications laid down or referred to in the Contract. The Contractor shall, if requested by the Engineer-in-Charge furnish proof, to the satisfaction of the Engineer-in-Charge that the materials so comply. The Engineer-in-Charge shall within thirty days of supply of samples or within such further period as he may require intimate to the Contractor in writing whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the Engineer-in-Charge for his approval, fresh samples complying with the specifications laid down in the Contract. When materials are required to be tested in accordance with specifications, approval of the Engineer-in-Charge shall be issued after the test results are received.

The Contractor shall at his risk and cost submit the samples of materials to be tested or analyzed and shall not make use of or incorporate in the work any materials represented by the samples until the required tests or analysis have been made and materials finally accepted by the Engineer-in-Charge. The Contractor shall not be eligible for any claim or compensation either arising out of any delay in the work or due to any corrective measures required to be taken on account of and as a result of testing of materials.

The Contractor shall, at his risk and cost, make all arrangements and shall provide all facilities as the Engineer-in-Charge may require for collecting, and preparing the required number of samples for such tests at such time and to such place or places as may be directed by the Engineer-in-Charge and bear all charges and cost of testing. The Engineer-in-Charge or his authorized representative shall at all times have access to the works and to all workshops and places where work is being prepared or from where materials, manufactured articles or machinery are being obtained for the works and the Contractor shall afford every facility and every assistance in obtaining the right to such access.

The Engineer-in-Charge shall have full powers to require the removal from the premises of all materials which in his opinion are not in accordance with the specifications and in case of default, the Engineer-in-Charge shall be at liberty to employ at the expense of the Contractor, other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials. The Engineer-in-Charge shall also have full powers to require other proper materials to be substituted thereof and in case of default, the Engineer-in-Charge may cause the same to be supplied and all costs which may attend such removal and substitution shall be borne by the Contractor.

The Contractor shall at his own expense, provide a material testing lab at the site for conducting routine field tests. The lab shall be equipped at least with the testing equipment as specified in Contract.

If the Engineer-in-Charge instructs the Contractors to carry out a test not specified in the Specification to check whether any work has a Defect. Such tests are to be carried out by the Contractor by deploying agencies and paying all the cost for such tests.

Clause 10B:

(i) Secured Advance on Non-perishable Materials

The Contractor, on signing an indenture in the form to be specified by the Engineer-in-Charge, shall be entitled to be paid during the progress of the execution of the work up to 75 (seventy-five) % of the assessed value of any materials which are in the opinion of the Engineer-in-Charge non-perishable, non-fragile and non-combustible and are in accordance with the Contract and which have been brought on the site in connection therewith and are adequately stored and/or protected against damage by weather or other causes but which have not at the time of advance been incorporated in the works. When materials on account of which an advance has been made under this sub-clause are incorporated in the work, the amount of such advance shall be recovered/ deducted from the next payment(s) made under any of the clause or clauses of this Contract.

(ii) Mobilization Advance

If requested by the Contractor, the Employer shall make interest bearing advance payment for mobilization of labour, stores and workshops including camps, labour sheds, machineries and construction plant, etc. for preliminary and enabling Works, after the signing of Contract agreement to the extent of 10 (ten) % of Contract price against an Unconditional Bank Guarantee issued by Nationalized/ Scheduled Commercial Bank. Such advance shall be paid in two installments. The first installment of 5 (five) % shall be released by the Engineer-in-charge to the

Contractor on a request made by the Contractor to the Engineer-in-charge in this behalf. The second and subsequent installment of 5 (five) % shall be released by the Engineer-in-Charge after the Contractor furnishes a proof of the satisfactory utilization of the earlier installment to the entire satisfaction of the Engineer-in-charge.

The mobilization advance bears simple interest at the rate 10 % and shall be calculated from the date of payment to the date of recovery (365 days in a year) both days inclusive, on the outstanding amount of advance.

Before any installment of advance is released, the Contractor shall execute a Bank Guarantee Bond from a Nationalized/ Scheduled Commercial Bank approved by Reserve Bank of India (RBI) for the amount equal to 110% of amount of advance and valid till the Completion period.

Recovery of such sums advanced shall be made by the deduction from the Contractors bills commencing after first ten percent of the gross value of the work is executed and paid, on pro-rata percentage basis to the gross value of the work billed beyond 10% in such a way that the entire advance is recovered by the time eighty percent (80%) of gross value of the Contract is executed and paid together with interest due on the entire outstanding amount upto the date of recovery of the installment.

If the advance payment has not been repaid prior to the issue of the Taking over Certificate for the work or prior to termination under Clause 50 and 51 of Section-IV, the balance advance is payable by the Contractor to the Employer.

A separate dedicated Bank Account shall be opened by the Contractor in any Nationalized/ Scheduled Commercial Bank before release of mobilization/tools & plants advance and shall be utilized for the purpose of the project only.

Installments of Mobilization advance except the first installment shall be released only after receiving the utilization certificate supported by Bank statement of the said account showing the disbursement of mobilization advance by the Contractor.

(iii) Plant Machinery & Shuttering Material Advance: Not Applicable

Clause 10C: Price Adjustment due to increase/decrease in prices/wages after Receipt of Tender for Works (Price Escalation/De-escalation)

There will be no escalation on account of any increase in price index in the price of materials or labors, imposition of sales tax or enactment of any new law or imposition of levies etc. No price escalation shall be applicable even during the extended period for completing the works. No extra claim in this regard will be entertained

Clause 10D: Materials Obtained During Excavation

The Contractor shall treat all materials obtained during excavation of the site for a work, etc. as Government property and same shall be disposed-off according to the instructions in writing issued by the Engineer-in-Charge.

Clause 11: Works to be Executed in Accordance with Specifications, Drawings, and Orders etc.

The Contractor shall execute the work as per the sequence submitted by Contractor and approved

by Engineer-in-Charge from time to time so that all other items of the work to be executed by other agencies are completed progressively along with the main work.

The Contractor shall execute the whole and every part of the work in the most substantial and workmanlike manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The Contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect of the work signed by the Engineer-in-Charge and the Contractor shall be furnished free of charge one copy of the Contract documents together with specifications, designs, drawings and instructions as are not included in the standard specifications or in any Bureau of Indian Standard or any other, published standard or code or, Schedule of Rates or any other printed publication referred to elsewhere in the Contract.

The Contractor shall comply with the provisions of the Contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the Contract. The Contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction.

At least 10% of prescribed Tests as per Central Public Works Department Manual/IS Codes of construction materials shall be carried out from the outside approved/NABL recognized Laboratory as may be approved by Engineer-in-Charge without any extra expenditure to Employer.

The Contractor shall establish a field test laboratory on the site with latest equipment's for carrying out field tests of construction materials and shall maintain proper records of all the test results.

Clause 12: Deviations/ Variations: Extent

12.1 The Engineer-in-Charge shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, (ii) increase or decrease the quantity of any work included in the Contract, (iii) change the character or quality or kind of any such work, (iv) change any specified sequence, or timing of construction of any part of the Works and (v) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the Contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer-in-Charge and such alterations, omissions, additions or substitutions, etc. shall form part of the Contract as if originally provided therein and any altered, additional or substituted work which the Contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the Contractor on the same conditions in all respects on which he agreed to do the main work.

No such variations shall in any way vitiate or invalidate the Contract, but the effect if any, of all such variations shall be valued in accordance with **Clause – 12A.**

Provided that where the issue of an instruction to vary the Works is necessitated by some default of or breach of Contract by the Contractor or for which he is responsible, any additional cost attributable to such default shall be borne by the Contractor.

12.2 The time for completion of the works shall, in the event of any deviations resulting in additional cost over the tendered value sum being ordered, be extended, if requested by the Contractor, as follows;

i) In the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value plus

ii) 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer-in-Charge.

12.3 The unit rate mentioned in Schedule of Quantities (SoQ) for the individual items shall apply for: -

i) The quantities mentioned in Schedule of Quantities plus thirty percent (30%) of SoQ other than foundation work.

ii) For foundation works the quantities mentioned in Schedule of Quantities plus hundred percent (100%) of SoQ.

The above-mentioned subclause 12.2 and subclause 12.3 shall be applicable to each location separately

When such deviations exceed the above limit then the rates for such variations and the altered, additional and substituted item shall be determined in accordance with procedure indicated under clause-**12A of Section-IV**.

12.4 The following works shall be treated as works relating to foundation unless & otherwise defined in the Contract:

i) For Buildings: All works up to 1.2 metres above ground level or up to floor 1 level whichever is lower.

ii) For abutments, piers and well staining: All works up to 1.2 m above the bed level.

iii) For retaining walls, wing walls, boundary walls, chimneys, overhead reservoirs/tanks and other elevated structures: All works up to 1.2 metres above the ground level.

iv) For reservoirs/tanks (other than overhead reservoirs/tanks): All works up to 1.2 metres above the ground level.

(v) For basement: All works up to 1.2 m above ground level or up to floor 1 level whichever is lower.

(vi) For Roads, all items of excavation and filling including treatment of sub base.

12.5 Any operation incidental to, or necessary for proper execution of the item included in the Schedule of quantities or in the Schedule of rates mentioned above, whether or not, specifically indicated in the description of the item and the relevant specifications, shall be deemed to be included in the rates quoted by the Tenderer or the rate given in the said Schedule of rates, as the case may be. Nothing extra shall be admissible for such operations.

Clause 12A: Payments for Change of Scope (Variations):

The rates for extra / additional, substituted items and deviated items of Work as are required to be executed due to variations, as stated in Clause-12 above shall be payable in the manner as stated hereunder:

12A.1 In the case of extra item(s) (items that are completely new), which are Non-Scheduled Items (not available in the Delhi Schedule of Rates), the Contractor may within fifteen days of receipt of order or occurrence of the item(s) claim rates, supported by proper analysis, which shall include invoices, vouchers etc. from Manufacturer's specification for the work failing which the rates approved by Engineer-in-Charge shall be binding and the Engineer-in-Charge shall within one month of the receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the Contractor, determine the rates on the basis of the market rates and the Contractor shall be paid in accordance with the rates so determined. Market Rate shall be the rate as decided by the Engineer-in-Charge on the basis of the cost of materials and labour at the time of commencement of execution of the item, where the work is to be executed, plus 15% percentage towards all overheads and profits.

12A.2 In case the extra item(s) or substituted item (s) being the Scheduled Item (Delhi Schedule of rates), these shall be paid as per the schedule rate based on which the Cost Estimates have been prepared plus applicable cost index and plus/minus tender percentage with respect to estimated cost.

12A.3 In case the rate for the substituted item & agreement item (to be substituted) both are not existing in Delhi Schedule of Rate at which the Cost Estimates have been prepared, then the rate for the agreement item and substituted item shall be determined in the manner as mentioned in the following para:

a) If the market rate for the substituted item so determined is more than the market rate of the agreement item (to be substituted), the rate payable to the Contractor for the substituted item shall be the rate for the agreement item (to be substituted) so increased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).

b) If the market rate for the substituted item so determined is less than the market rate of the agreement item (to be substituted), the rate payable to the Contractor for the substituted item shall be the rate for the agreement item (to be substituted) so decreased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).

12A.4 The rate for deviated item(s) beyond the specified limit as mentioned in Clause 12.3 above shall be determined in the following manner:

a) The deviated item that does not exist in Delhi Schedule of Rates, the same shall be determined in the manner specified in Clause 12A.1 above.

b) The deviated item that exists in Delhi Schedule of Rates, the same shall be paid as per the scheduled rate prevailing at time of execution of work plus applicable cost index.

Under no circumstances the Contractor shall at any stage, suspend the work on account of non-settlement on rates of such deviated, altered, additional or substituted items.

Clause 13: Foreclosure of Contract due to Abandonment or Reduction in Scope of Work

If at any time after acceptance of the tender, Engineer-in-Charge shall decide to abandon or reduce the scope of the works for any reason whatsoever and hence not require the whole or any part of the works to be carried out, the Engineer-in-Charge shall give notice in writing to that effect to the Contractor and the Contractor shall act accordingly in the matter. The Contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the works in full but which he did not derive in consequence of the foreclosure of the whole or part of the works.

The Contractor shall be paid at Contract rates, full amount for works executed at site and, in addition, a reasonable amount as certified by the Engineer-in-Charge for the items hereunder mentioned which could not be utilized on the work to the full extent in view of the foreclosure;

i. Any expenditure incurred on preliminary site work, e.g., temporary access roads, temporary labour huts, staff quarters and site office; storage accommodation and water storage tanks.
ii. The Employer shall have the option to take over Contractor's materials or any part thereof either brought to site or of which the Contractor is legally bound to accept delivery from Suppliers (for incorporation in or incidental to the work) provided, however the Employer shall be bound to take over the materials or such portions thereof as the Contractor does not desire to retain. For materials taken over or to be taken over by the Employer, cost of such materials as detailed by Engineer-in- Charge shall be paid. The cost shall, however, take into account purchase price, cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the Contractor.
iii. If any materials supplied by the Employer are rendered surplus, the same except normal wastage shall be returned by the Contractor to the Employer at rates not exceeding those at which these were originally issued, less allowance for any deterioration or damage which may have been caused whilst the materials were in the custody of the Contractor. In addition, cost of transporting such materials from site to the Employer's stores, if so required by the Employer, shall be paid.
iv. Reasonable compensation for transfer of T & P from site to Contractor's permanent stores or to his other works, whichever is less. If T & P are not transported to either of the said places, no cost of transportation shall be payable.
v. Reasonable compensation for repatriation of Contractor's site staff and imported labour to the extent necessary.

The Contractor shall, if required by the Engineer-in-Charge, furnish to him, books of account, wage books, time sheets and other relevant documents and evidence as may be necessary to enable him to certify the reasonable amount payable under this condition.

The reasonable amount of items on (i), (iv) and (v) above shall not be in excess of 2% of the cost of the work remaining incomplete on the date of closure, i.e., total stipulated cost of the work as per accepted tender less the cost of work actually executed under the Contract and less the cost of Contractor's materials at site taken over by the Employer as per item (ii) above. Provided always that against any payments due to the Contractor on this account or otherwise, the Engineer-in-Charge shall be entitled to recover or be credited with any outstanding balances due from the Contractor for advance paid in respect of any tool, plants and materials and any

other sums which at the date of termination were recoverable by the Employer from the Contractor under the terms of the Contract.

In the event of action being taken under Clause 13 to reduce the scope of work, the Contractor may furnish fresh Performance Security on the same conditions, in the same manner and at the same rate for the balance tendered amount and initially valid up to the extended date of completion or stipulated date of completion if no extension has been granted plus minimum 60 days beyond that. Wherever such a fresh Performance Security is furnished by the Contractor the Engineer-in-Charge may return the previous Performance Security.

Clause 14: Carrying out Part Work at Risk & Cost of Contractor

If Contractor:

(i) At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do so even after a notice in writing of 7 days in this respect from the Engineer-in-Charge; or

(ii) Commits default in complying with any of the terms and conditions of the Contract and does not remedy it or takes effective steps to remedy it within 7 days even after a notice in writing is given in that behalf by the Engineer-in-Charge; or

Fails to complete the work(s) or items of work with individual dates of completion, on or before the date(s) so determined, and does not complete them within the period specified in the notice given in writing in that behalf by the Engineer-in-Charge. The Engineer-in-Charge without invoking action under clause **3 of GCC** may, without prejudice to any other right or remedy against the Contractor which have either accrued or accrue thereafter to the Employer, by a notice in writing to take the part work / part incomplete work of any item(s) out of his hands and shall have powers to:

(a) Take possession of the site and any materials, constructional plant, implements, stores, etc., thereon; and/or

(b) Carry out the part work / part incomplete work of any item(s) by any means at the risk and cost of the Contractor.

The Engineer-in-Charge shall determine the amount, if any, is recoverable from the Contractor for completion of the part work/ part incomplete work of any item(s) taken out of his hands and execute at the risk and cost of the Contractor, the liability of Contractor on account of loss or damage suffered by the Employer because of action under this clause shall not exceed 10% of the tendered value of the work.

In determining the amount, credit shall be given to the Contractor with the value of work done in all respect in the same manner and at the same rate as if it had been carried out by the original Contractor under the terms of his Contract, the value of Contractor's materials taken over and incorporated in the work and use of plant and machinery belonging to the Contractor. The certificate of the Engineer-in-Charge as to the value of work done shall be final and conclusive against the Contractor provided always that action under this clause shall only be taken after giving notice in writing to the Contractor. Provided also that if the expenses incurred by the Employer are less than the amount payable to the Contractor at his agreement rates, the difference shall not be payable to the Contractor.

Any excess expenditure incurred or to be incurred by the Employer in completing the part work/ part incomplete work of any item(s) or the excess loss of damages suffered or may be suffered by the Employer as aforesaid after allowing such credit shall without prejudice to any other right or remedy available to the Employer in law or per as agreement be recovered from any money due to the Contractor on any account, and if such money is insufficient, the Contractor shall be called upon in writing and shall be liable to pay the same within 30 days.

If the Contractor fails to pay the required sum within the aforesaid period of 30 days, the Engineer-in-Charge shall have the right to sell any or all of the Contractors' unused materials, constructional plant, implements, temporary building at site etc. and adjust the proceeds of sale thereof towards the dues recoverable from the Contractor under the Contract and if thereafter there remains any balance outstanding, it shall be recovered in accordance with the provisions of the Contract.

In the event of above course being adopted by the Engineer-in-Charge, the Contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advance on any account or with a view to the execution of the work or the performance of the Contract.

Clause 15: Suspension of Work

i. The Contractor shall, on receipt of the order in writing of the Engineer-in-Charge, (whose decision shall be final and binding on the Contractor) suspend the progress of the works or any part thereof for such time and in such manner as the Engineer-in-Charge may consider necessary so as not to cause any damage or injury to the work already done or endanger the safety thereof for any of the following reasons:
   a) on account of any default on the part of the Contractor or;
   b) for proper execution of the works or part thereof for reasons other than the default of the Contractor; or
   c) for safety of the works or part thereof.

The Contractor shall, during such suspension, properly protect and secure the works to the extent necessary and carry out the instructions given in that behalf by the Engineer-in-Charge.

ii. If the suspension is ordered for reasons (b) and (c) in sub-para (i) above:
   a) the Contractor shall be entitled to an extension of time equal to the period of every such suspension plus 25%, for completion of the item or group of items of work for which a separate period of completion is specified in the Contract and of which the suspended work forms a part, and;
   b) If the total period of all such suspensions in respect of an item or group of items or work for which a separate period of completion is specified in the Contract exceeds thirty days, the Contractor shall, in addition, be entitled to such compensation as the Engineer-in-Charge may consider reasonable in respect of salaries and/or wages paid by the Contractor to his employees and labour at site, remaining idle during the period of suspension, adding thereto 2% to cover indirect expenses of the Contractor provided the Contractor submits his claim supported by details to the Engineer-in-Charge within fifteen days of the expiry of the period of 30 days.

iii. If the works or part thereof is suspended on the orders of the Engineer-in-Charge for more

than three months at a time, except when suspension is ordered for reason (a) in sub para (i) above, the Contractor may after receipt of such order serve a written notice on the Engineer-in-Charge requiring permission within fifteen days from receipt by the Engineer-in-Charge of the said notice, to proceed with the work or part thereof in regard to which progress has been suspended and if such permission is not granted within that time, the Contractor, if he intends to treat the suspension, where it affects only a part of the works as an omission of such part by the Employer or where it affects whole of the works, as an abandonment of the works by the Employer, shall within ten days of expiry of such period of 15 days give notice in writing of his intention to the Engineer-in-Charge. In the event of the Contractor treating the suspension as an abandonment of the Contract by the Employer, he shall have no claim to payment of any compensation on account of any profit or advantage which he might have derived from the execution of the work in full but which he could not derive in consequence of the abandonment. He shall, however, be entitled to such compensation, as the Engineer-in-Charge may consider reasonable, in respect of salaries and/or wages paid by him to his employees and labour at site, remaining idle in consequence adding to the total thereof 2% to cover indirect expenses of the Contractor provided the Contractor submits his claim supported by details to the Engineer-in-Charge within 30 days of the expiry of the period of 3 months.

Clause 16: Action in case Work not done as per Specifications

All works under or in course of execution or executed in pursuance of the Contract, shall at all times be open and accessible to the inspection and supervision of the Engineer-in-Charge, his authorized subordinates in charge of the work and all the superior officers, officer of the Quality Assurance Unit of the Employer or any organization engaged by the Employer for Quality Assurance and of the Chief Technical Examiner's Office, and the Contractor shall, at all times, during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the Contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the Contractor himself.

If it shall appear to the Engineer-in-Charge or his authorized subordinates in charge of the work of Quality Assurance or his subordinate officers or the officers of the organization engaged by the Employer for Quality Assurance, that any work has been executed with unsound, imperfect, or unskillful workmanship, or with materials or articles provided by him for the execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the Contract, the Contractor shall, on demand in writing which shall be made within the specified time given by the Engineer-in-Charge, notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do so within a period specified by the Engineer-in-Charge in his demand aforesaid, then the Contractor shall be liable to pay compensation at the same rate as under Clause 2 of GCC (for non-completion of the work in time) for this default.

In such case the Engineer-in-Charge may not accept the item of work at the rates applicable under

the Contract but may accept such items at reduced rates as the authority specified in Contract may consider reasonable during the preparation of on account bills or final bill if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work outright without any payment and/or get it and other connected and incidental items rectified, or removed and re-executed at the risk and cost of the Contractor. Decision of the Engineer-in-Charge to be conveyed in writing in respect of the same will be final and binding on the Contractor.

Clause 17: Contractor Liable for Damages, Defects During Defect Liability Period

The Defects Liability & Maintenance Period shall be 12 (Twelve) months from the date of handing over the project to the Employer/Owner.

If the Contractor or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road kerb, fence, enclosure, water pipe, cables, drains, electric or telephone post or wires, trees, grass or grassland, or cultivated ground contiguous to the premises on which the work or any part of it is being executed, or if any damage shall happen to the work while in progress, from any cause whatever or if any defect, shrinkage or other faults appear in the work within 24 months after a certificate, final or otherwise of its completion, shall have been given by the Engineer-in-Charge as aforesaid arising out of defective or improper materials or workmanship, the Contractor shall upon receipt of a notice in writing on that behalf make the same good at his own expense, or in default, the Engineer-in-Charge cause the same to be made good by other workmen and deduct the expense from any sums that may be due, or at any time thereafter may become due to the Contractor, or from his security deposit, or the proceed of sale thereof or of a sufficient portion thereof.

The Security Deposit of the Contractor shall be refunded in accordance with Clause 1A (ii) of GCC.

Clause 18: Contractor Supply Tools & Plants Etc.

The Contractor shall provide at his own cost all materials (except such special materials, if any, as may in accordance with the Contract be supplied from the Engineer-in-Charge's stores), machinery, tools & plants as specified in Contract. In addition to this, appliances, implements, other plants, ladders, cordage, tackle, scaffolding and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specifications or other documents forming part of the Contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage therefore to and from the work. The Contractor shall also supply without charge the requisite number of persons with the means and materials, necessary for the purpose of setting out works, and counting, weighing and assisting the measurement for examination at any time and from time to time of the work or materials. Failing his so doing, the same may be provided by the Engineer-in-Charge at the expense of the Contractor and the expenses may be deducted, from any money due to the Contractor, under this Contract or otherwise and/or from his Security Deposit or the proceeds of sale thereof, or of a sufficient portions thereof.

Clause 18A: Recovery of Compensation Paid to Workmen

In every case in which by virtue of the provisions sub-section (1) of Section 12, of the Workmen's Compensation Act, 1923, the Employer is obliged to pay compensation to a workman employed by the Contractor, in execution of the works, the Employer will recover from the Contractor, the amount of the compensation so paid; and, without prejudice to the rights of the Employer under sub-section (2) of Section 12, of the said Act, the Employer shall be at liberty to recover such amount or any part thereof by deducting it from the Security Deposit or from any sum due by the Employer to the Contractor whether under this Contract or otherwise. The Employer shall not be bound to contest any claim made against it under sub-section (1) of Section 12, of the said Act, except on the written request of the Contractor and upon his giving to the Employer full security for all costs for which the Employer might become liable in consequence of contesting such claim.

Clause 18B: Ensuring Payment and Amenities to Workers, if Contractor Fails

ln every case in which by virtue of the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and of the Contract Labour (Regulation and Abolition) Central Rules, 1971, the Employer is obliged to pay any amounts of wages to a workman employed by the Contractor in execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act and the rules under Clause 19H or under the Rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by Contractor, the Employer will recover from the Contractor, the amount of wages so paid or the amount of expenditure so incurred; and without prejudice to the rights of the Employer under sub-section(2) of Section 20, and sub-section (4) of Section 21, of the Contract Labour (Regulation and Abolition) Act, 1970, the Employer shall be at liberty to recover such amount or any part thereof by deducting it from the Security Deposit or from any sum due by the Employer to the Contractor whether under this Contract or otherwise the Employer shall not be bound to contest any claim made against in under sub-section (1) of Section 20, sub-section (4) of Section 21, of the said Act, except on the written request of the Contractor and upon his giving to the Employer full security for all costs for which the Employer might become liable in contesting such claim.

Clause 19: Labour Laws to be Complied by Contractor

The Contractor shall obtain a valid license under the Contract Labour (R&A) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, before the commencement of the work, and continue to have a valid license until the completion of the work. The Contractor shall also abide by the provisions of the Child Labour (Prohibition and Regulation) Act, 1986.

The Contractor shall also comply with the provisions of the building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996.

Any failure to fulfill these requirements shall attract the penal provisions of this Contract arising out of the resultant non-execution of the work.

Clause 19A

No labour below the age of fourteen years shall be employed on the work.

Clause 19B: Payment of Wages

i. The Contractor shall pay to labour employed by him either directly or through Subcontractors, wages not less than fair wages as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.

ii. The Contractor shall, notwithstanding the provisions of any Contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by his Subcontractors in connection with the said work, as if the labour had been immediately employed by him.

iii. In respect of all labour directly or indirectly employed in the works for performance of the Contractor's part of this Contract, the Contractor shall comply with or cause to be complied with the Contractor's Labour Regulations made by the Employer from time to time in regard to payment of wages, wage period, deductions from wages recovery of wages not paid and deductions unauthorizedly made, maintenance of wage books or wage slips, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of the like nature or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.

iv. The Engineer-in-Charge concerned shall have the right to deduct from the moneys due to the Contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfilment of the conditions of the Contract for the benefit of the workers, non-payment of wages or of deductions made from his or their wages which are not justified by their terms of the Contract or non- observance of the Regulations.

v. Under the provision of Minimum Wages (Central) Rules, 1950, the Contractor is bound to allow to the labours directly or indirectly employed in the works one day rest for 6 days continuous work and pay wages at the same rate as for duty. In the event of default, the Engineer-in-Charge shall have the right to deduct the sum or sums not paid on account of wages for weekly holidays to any labours and pay the same to the persons entitled thereto from any money due to the Contractor by the Engineer-in-Charge concerned.

vi. The Contractor shall comply with the provisions of the Payment of Wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits Act, 1961, and the Contractor's Labour (Regulation and Abolition) Act 1970, Employees Provident Fund & miscellaneous provisions act 1952, Employees state insurance act 1948 or the modifications thereof or any other laws relating thereto and the rules made thereunder from time to time.

vii. The Contractor shall indemnify and keep indemnified the Employer against payments to be made under and for the observance of the laws aforesaid without prejudice to his right to claim indemnity from his sub- Contractors.

viii. The laws aforesaid shall be deemed to be a part of this Contract and any breach thereof shall be deemed to be a breach of this Contract.

ix. Whatever is the minimum wage for the time being, or if the wage payable is higher than such

wage, such wage shall be paid by the Contractor to the workmen directly without the intervention of Jamadar and that Jamadar shall not be entitled to deduct or recover any amount from the minimum wage payable to the workmen as and by way of commission or otherwise. The Contractor shall ensure that no amount by way of commission or otherwise is deducted or recovered by the Jamadar from the wage of workmen.

Clause 19C: Safety Provisions for Labour and Penalty on Default

In respect of all labour directly or indirectly employed in the work for the performance of the Contractor's part of this Contract, the Contractor shall at his own expense arrange for the safety provisions as per Safety Code framed from time to time and shall at his own expense provide for all facilities in connection therewith. In case the Contractor fails to make arrangement and provide necessary facilities as aforesaid, he shall be liable to pay a penalty of Rs.200/- for each default and in addition, the Engineer-in-Charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs incurred in that behalf from the Contractor.

Clause 19 D: Submission of Labour Chart by every fortnight

The Contractor shall submit by the 4th and 19th of every month, to the Engineer-in-Charge, a true statement showing in respect of the second half of the preceding month and the first half of the current month respectively:-

(1) The number of labourers employed by him on the work,

(2) Their working yours,

(3) The wages paid to them,

(4) The accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them, and

(5) The number of female workers who have been allowed maternity benefit according to Clause 19F and the amount paid to them. Failing which the Contractor shall be liable to pay the Employer, a sum not exceeding Rs.200/- for each default or materially incorrect statement. The decision of the Engineer-in-Charge shall be final in deducting from any bill due to the Contractor; the amount levied as fine and be binding on the Contractor.

Clause 19 E: Health and Sanitary Arrangements for workers

In respect of all labour directly or indirectly employed in the works for the performance of the Contractor's part of this Contract, the Contractor shall comply with or cause to be complied with all the rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by the Employer and its Contractors.

Clause 19 F: Maternity Benefit rules:

Leave and pay during leave shall be regulated as follows: -

1. Leave:

(i) in the case of delivery - maternity leave not exceeding 8 weeks, 4 weeks up to and including the day of delivery and 4 weeks following that day,

(ii) In the case of miscarriage - upto 3 weeks from the date of miscarriage.

2. Pay:

(i) in the case of delivery - leave pay during maternity leave will be at the rate of the women's average daily earnings, calculated on total wages earned on the days when full time work was done during a period of three months immediately preceding the date on which she gives notice that she expects to be confined or at the rate of Rupee one only a day whichever is greater.

(ii) In the case of miscarriage - leave pay at the rate of average daily earning calculated on the total wages earned on the days when full time work was done during a period of three months immediately preceding the date of such miscarriage.

3. Conditions for the grant of Maternity Leave:

No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period of not less than six months immediately preceding the date on which she proceeds on leave.

4. The Contractor shall maintain a register of Maternity (Benefit) in the Prescribed Form as shown in appendix -I and II, and the same shall be kept at the place of work.

Clause 19 G: Penalty for Non-Compliance for Labour Regulation

In the event of the Contractor(s) committing a default or breach of any of the provisions of the Employer, Contractor's Labour Regulations and Model Rules for the protection of health and sanitary arrangements for the workers as amended from time to time or furnishing any information or submitting or filing any statement under the provisions of the above Regulations and' Rules which is materially incorrect, he/they shall, without prejudice to any other liability, pay to the Government a sum not exceeding Rs.200/- for every default, breach or furnishing, making, submitting, filing such materially incorrect statements and in the event of the Contractor(s) defaulting continuously in this respect, the penalty may be enhanced to Rs.200/- per day for each day of default subject to a maximum of 5 per cent of the estimated cost of the work put to tender. The decision of the Engineer-in-Charge shall be final and binding on the parties.

Should it appear to the Engineer-in-Charge that the Contractor(s) is/are not properly observing and complying with the provisions of the C.P.W.D. Contractor's Labour Regulations and Model Rules and the provisions of the Contract Labour (Regulation and Abolition) Act 1970, and the Contract Labour (R& A) Central Rules 1971, for the protection of health and sanitary arrangements for work-people employed by the Contractor(s) (hereinafter referred as "the said Rules") the Engineer-in-Charge shall have power to give notice in writing to the Contractor(s) requiring that the said Rules be complied with and the amenities prescribed therein be provided to the work-people within a reasonable time to be specified in the notice. If the Contractor(s) shall fail within the period specified in the notice to comply with and/observe the said Rules and to provide the amenities to the work-people as aforesaid, the Engineer-in-Charge shall have the power to provide the amenities hereinbefore mentioned at the cost of the Contractor(s). The Contractor(s) shall erect, make and maintain at his/their own expense and to approved standards all necessary huts and sanitary arrangements required for his/their work-people on the site in connection with the execution of the works, and if the same shall not

have been erected or constructed, according to approved standards, the Engineer-in-Charge shall have power to give notice in writing to the Contractor(s) requiring that the said huts and sanitary arrangements be remodeled and/or reconstructed according to approved standards, and if the Contractor(s) shall fail to remodel or reconstruct such huts and sanitary arrangements according to approved standards within the period specified in the notice, the Engineer-in-Charge shall have the power to remodel or reconstruct such huts and sanitary arrangements according to approved standards at the cost of the Contractor(s).

Clause 19H: Providing Hutments, W/S, S/I, Drainage, Sanitations etc. for workers

The Contractor(s) shall at his/their own cost provide his/their labour with a sufficient number of huts (hereinafter referred to as the camp) of the following specifications on a suitable plot of land to be approved by the Engineer-in-Charge.

i.

a) The minimum height of each hut at the eaves level shall be 2.10m (7 ft.) and the floor area to be provided will be at the rate of 2.7 sq.m. (30 sq.ft.) for each member of the worker's family staying with the labourer.
b) The Contractor(s) shall in addition construct suitable cooking places having a minimum area of 1.80m x 1.50m (6'x5') adjacent to the hut for each family.
c) The Contractor(s) shall also construct temporary latrines and urinals for the use of the labourers each on the scale of not less than four per each one hundred of the total strength, separate latrines and urinals being provided for women.
d) The Contractor(s) shall construct sufficient number of bathing and washing places, one unit for every 25 persons residing in the camp. These bathing and washing places shall be suitably screened.

ii.

a) All the huts shall have walls of sun-dried or burnt-bricks laid in mud mortar or other suitable local materials as may be approved by the Engineer-in-Charge. In case of sun-dried bricks, the walls should be plastered with mud gobri on both sides. The floor may be kutcha but plastered with mud gobri and shall be at least 15 cm (6") above the surrounding ground. The roofs shall be laid with thatch or any other materials as may be approved by the Engineer-in-Charge and the Contractor shall ensure that throughout the period of their occupation, the roofs remain water- tight.
b) The Contractor(s) shall provide each hut with proper ventilation.
c) All doors, windows, and ventilators shall be provided with suitable leaves for security purposes.
d) There shall be kept an open space of at least 7.2m (8 yards) between the rows of huts which may be reduced to 6m (20 ft.) according to the availability of site with th e approval of the Engineer-in-Charge. Back-to-back construction will be allowed

iii. **Water Supply** - The Contractor(s) shall provide adequate supply of water for the use of labourers.

The provisions shall not be less than two gallons of pure and wholesome water per head per day for drinking purposes and three gallons of clean water per head per day for bathing and washing purposes. Where piped water supply is available, supply shall be at stand posts and where the supply is from wells or river, tanks which may be of metal or masonry, shall be provided. The Contractor(s)

shall also at his/ their own cost make arrangements for laying pipe lines for water supply to his/ their labour camp from the existing mains wherever available, and shall pay all fees and charges therefore.

iv. The site selected for the camp shall be high ground, removed from jungle.

v. **Disposal of Excreta** - The Contractor(s) shall make necessary arrangements for the disposal of excreta from the latrines by trenching or incineration which shall be according to the requirements laid down by the Local Health Authorities. If trenching or incineration is not allowed, the Contractor(s) shall make arrangements for the removal of the excreta through the Municipal Committee/authority and inform it about the number of labourers employed so that arrangements may be made by such Committee/authority for the removal of the excreta. All charges on this account shall be borne by the Contractor and paid direct by him to the Municipality/authority. The Contractor shall provide one sweeper for every eight seats in case of dry system.

vi. **Drainage** - The Contractor(s) shall provide efficient arrangements for draining away sullage water so as to keep the camp neat and tidy.

vii. The Contractor(s) shall make necessary arrangements for keeping the camp area sufficiently lighted to avoid accidents to the workers.

viii. **Sanitation -** The Contractor(s) shall make arrangements for conservancy and sanitation in the labour camps according to the rules of the Local Public Health and Medical Authorities.

Clause 19I: Removal of incompetent Workers

The Engineer-in-Charge may require the Contractor to dismiss or remove from the site of the work any person or persons in the Contractors' employ upon the work who may be incompetent or misconduct himself and the Contractor shall forthwith comply with such requirements.

In respect of maintenance/repair or renovation works etc. where the labour has an easy access to the individual houses, the Contractor shall issue identity cards to the labourers, whether temporary or permanent and he shall be responsible for any untoward action on the part of such labour. The Engineer-in-Charge will display a list of Contractors working in the colony/Blocks on the notice board in the colony and also at the service centre, to apprise the residents about the same.

Clause 19J: No part of building to be occupied- action on breach thereof

It shall be the responsibility of the Contractor to see that the building under construction is not occupied by anybody unauthorizedly during construction, and is handed over to the Engineer-in-Charge with vacant possession of complete building. If such building though completed is occupied illegally, then the Engineer- in-Charge shall have the option to refuse to accept the said building/buildings in that position. Any delay in acceptance on this account will be treated as the delay in completion and for such delay, a levy upto 5% of tendered value of work may be imposed by the Employer whose decision shall be final both with regard to the justification and quantum and be binding on the Contractor.

However, the Employer, through a notice, may require the Contractor to remove the illegal occupation any time on or before construction and delivery.

Clause 19K: Employment of Skilled/Semi-Skilled Workers

The Contractor shall, at all stages of work, deploy skilled/semi- skilled tradesmen who are qualified and possess certificate in particular trade from Industrial Training Institute/National Institute of construction Management and Research (NICMAR)/National Academy of Construction, **CIDC** or any similar reputed and recognized Institute managed/ certified by State/Central Government. The number of such qualified tradesmen shall not be less than 20% of total skilled/semi-skilled workers required in each trade at any stage of work. The Contractor shall submit number of man days required in respect of each trade, it's scheduling and the list of qualified tradesmen along with requisite certificate from recognized Institute to Engineer-in-Charge for approval. Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the Contractor shall substitute such tradesmen within two days of written notice from Engineer-in-Charge. Failure on the part of Contractor to obtain approval of Engineer-in-Charge or failure to deploy qualified tradesmen will attract a compensation to be paid by Contractor at the rate of Rs. 600 per such tradesman per day. Decision of Engineer-in-Charge as to whether particular tradesman possesses requisite skill and amount of compensation in case of default shall be final and binding.

Provided always, that the provisions of this clause, shall not be applicable for works with estimated cost put to tender being less than Rs. 5 crores.

For work costing more than Rs. 10 Crores, and upto Rs. 50 Crores, the Contractor shall arrange on site training as per National Skill Development Corporation (NSDC) norms for at least 20% of the unskilled workers engaged in the project in co-ordination with the Employer & National Skill Development Corporation (NSDC) for certification at the level of skilled/semi-skilled tradesmen.

For works costing more than Rs. 50 Crores, the Contractor shall arrange on site training as per National Skill Development Corporation (NSDC) norms for at least 30% of the unskilled worker engaged in the project in co-ordination with the Employer & National Skill Development Corporation (NSDC) for certification at the level of skilled/semi-skilled tradesmen. The cost of such training as stated above shall be borne by the Government. The necessary space and workers shall be provided by the Contractor and no claim what so ever shall be entertained.

Clause 19 L: Contribution of EPF and ESI

The ESI and EPF contributions on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-Charge to the contractor on actual basis. The verification of deployment of labour will be done through biometric attendance system or any other suitable method by the Engineer-in-Charge.

Clause 20: Minimum Wages act to be Complied with

The Contractor shall comply with all the provisions of the Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act, 1970, amended from time to time and rules framed thereunder and other labour laws affecting Contract labour that may be brought into force from time to time.

Clause 21: Work not to be Sublet/Action in Case of Insolvency

The Contract shall not be assigned or sublet without the written approval of the Engineer-in Charge. And if the Contractor shall assign or sublet his Contract, or attempt to do so, or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempt to do so, or if any bribe, gratuity, gift, loan, perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the Contractor, or any of his servants or agent to any public officer or person in the employ of WAPCOS Limited in any way relating to his office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the Contract, the Engineer-in-Charge on behalf of the Employer shall have power to adopt the course specified in Clause 3 of GCC hereof in the interest of the Employer and in the event of such course being adopted, the consequences specified in the said Clause 3 of GCC shall ensue.

The Contractor may sub-Contract any portion of specialized work only, with the approval of the Engineer-in-Charge. Sub-contracting does not alter the Contractor's obligations. The sub-contacting Contractor shall be of repute.

Clause 22: Sums payable by way of compensations

All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of the Employer without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

Clause 23: Changes in Firm's Constitution to be Intimated

Where the Contractor is a partnership firm, the previous approval in writing of the Engineer-in-Charge shall be obtained before any change is made in the constitution of the firm. Where the Contractor is an individual or a Hindu undivided family business concern, such approval as aforesaid shall likewise be obtained before the Contractor enters into any partnership agreement where under the partnership firm would have the right to carry out the works hereby undertaken by the Contractor. If previous approval as aforesaid is not obtained, the Contract shall be deemed to have been assigned in contravention of **Clause 21 of GCC** and the same action may be taken, and the same consequences shall ensue as provided in the said **Clause 21 of GCC**.

Clause 24: Works to be Under Directions of Engineer-in-Charge

All works to be executed under the Contract shall be executed under the direction and subject to the approval in all respects of the Engineer-in-Charge who shall be entitled to direct at what point or points and in what manner they are to be commenced, and from time to time carried on.

The Engineer-in- Charge may delegate any of his duties and responsibilities to other people after notifying the Contractor and may cancel any delegation after notifying the Contractor.

Clause 24A: Life Cycle Cost

The Contractor shall be responsible for safety, quality and soundness of the buildings including structural elements beyond maintenance period. The Contractor shall have obligation to rectify

such defects minimum up to 5 (five) years from the date of completion of work. The defects have to be rectified within a reasonable time not exceeding forty-five days after issue of notice by Engineer-in-Charge. If Contractor does not take corrective action within 45 days, then action for debarring of the agency shall be taken by the appropriate authority.

Clause 25: Settlement of Disputes & Arbitration Amicable Resolution and Mediation

25.1 Settlement of Disputes

Except where otherwise provided in the contract, all questions and disputes relating to the meaning of the specifications, design, drawings and instructions here-in before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter:

i) If the Contractor considers any work demanded of him to be outside the requirements of the Contract, or disputes any drawings, record or decision given in writing by the Engineer-in-Charge on any matter in connection with or arising out of the Contract or carrying out of the work, to be unacceptable, he shall promptly within 15 days request Engineer-in-Charge in writing for written instruction or decision. Thereupon, the Engineer-in-Charge shall give his written instructions or decision within a period of one month from the receipt of the Contractor's letter.

ii) In case the Contractor is not satisfied with the decision of Engineer-in-Charge, he may proceed for arbitration as detailed in **Clause 25.2** hereinafter.

iii) It is a term of Contract that each party invoking arbitration must exhaust the aforesaid mechanism of settlement of claims/disputes prior to invoking arbitration.

iv) Performance of this Agreement/ Contract shall continue during arbitration proceedings or any other dispute resolution mechanism pursuant to Clause 25.2. No payment due or payable by the Employer shall be withheld on account of pending reference to the arbitration or other dispute resolution mechanism except to the extent that such payment of dispute.

25.2 Arbitration

Any dispute, controversy of claims arising out of or relating to this Agreement or the breach, termination or invalidity thereof, shall be settled through following mechanism:

a. Firstly, the aggrieved party shall write a letter to the other party detailing its grievances and calling upon the other party to amicably resolve the dispute by convening a joint meeting. Accordingly, the parties as per their convenience shall jointly convene the said meeting(s), wherein minutes of the said meeting(s) shall be prepared and countersigned by all the parties. It is mandatory to prepare minutes of meeting(s) and to be countersigned by all the parties, irrespective of the outcome of the said meeting(s).

b. In the event the parties are unable to reach on any settlement in the said meeting(s), then the aggrieved party shall mandatorily resort to pre-litigation mediation mechanism with Delhi High Court Mediation Cell, New Delhi.

c. It is only upon failure of the pre-litigation mediation mechanism with Delhi High Court Mediation Cell, then the aggrieved party shall resort to resolution of disputes through arbitration of a Sole Arbitrator. The appointing authority of Sole Arbitrator is CMD, WAPCOS Limited, to which neither of the parties have any objection nor they shall ever object.

d. Subject to the parties agreeing otherwise, the Arbitration proceedings shall be conducted in accordance with the provisions of the Indian Arbitration and Conciliation Act, 1996 (amended as on date).

e. It is also acknowledged and accepted that the Employer is only working as intermediary between the Contractor and the Principal Employer/Owner/Client, thus in the event, any dispute arises under the present agreement and referred to Arbitration for adjudication, then subject to corresponding clause in the Contract between Principal Employer/Owner/Client & the Employer, Principal Employer/Owner/Client shall also be made party to the said Arbitration proceedings. Also, the award including costs if any passed against the Employer and costs incurred in the proceedings shall be the sole responsibility of Principal Employer/Owner/Client. The said clause if found inapplicable, even then the other terms of the Arbitration Clause shall survive and shall be acted upon.

f. The place/seat of arbitration shall be Delhi and any award whether interim or final, shall be made, and shall be deemed for all purposes between the parties to be made, in Delhi. The arbitral procedure shall be conducted in English language and any award or awards shall be rendered in English. The procedural law of the arbitration shall be Indian Law. The award of the arbitrator shall be final and conclusive and binding upon the Parties.

g. The Contract and any dispute or claim arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims) shall be governed by and construed in accordance with the laws of India and the Parties submit to sole & exclusive jurisdiction of courts at Delhi."

25.3 English Language

The request for arbitration, the answer to the request, the terms of reference, any written submissions, any orders and awards shall be in English and, if oral hearings take place, English shall be the language to be used in the hearings.

25.4 Performance during Arbitration

Pending the submission of and/or decision on a Dispute and until the arbitral award is published, the Parties shall continue to perform their respective obligations under the Contract without prejudice to a final adjustment in accordance with such award.

25.5 No arbitration for decision on sub-standard work

The decision of Engineer-in-Charge regarding the quantum or reduction as well as justification thereof in respect of payment for sub-standard work which may be decided to be accepted will be final and would not be open to arbitration.

Clause 26: Contractor Indemnify Employer against Patent Rights

The Contractor shall fully indemnify and keep indemnified the Employer against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the Contract. In the event of any claims made under or action brought against Employer in respect of any such matters as aforesaid, the Contractor shall be immediately notified thereof and the Contractor shall be at liberty, at his own expense, to settle any dispute or to conduct any litigation that may arise therefrom, provided that the Contractor shall not be liable to indemnify the Employer if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the Engineer-in-Charge in this behalf.

Clause 27: Lumpsum Provisions in Tender: Not applicable

Clause 28: Action where no Specifications are Specified

In the case of any class of work for which there is no such specifications as referred to in Clause 11 of GCC, such work shall be carried out in accordance with Bureau of Indian Standards Specifications. In case there are no such specifications in Bureau of Indian Standards specifications then the work shall be carried out as per Manufacturers' specifications, if not available then as per District Specifications. In case there are no such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge.

Clause 29: Withholding and Lien in Respect of Sum Due from Contractor

i. Whenever any claim or claims for payment of a sum of money arises out of or under the Contract or against the Contractor, the Engineer-in-Charge or the Employer shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any deposited by the Contractor and for the purpose aforesaid, the Engineer-in-Charge or the Employer shall be entitled to withhold the security deposit, if any, furnished as the case may be and also have a lien over the same pending finalization or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the Contractor, the Engineer-in-Charge or the Employer shall be entitled to withhold and have a lien to retain to the extent of such claimed amount or amounts referred to above, from any sum or sums found payable or which may at any time thereafter become payable to the Contractor under the same Contract or any other Contract with the Engineer-in-Charge of the Employer or any contracting person through the Engineer-in-Charge pending finalization of adjudication of any such claim.

It is an agreed term of the Contract that the sum of money or moneys so withheld or retained

under the lien referred to above by the Engineer-in-Charge or Employer will be kept withheld or retained as such by the Engineer-in-Charge or the Employer till the claim arising out of or under the Contract is determined by the arbitrator (if the Contract is governed by the arbitration clause) by the competent Employer case may be and that the Contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to above and duly notified as such to the Contractor. For the purpose of this clause, where the Contractor is a partnership firm or a limited company, the Engineer-in-Charge or the Employer shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/limited company as the case may be, whether in his individual capacity or otherwise.

ii. Employer shall have the right to cause an audit and technical examination of the works and the final bills of the Contractor including all supporting vouchers, abstract, etc., to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been overpaid in respect of any work done by the Contractor under the Contract or any work claimed to have been done by him under the Contract and found not to have been executed, the Contractor shall be liable to refund the amount of over-payment and it shall be lawful for Employer to recover the same from him in the manner prescribed in sub-clause (i) of this clause or in any other manner legally permissible; and if it is found that the Contractor was paid less than what was due to him under the Contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by Employer to the Contractor, without any interest thereon whatsoever.

Provided that the Employer shall not be entitled to recover any sum overpaid, nor the Contractor shall be entitled to payment of any sum paid short where such payment has been agreed upon between the Employer on the one hand and the Contractor on the other under any term of the Contract permitting payment for work after assessment by Employer.

Clause 29A: Lien in Respect of Claims in Other Contracts

Any sum of money due and payable to the Contractor (including the Security Deposit returnable to him) under the Contract may be withheld or retained by way of lien by the Engineer-in-Charge or the Employer or any other contracting person or persons through Engineer-in-Charge against any claim of the Engineer-in-Charge or the Employer or such other person or persons in respect of payment of a sum of money arising out of or under any other Contract made by the Contractor with the Engineer-in-Charge or the Employer or with such other person or persons.

It is an agreed term of the Contract that the sum of money so withheld or retained under this clause by the Engineer-in-Charge or the Employer will be kept withheld or retained as such by the Engineer-in-Charge or the Employer or till his claim arising out of the same Contract or any other Contract is either mutually settled or determined by the arbitration clause or by the competent court, as the case may be and that the Contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the Contractor.

Clause 29B- Employment of Coal Mining or Controlled area Labour not Permissible

The Contractor shall not employ coal mining or controlled area labour falling under any

category whatsoever on or in connection with the work or recruit labour from area within a radius of 32 km (20 miles) of the controlled area. Subject as above the Contractor shall employ imported labour only i.e., deposit imported labour or labour imported by Contractors from area, from which import is permitted.

Where ceiling price for imported labour has been fixed by State or Regional Labour Committees not more than that ceiling price shall be paid to the labour by the Contractor.

The Contractor shall immediately remove any labourer who may be pointed out by the Engineer-in-Charge as being a coal mining or controlled area labourer. Failure to do so shall render the Contractor liable to pay to the Employer a sum calculated at the rate of Rs.10/- (ten) per day per labourer. The certificate of the Engineer-in-Charge about the number of coal mining or controlled area labourer and the number of days for which they worked shall be final and binding upon all parties to this Contract.

It is declared and agreed between the parties that the aforesaid stipulation in this clause is one in which the public are interested within the meaning of the exception in Section 74 of Indian Contract Act, 1872.

Explanation: - Controlled Area means the following areas:

Districts of Dhanbad, Hazaribagh, Jamtara - a Sub-Division under Santhal Pargana

Commissionery, Districts of Bankuara, Birbhum, Burdwan, District of Bilaspur.

Any other area which may be declared a Controlled Area by or with the approval of the Central Government.

Clause 30: Water for Works

The Contractor(s) shall make his/their own arrangements for water required for the work and nothing extra will be paid for the same. This will be subject to the following conditions:

(i) That the water used by the Contractor(s) shall be fit for construction purposes to the satisfaction of the Engineer-in-Charge.

(ii) The Engineer-in-Charge shall make alternative arrangements for supply of water at the risk and cost of Contractor(s) if the arrangements made by the Contractor(s) for procurement of water are in the opinion of the Engineer-in- Charge, unsatisfactory.

Clause 30A: Alternate Water Arrangements: Not Applicable

Clause 31: Hire of Plant & Machinery

The Contractor shall arrange at his own expense all tools, plant, machinery and equipment (hereinafter referred to as T&P) required for execution of the work.

Clause 32: Employment of Technical Staff and Employees

Contractors Superintendence, Supervision, Technical Staff & Employees

i. The Contractor shall provide all necessary superintendence during execution of the work and all along thereafter as may be necessary for proper fulfilling of the obligations under the Contract.

The Contractor shall immediately after receiving letter of acceptance of the tender and before commencement of the work, intimate in writing to the Engineer-in-Charge, the name(s), qualifications, experience, age, address(s) and other particulars along with certificates, of the Principal Technical Representative to be in charge of the work and other Technical Representative(s) who will be supervising the work. Minimum requirement of such Technical Representative(s) a n d their qualifications and experience shall not be lower than specified in Additional Conditions of Contract. The Engineer-in-Charge shall within 3 days of receipt of such communication intimate in writing his approval or otherwise of such a representative(s) to the Contractor. Any such approval may at any time be withdrawn and in case of such withdrawal, the Contractor shall appoint another such representative(s) according to the provisions of this clause. Decision of the Tender Accepting Authority shall be final and binding on the Contractor in this respect. Such a Principal Technical Representative and other Technical Representative(s) shall be appointed by the Contractor soon after receipt of the approval from Engineer-in-charge and shall be available at site before start of work.

All the provisions applicable to the principal Technical Representative under the Clause will also be applicable to other Technical Representative(s). The Principal Technical Representative and other Technical Representative(s) shall be present at the site of work for supervision at all times when any construction activity is in progress and also present himself/themselves, as required, to the Engineer-in-Charge and/or his designated representative to take instructions. Instructions given to the Principal Technical Representative or other Technical Representative(s) shall be deemed to have the same force as if these have been given to the Contractor. The Principal Technical representative and other Technical Representative(s) shall be actually available at site fully during all stages of execution of work, during recording/checking/test checking of measurements of works and whenever so required by the Engineer-in-Charge and shall also note down instructions conveyed by the Engineer-in-Charge or his designated representative(s) in the site order book and shall affix his/their signature in token of noting down the instructions and in token of acceptance of measurements/ checked measurements/ test checked measurements. The representative(s) shall not look after any other work. Substitutes, duly approved by Engineer-in-Charge of the work in similar manner as aforesaid shall be provided in event of absence of any of the Representative(s) by more than two days.

If the Engineer-in-Charge, whose decision in this respect is final and binding on the Contractor, is convinced that no such Technical Representative(s) is/are effectively appointed or is/are effectively attending or fulfilling the provision of this clause, a recovery (non-refundable) shall be effected from the Contractor as specified in Contract and the decision of the Engineer-in-Charge as recorded in the site order book and measurement recorded checked/test checked in Measurement Books shall be final and binding on the Contractor. Further if the Contractor fails to appoint Principal Technical Representative and/or other Technical Representative(s) and if such appointed persons are not effectively present or are absent by more than two days without duly approved substitute or do not discharge their responsibilities satisfactorily, the Engineer-in-Charge shall have full powers to suspend the execution of the work until such date as suitable other Technical Representative(s) is/are appointed and the Contractor shall be held responsible for The delay so caused to the work. The Contractor shall submit a certificate of employment of the Technical Representative(s) (in the form of copy of Form-16 or CPF deduction issued to the Engineers employed by him) along with every running account bill &

final bill and shall produce evidence if at any time so required by the Engineer-in-Charge.

ii. The Contractor shall provide and employ on the site only such technical assistants as are skilled and experienced in their respective fields and such foremen and supervisory staff as are competent to give proper supervision to the work.

The Contractor shall provide and employ skilled, semiskilled and unskilled labour as is necessary for proper and timely execution of the work.

The Engineer-in-Charge shall be at liberty to object to and require the Contractor to remove from the works any person who in his opinion misconducts himself, or is incompetent or negligent in the performance of his duties or whose employment is otherwise considered by the Engineer-in-Charge to be undesirable. Such person shall not be employed again at works site without the written permission of the Engineer-in-Charge and the persons so removed shall be replaced as soon as possible by competent substitutes.

Clause 33: Levy / Taxes Payable by Contractor

(i) The Contract price is inclusive of Goods and Service Tax (GST) and any other taxes, levies, royalties together with all general risks, liabilities and obligations set out or implied in the Contract, applicable Labour Cess, cost of insurance to this Contract, all applicable tax liabilities, Income Tax & Surcharges, etc. However, only the payment of GST shall be reimbursed by the Employer to the Contractor as per procedure laid down in sub-clause (ii) of this clause.

(ii) The Contractor shall issue Tax Invoices to Employer showing (i) Basic Amount (ii) GST Amount separately for each running account bill including final bill and the payment of GST amount shall be reimbursed to the Contractor only after uploading of GST amount by Contractor on GST portal to avail input benefit of GST by Employer.

(iii) Notwithstanding anything contained in clause 33 (i & ii), the Contractor shall ensure payment of appropriate tax on the supplies made under the Contract. The Contractor shall comply with all applicable provision of Goods and Service Tax (GST) levied by Union Government and State Governments. The Contractor shall get himself registered and discharge his obligations for payment of taxes, filing of returns etc. under the appropriate provisions of law in respect of all the taxes, duties, levies, cess, etc. The Employer would have right to seek necessary evidence that the Contractor is registered under the law and duly discharging its obligations under the tax law, enabling the Employer to avail input tax credit.

(iv) In case any law requires the Employer to pay tax on the Contract price on reverse charge basis, the amount of tax deposited by Employer would be considered as paid to the Contractor and, accordingly, the price payable to the Contractor would stand reduced to that extent.

(v) In case the Contractor does not deposit the tax payable on execution of the Contract, or has not provided the tax invoice to Employer showing the amount of tax, or has not uploaded the document in computerized tax network as per prevailing law, leading to non-availability of inputs credit of the tax to Employer, the amount equivalent to such tax shall be deducted from the any amount payable to Contractor.

(vi) The Employer shall deduct royalty charges from each running account bill including final bill of Contractor as per the rules of State Government at rates prevailing at the time of execution and deposit the same to the Government. The royalty charges shall be applicable for the material i.e., red bajri, stone, kankar, sand, moorum, etc. or any other materials as per the rules of State government. The Contractor shall obtain necessary permit from local authorities, if required.

If pursuant to or under any law, notification or order any royalty, cess or the like becomes payable by the Employer and does not any time become payable by the Contractor to the State Government, Local authorities in respect of any material used by the Contractor in the works, then in such a case, it shall be lawful to the Employer and it will have the right and be entitled to recover the amount paid in the circumstances as aforesaid from dues of the Contractor.

Clause 34: Conditions for Reimbursement of Levy/Taxes if Levied after Receipt of Tenders:

(i) All tendered rates shall be inclusive of all taxes and levies payable under respective statutes. However, if any further new tax or levy or cess is imposed by Statute, after the last stipulated date for the receipt of tender including extensions if any and the Contractor thereupon necessarily and properly pays such taxes/levies/cess, the Contractor shall be reimbursed the amount so paid, provided such payments, if any, is not, in the opinion of the Employer attributable to delay in execution of work within the control of the Contractor.

However, effect of variation in rates of GST or Building and Other Construction Workers Welfare Cess or imposition or repeal of any other tax, levy or cess applicable on output of the works contract shall be adjusted on either side, increase or decrease.
Provided further that for Building and Other Construction Workers Welfare Cess or any tax (other than GST), levy or cess varied or imposed after the last date of receipt of tender including extension if any, any increase shall be reimbursed to the Contractor only if the Contractor necessarily and properly pays such increased amount of taxes/levies/cess.
Provided further that such increase including GST shall not be made in the extended period of contract for which the Contractor alone is responsible for delay as determined by authority for extension of time under provision of contract.

(ii) The Contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of the Employer and/or the Engineer-in-Charge and shall also furnish such other information/document as the Engineer-in-Charge may require from time to time.

(iii) The Contractor shall, within a period of 30 days of the imposition of any such further tax or levy or cess, give a written notice thereof to the Engineer-in-Charge that the same is given pursuant to this condition, together with all necessary information relating thereto.

Clause 35: Termination of Contract on Death of Contractor

Without prejudice to any of the rights or remedies under this Contract, if the Contractor dies, the Engineer-in-Charge on behalf of the Employer shall have the option of terminating the Contract without levy of compensation to the Contractor.

Clause 36: If Relative Working in WAPCOS then the Contractor not Allowed to Tender

The Contractor shall not be permitted to tender for works where the Employer responsible for award and execution of contracts and his near relative is posted in WAPCOS Limited. He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any Officer in the Employer's office. Any breach of this condition by the Contractor would render him liable to be debarred from tendering in WAPCOS Limited.

NOTE: By the term "near relatives" is meant wife, husband, parents and grandparents, children and grandchildren, brothers and sisters, uncles, aunts and cousins and their corresponding in-laws.

Clause 37: No Gazetted Engineer to Work as Contractor within one Year of Retirement

No Engineer of gazetted rank or other gazetted officer employed in engineering or administrative duties in an engineering department of the Government of India shall work as a Contractor or employee of a Contractor for a period of one year after his retirement from government service without the previous permission of Government of India in writing. This Contract is liable to be cancelled if either the Contractor or any of his employees is found at any time to be such a person who had not obtained the permission of Government of India as aforesaid, before submission of the tender or engagement in the Contractor's service, as the case may be.

Clause 38: Deleted

Clause 39: Compensation During Warlike Situation

The work (whether fully constructed or not) and all materials, machines, tools and plants, scaffolding, temporary buildings and other things connected therewith shall be at the risk of the Contractor until the work has been delivered to the Engineer-in-Charge and a certificate from him to that effect obtained. In the event of the work or any materials properly brought to the site for incorporation in the work being damaged or destroyed in consequence of hostilities or warlike operation, the Contractor shall when ordered (in writing) by the Engineer-in-Charge to remove any debris from the site, collect and properly stack or remove in store all serviceable materials salvaged from the damaged work and shall be paid at the Contract rates in accordance with the provision of this agreement for the work of clearing the site of debris, stacking or removal of serviceable material and for reconstruction of all works ordered by the Engineer-in-Charge, such payments being in addition to compensation upto the value of the work originally executed before being damaged or destroyed and not paid for. In case of works damaged or destroyed but not already measured and paid for, the compensation shall be assessed the Engineer-in-Charge upto Rs. 2,00,000/- and by the next higher officer concerned for a higher amount. The Contractor shall be paid for the damages/destruction suffered and for restoring the material at the rate based on analysis of rates tendered for in accordance with the provision of the Contract. The certificate of the Engineer-in-Charge regarding the quality and quantity of materials and the purpose for which they were collected shall be final and binding on all parties to this Contract.

Provided always that no compensation shall be payable for any loss in consequence of hostilities

or warlike operations (a) unless the Contractor had taken all such precautions against air raid as are deemed necessary by the A.R.P. (Air Raid precaution) Officers or the Engineer-in-Charge (b) for any material etc. not on the site of the work or for any tools, plant, machinery, scaffolding, temporary building and other things not intended for the work.

In the event of the Contractor having to carry out reconstruction as aforesaid, he shall be allowed such extension of time for its completion as is considered reasonable by the Engineer-in-Charge.

Clause 40: Apprentices act Provisions to be Complied with

The Contractor shall comply with the provisions of the Apprentices Act, 1961 and the rules and orders issued thereunder from time to time. If he fails to do so, his failure will be a breach of the Contract and the Employer may, in his discretion, cancel the Contract. The Contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.

Clause 41: Release of Security Deposit after Labour Clearance

Release of Security Deposit of the work shall not be refunded till the Contractor produces a clearance deposit after labour certificate from the Labour Officer. As soon as the work is virtually complete the Contractor shall apply for the clearance certificate to the Labour Officer under intimation to the Engineer-in-Charge. The Engineer-in-Charge, on receipt of the said communication, shall write to the Labour Officer to intimate if any complaint is pending against the Contractor in respect of the work. If no complaint is pending, on record till after 3 months after completion of the work and/or no communication is received from the Labour Officer to this effect till six months after the date of completion, it will be deemed to have received the clearance certificate and the Security Deposit will be released if otherwise due.

In any case even after receipt of the clearance certificate from the labour officer the Security Deposit shall be refunded only in terms of Clause 1A (ii) of GCC.

Clause 42: Employer's Financial Arrangements

"The Contractor acknowledges that under the present Contract agreement, the Employer is only working as intermediary between Navodaya Vidyalaya Samiti (NVS) being Principal Employer/Owner/Client and Contractor. Thus, the Contractor unconditionally acknowledge that the payments under the present Contract shall be made proportionately by the Employer only on back-to-back basis i.e., after 45 days subject to receipt of payment from Navodaya Vidyalaya Samiti (NVS) being Principal Employer/Owner/Client. The Contractor also unconditionally agrees that in the event the payment or part thereof, under the present Contract is not received from NVS, then WAPCOS and/or any of its Employee/Officer shall not be responsible to pay any amount to Contractor. The said condition shall supersede any and all other conditions of Contract/Agreement/Work Order/Arrangement between the parties."

Clause 43: Environmental Mitigation Measures During Construction

43.1 Contractor shall follow the guidelines mentioned in table below for Environmental Mitigation and Measures during construction stage at his own cost if not mentioned in Scheduled of Quantities.

Environmental Mitigation Measures During Construction – Buildings and Road

Sl. No.	Environmental Impact/Issue	Mitigation / Management Measures	Responsibility	
			Implementation	Supervision
1.	Removal of Trees	Trees shall be removed from the site before the commencement of construction with prior clearance from the Forest Department.	Contractors	Engineer-in- Charge
2.	Generation of Debris	Debris generated due to the dismantling of the existing pavement structure shall be suitably reused in the proposed construction, subject to the suitability of the material and the approval of the Engineer-in-Charge. Un-utilizable debris material shall be suitably disposed off by the Contractors; either for the filling up of borrow areas created for the project or at pre-designated dump locations.	Contractors	Engineer-in-Charge
3.	Loss of Topsoil	(a) The topsoil from all areas of cutting and all areas to be permanently covered shall be stripped to a specified depth of 150 mm and stored in stockpiles (maximum slope 1:2, and maximum height 2m). To retain soil and to allow percolation of water, the edges of the stockpile shall be protected by stilt fencing. (b) Stockpiles will not be surcharged or otherwise loaded and multiple handling will be kept to a minimum to ensure that no compaction will occur. It shall be ensured by the Contractor that the topsoil will not be unnecessarily trafficked either before stripping or when in stockpiles. (c) Such stockpiled topsoil will be returned to cover the disturbed area and cut slopes. Residual topsoil will be distributed on adjoining/ proximate barren/rocky areas as identified by the Engineer-in-Charge in a layer of thickness of 75 – 150 mm. Top soil shall also be utilized for redevelopment of borrow areas, landscaping along slopes, medians, incidental spaces etc.	Contractors	Engineer-in- Charge

4.	Borrowing of Earth	The borrowing shall not be carried out in cultivable lands, unless agreed upon by the Engineer-in-Charge. Borrowing of earth shall be carried out as per the IRC Guidelines	Contractors	Engineer-in-Charge
5.	Degradation of Borrow Areas	The location, shape and size of the designated borrow areas shall be as approved by the Engineer-in-Charge and in accordance to the IRC recommended practice for borrow pits for road embankments. Borrow pits shall be re-developed, spoils shall be dumped with an overly of stock piled topsoil. Redevelopment of borrow areas shall be taken up in accordance with the plans approved by the Engineer-in-Charge.	Contractors	Engineer-in-Charge
6.	Soil Erosion	Long sections abutting water bodies, stone pitching needs to be carried out for slopes between 1:4 and 1:2 Gabion structures/ Grass turfing shall be provided for slopes steeper than 1 vertical to 2 horizontal. The work shall consist of measures as per design or as directed by the Engineer-in-Charge to control soil erosion, sedimentation and water pollution, through use of berms, dikes, sediment basins, fiber mats, mulches, grasses, slope drains and other devices.	Contractors	Engineer-in-Charge
7.	Construction Wastes & their disposal	Spoil from excavation of riverbed shall be managed and disposed off as directed by the Engineer-in-Charge. No new disposal site shall be created as part of the project, which is not redeveloped. All waste material shall be completely disposed as desired and the site shall be fully cleaned before handing over.	Contractors	Engineer-in-Charge

8.	Loss of Water Bodies	a. Filling of surface water bodies shall be compensated by digging an equal volume of soil for water storage. Such dug-up soil shall be used for spreading as topsoil. b. Wherever earthwork is undertaken, the banks shall be protected by means as designed or as approved by the Engineer-in-Charge. Construction shall be carried out in a manner so that the side slopes are no steeper than 1:4, otherwise slope protection work shall be provided, as approved by the Engineer-in-Charge and as per item 6 of these Specifications. For drains carrying run-off from the Highways entering, into surface water bodies/ channels, with a fall or sedimentation traps shall be provided.	Contractors	Engineer-in-Charge
9.	Loss of Other Water Sources	The replacement shall be ready prior to demolition / dismantling of the existing source. Any damage to the existing sources of water (hand pump, tube well etc.) shall be made good by the Contractor at his expense.	Contractors	Engineer-in-Charge
10.	Flooding	In addition to the design requirements, the Contractor shall take all desired measures as directed by the Engineer-in-Charge to prevent temporary or permanent flooding of the site or any adjacent area.	Contractors	Engineer-in-Charge
11.	Alteration of Drainage	a. In sections along water courses, and close to cross- drainage channels, earth, stone or any other construction materials or appendage shall be properly disposed off so as not to block the flow of water. b. All necessary measures shall be taken to prevent earthwork, stonework, materials and appendage as well as the method of operation from impending cross-drainage at rivers, streams, water canals and existing and existing irrigation and drainage systems.	Contractors	Engineer-in-Charge

12.	Contamination from Construction Wastes, fuel and Lubricants	At construction vehicle parking locations and at fuel/ lubricant storage sites, oil and grease traps shall be provided. Fuel storage shall be in proper bounded areas. The discharge standards promulgated under the Environmental Protection Act, 1986 shall be strictly adhered to.	Contractors	Engineer-in-Charge
13.	Sanitation and Waste disposal in construction camps	Construction labourer's camps shall be located at least 200 m away from the nearest habitation and as approved by the Engineer-in-Charge. The sewage system for a construction labourer's camp shall be designed, Build and as per the Factories Act, 1948 and the Building and other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996.	Contractors	Engineer-in-Charge
14.	Generation of Dust	All vehicles delivering materials to the site shall be covered to avoid spillage of materials. Cleaning shall be affected by manual sweeping and removal of debris, or, if so directed by the Engineer-in-Charge, by mechanical sweeping and cleaning equipment, and all dust, mud and other debris shall be removed completely. Anti-smog gun may be deployed as and when necessary.	Contractors	Engineer-in-Charge
15.	Emission from Hot-Mix Plants and Batching Plants	Hot mix plants and batching plants shall be located sufficiently away from habitation, agricultural operations or industrial establishments. Where possible such plants will be located at least 1000 m downwind from the nearest habitation. The exhaust gases, and operation of the plants shall comply with the requirements of the relevant current emission control rules.	Contractors	Engineer-in-Charge
16.	Emission and noise from Vehicles & Equipment	All vehicles, equipment and machinery used for construction shall conform to the relevant Bureau of Indian Standard (BIS) norms. All vehicles, equipment and machinery used for construction shall be regularly maintained to ensure that pollution emission levels comply with the relevant requirements of concerned pollution governing body under State Government.	Contractors	Engineer-in-Charge

17.	Pollution from Crusher	All crushers used in construction shall conform to relevant dust emission control rules. Clearance for sitting shall be obtained from the concerned local Body. Alternatively, only crushers already licensed by the concerned local Body.	Contractors	Engineer-in-Charge
18.	Loss, Damage or Disruption of/to Fauna	All works are to be carried out in such a fashion that the damage and disruption to fauna is minimum. Construction workers shall be instructed to protect natural resources and fauna, including wild animals and aquatic life. Hunting and unauthorized fishing are prohibited.	Contractors	Engineer-in-Charge
19.	Chance-found Important Flora/ Fauna	If a rare/endangered/ threatened flora/fauna species is spotted, the Contractor shall make all arrangements to intimate the Forest/Wildlife authorities without delay, and measures will be taken for its conservation. Work would be suspended, until the relevant authorities are consulted, unless specifically directly by the Engineer-in-Charge.	Contractors	Engineer-in-Charge
20.	Traffic Control and Safety	The Contractor shall take all necessary measures for the safety of traffic during construction and provide, erect and maintain such barricades, including signs, markings, flags, lights and flagmen as may be required by the Engineer-in-Charge for the information and protection of traffic approaching or passing through the section of the road under improvement.	Contractors	Engineer-in-Charge
21.	Risk from Construction operations	The Contractor is required to comply with all the precautions as required for the safety of the work men as per the International Labour Organization (ILO) Convention No. 62 as far as those are applicable to this Contract. The Contractor shall also comply with the national Building Code for this purpose.	Contractors	Engineer-in-Charge
22.	Potable Water and Hygiene Building	Potable water supply will be provided, at every work place, as per the Factory Rules of State Government. All requirements as per standards set by the Building and other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 shall be fulfilled.	Contractors	Engineer-in-Charge

23.	Protection of Cultural Heritage / Property	All the necessary and adequate care shall be taken to minimize impact on cultural properties (which includes cultural sites and remains, places of worship, graveyards, monuments and any other important properties/sites/remains notified under the Ancient Sites and Remains Act).	Contractors	Engineer-in-Charge
24.	Chance found Geological or Archaeological property	All fossils, coins, articles of value of antiquity and structures and other remains or things of geological or archaeological interest discovered on the site shall be the property of the Employer. The Contractor shall stop all work within 100m in all directions from the findings. The Engineer- in-Charge shall seek direction from the Archaeological Society of India (ASI) before instructing the Contractor to recommence work on the site.	Contractors	Engineer-in-Charge
25.	Risk from explosives	Except as may be provided in the Contract or ordered or authorized by the Engineer-in-Charge, the Contractor shall not use Explosives. Where the use of explosives is so provided or ordered or authorized, the Contractor shall comply with the requirements of the explosives Act. First aid and medical care shall be provided, as per the factory Rules of State Government.	Contractors	Engineer-in-Charge

Clause 44: Early Warning

44.1 The Contractor is to intimate the Engineer-in-Charge at the earliest opportunity of specific likely future events or circumstances that may adversely affect the work resulting delay in the execution. The Engineer-in-Charge may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Completion Date direct them to take suitable action to avoid such delay or get suitable extension to completion date.

44.2 The Contractor shall cooperate with the Engineer-in-Charge in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Engineer-in-Charge.

Clause 45: Identifying Defects

The Engineer shall check the Contractor's work regularly and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Engineer-in-Charge may instruct the Contractor to search for defects and to uncover and test any work that the Engineer-in-Charge considers may have a Defect.

Clause 46: Correction of Defects

46.1 The Engineer-in-Charge shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion and is defined in the Contract Data. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

46.2 Every time notice of a Defect is given; the Contractor shall correct the notified Defect within the time specified by the Engineer-in-Charge's notice. However, no payment shall be released for the defective work.

Clause 47: Uncorrected Defects

If the Contractor shall fail correct a Defect within the time specified by the Engineer-in-Charge, the Employer shall be entitled to employ and pay other persons to carry out the same and if such work is the work which, in the opinion of the Engineer-in-Charge, the Contractor was liable to do at his own expense under the Contract, then all expenses consequent there on or incidental thereto shall be recoverable from the Contractor by the Engineer-in-Charge from any money due or which may become due to the Contractor.

Clause 48: Payment Certificates

48.1 The Contractor shall submit to the Engineer-in-Charge statements of the value of the work completed.

48.2 The Engineer-in-Charge shall check the Contractor's statement as per Clause 7 of GCC and certify the amount to be paid to the Contractor after taking into account any credit or debit for the month in question in respect of materials for the works in the relevant amounts and under conditions set forth in Clause 10B of GCC.

48.3 The value of work executed shall include the valuation of Change in Scope (Variation), if any.

48.4 The Engineer-in-Charge may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

Clause 49: Time Compensation Events

49.1 The following are Time Compensation Events unless they are caused by the Contractors:

49.2 The Employer does not give access to the site or a part of the Site. If any Event would prevent the work being completed before the Intended Completion Date, the Intended Completion Date shall be extended. The Contractor will react competently and promptly to the event and shall submit information demonstrating the effect of the Event and the required extended time period for completion.

49.3 The Engineer-in-Charge shall examine the information furnished by the Contractor and shall recommend to the Employer by how much time the Intended Completion Date shall be extended. The Employer shall decide/ sanction the required extension of time due to such event. However, no payment/compensation will be given to the Contractor due to such extensions of time.

49.4 The Contractor shall not be entitled to any compensation to the extent that the Employer's interests are adversely affected by the Contractor not having given early warning or not having

cooperated with the Engineer-in-Charge.

Clause 50: Termination

50.1 The Employer may terminate the Contract if the Contractor causes a fundamental breach of the Contract.

50.2 Fundamental breaches of Contract include, but shall not be limited to the following:

- The Contractor stops work for 28 days when no stoppage of work is shown on the current Programme and the stoppage has not been authorized by the Engineer-in-Charge;
- The Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- The Engineer-in-Charge gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer-in-Charge;
- The Contractor does not maintain a secrecy which is required;
- The Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the Contract data; and
- If the Contractors, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

50.3 For the purpose of this paragraph: "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in Contract execution. "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."

50.4 When either party to the Contract gives notice of a breach of Contract to the Engineer-in-Charge for a cause other than those listed under Sub Clause 50.2 in above, the Engineer-in-Charge shall decide whether the breach is fundamental or not.

50.5 Notwithstanding the above, the Employer may terminate the Contract for convenience.

50.6 If the Contract is terminated the Contractor shall stop work immediately, make the Site safe and secure and leave the Site, as soon as reasonably possible.

Clause 51: Payment upon Termination

51.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractors, the Engineer-in-Charge shall issue a certificate for the value of the work done less advance payments received up to the date of the issue of the certificate, less other recoveries due in terms of the Contract, less taxes due to be deducted at source as per applicable law and less the percentage to apply to the work not completed as indicated in the Contract Data. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractors, the difference shall be a debt payable to the Employer.

51.2 If the Contract is terminated at the Employer's convenience, the Engineer-in-Charge shall issue a certificate for the value of the work done, less advance payments received up to the date of the certificate, less other recoveries due in terms of the Contract and less taxes due to be deducted at source as per applicable law. No payment shall be made for expenditure towards removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works and the Contractor's costs of protecting and securing the Works.

51.3 All materials on the Site, Plant, Equipment, Temporary Works and Works are deemed to be the property of the Employer, if the Contract is terminated because of the Contractor's fundamental breach of Contract.

Clause 52: Release from Performance

If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractors, the Engineer-in- Charge shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which commitment was made.

Clause 53: Preference to Make in India

- The provisions of revised 'Public Procurement (Preference to Make in India) Order 2017-Revision' issued by Department of Industrial Policy and Promotion under Ministry of Commerce and Industry vide letter no.-P45021/2/2017-PP (BE-II) as amended on 16.09.2020 shall be applicable to the bidding process and award of the contract shall be done accordingly.

- Verification of Local Content

i. The bidder at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement of the tender. They shall also give details of the location(s) at with the local value addition is made.

ii. In cases of procurement for a value in excess of Rs 10 Crores, the bidder shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

Clause 54: Rule 144 (XI) in General Financial Rules (GFRS) 2017

i. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.

ii. "Bidder "(including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.

iii. "Bidder from a country which shares a land border with India" for the purpose of this Order means:-

a. An entity incorporated, established or registered in such a country; or
b. A subsidiary of an entity incorporated, established or registered in such a country; or

c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
d. An entity whose beneficial owner is situated in such a country; or
e. An Indian (or other) agent of such an entity; or
f. A natural person who is a citizen of such a country; or
g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above

iv. The beneficial owner for the purpose of clause 54 (iii) above will be as under:

1) In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercise control through other means.

Explanation-

2) "Controlling ownership interest" means ownership of or entitlement to more than twenty- five per cent. Of shares or capital or profits of the company;
3) "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
4) In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
5) In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone of together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profit of such association or body of individuals;
6) Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
7) In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

v. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.

The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

Clause 55: Blacklisting Policy

The Blacklisting Policy of the company is available on official website of WAPCOS Limited. The Bidder/tenderer/consultant/contractors have to mandatorily furnish an undertaking addressing the same to Engineer-in-Charge in the form of certificate to abide the contents of Blacklisting Policy as per annexure - 8. Any action in violation of the blacklisting policy or to the certificate furnished shall result in cancellation of tender at the stage before or after the award of work.

Section-V
Additional Conditions of Contract

Section-V - Additional Conditions of Contract

Clause 1: General:

The following Additional Conditions of Contract shall be read in conjunction with General Conditions of Contract. The same shall be considered as an extension and not limitation of the obligations of the Contractors. In case of any discrepancy between Additional Conditions of Contract and the General Conditions of Contract, these Additional Conditions of Contract shall take precedence over the General Conditions of Contract.

Clause 2: Setting out Base Lines and Levels

The Contractor shall establish at site the layout of the building/road etc. for the work from base lines and grids established by the Employer and shall be responsible for all measurements in connection therewith. The Contractor shall, at his own expenses, furnish all stakes, templates, platform, equipment, ranges and labour that may be required in setting out or laying out any part of the work. The Contractor shall be held responsible for the proper execution of the work to such lines, levels and grids as may be established or indicated on the drawings and specifications. The Contractor shall check the bench marks and stakes existing at the site for laying out lines and levels.

The Contractor has to construct and maintain proper bench marks at all salient locations/positions in order that the lines and levels may be accurately checked at all times.

Theodolite/ Total Station, Levels, Prismatic Compass, Chain, Steel and FRP Tapes and all other surveying instruments found necessary on the works shall be provided by the Contractor for use at site in connection with this work.

Clause 3: Employer's and Contractor's Risks

i. The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.
ii. The Employer is responsible for the excepted risks which are in so far as they directly affect the execution of the Works in India, the risks of acts of God, war, hostilities, invasion, act of foreign enemies, rebellion, revolution, insurrection or military or usurped power, civil war, riot commotion or disorder (unless restricted to the Contractor's employees), and contamination from any nuclear fuel or nuclear waste or radioactive toxic explosive.
iii. All risks of loss of or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the Contract other than the excepted risks as defined in Clause 3(ii) of this section are the responsibility of the Contractor.
iv. Contractor shall take full responsibility for the adequacy, stability and safety of all site operations and methods of construction during the entire period of construction

4.0 Insurance of Works Etc.

4.1 Contractor is required to take Contractor's All Risk policy from Nationalized insurance company in the joint name with Employer and bear all costs towards the same for the full period of execution of works including the Defect Liability Period for the full amount of contract against all loss of damage from whatever cause arising other than excepted risks for which he is responsible under the terms of the contract and in such manner that the Employer and the Contractor are covered during the period of construction of works and/or also covered during the period of Defect Liability for loss or damage.

a. The Works and the Temporary works to the full value of such works.

b. The materials, constructional plant, centering, shuttering and scaffolding materials and other things brought to the site for their full value.

Whenever required by Employer, the Contractor shall produce the policy or the policies of insurance and the receipts for payment of the current premium.

4.2 Insurance under Workmen Compensation Act

Contractor is required to take insurance cover under the Workman Compensation Act, 1923 amended from time to time from Nationalized insurance company and pay premium charges thereof. Wherever required by Employer the Contractor shall produce the policy or the policies of Insurance and the receipt of payment of the current premiums.

4.3 Third Party Insurance

Contractor is required to take third party insurance cover for an amount of 5% (five percent) of contract value from Nationalized insurance company for insurance against any damage, injury or loss which may occur to any person or property including that of Employer / Owner, arising out of the execution of the Works or Temporary works. Wherever required by Employer the Contractor shall produce the policy or the policies of Insurance and the receipt of payment of the current premiums.

4.4 If the Contractor shall fail to effect and keep in force the insurances referred to above, or any other insurance which he may be required to effect under the terms of the Contract, then and in any such case the Employer on advice of the EIC may effect and keep in force any such insurance and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount so paid by the Employer as aforesaid from any moneys due or which may become due to the Contractor, or recover the same as debt due from the Contractor.

4.5 The Contractor shall at all times indemnify Employer and Owner against all claims, damages or compensation under the provision of Payment of wages act-1936, Minimum Wages Act-1948, Employer's liability Act-1938, the workmen's compensation Act-1947, Industrial Disputes Act-1947 and Maternity Benefit Act-1961 or any modifications thereof or any other law in force or as consequence of any accident or injury to any workman or other persons in or about the works, whether in the employment of the Contractor or not, against all costs, charges and expenses of any suit, action or proceedings arising out of such incident or injury and against all sum or sums which may with the consent of the Contractor be paid to

compromise or compound any such claim. Without limiting his obligations and liabilities as above provided, the Contractor shall insure against all claims, damages or compensation payable under the Workmen's Compensation Act 1923 or any modification thereof or any other law relating thereto.

4.6 The Contractor, in case of re-building or reinstatement after fire, shall be entitled to such extension of time for completion as the EIC may deem fit, but shall, however not be entitled to reimbursement by the Employer or any shortfall or deficiency in the amount finally paid by the Insurer in settlement of any claim arising as set out herein.

Clause 5: Approval by the Engineer-in-Charge

5.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Engineer-in-Charge, who is to approve them if they comply with the Specifications and Drawings.

5.2 The Contractor shall be responsible for design of Temporary Works.

5.3 The Engineer-in-Charge's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

Clause 6: Possession of the Site:

The Employer shall give possession of relevant parts of the Site to the Contractor within 7 days from the date of commencement of work to enable to commence and proceed with the Works in accordance with the programme of Clause – **5 of GCC**. If possession of a part is not given by the time stated, the work programme will be rescheduled based on the delay of possession of site and extension of time considered accordingly. However, no payment/compensation will be given to Contractor for such extension.

Further, if and to the extent that the delay of possession of site caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such extension of time and any payment.

Clause 7: Access to the Site & Instructions

i) The Contractor shall allow the Employer and any person authorized by the Employer access to the Site, to any place where work in connection with the Contract is being carried out or is intended to be carried out and to any place where materials or plant are being stored/manufactured/ fabricated / assembled for the works.

ii) The Contractor shall carry out all instructions of the Engineer-in-Charge pertaining to works, which comply with the applicable laws where the Site is located.

iii) The Contractor shall permit the Engineer-in-Charge to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the Engineer-in-Charge, if so, required by the Employer.

Clause 8: Management Meetings

8.1 Either the Engineer-in-Charge or the Contractor may require the other to attend a management meeting.

8.2 The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

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

Clause 9: Co-operation & Co-ordination with other Agencies:

The Contractor shall have to make Coordination with other agencies engaged at the site by the Employer at no extra cost and share the Site with other Contractors/agencies, public authorities, utilities working in the area, if any. The Contractor will carry out the entire work in a planned manner by coordinating his work with other agencies, who will be simultaneously carrying out work in the same area and also co-ordinate in connection with the position of various fixtures, inserts, embedment's and other allied work connected with the completion of the building / subject work.

In case of any dispute between the agencies engaged on the same work, decision of Engineer-in-Charge shall be final and binding.

Clause 10: Approach Roads and Transportation of Equipment & Materials

Contractor will be permitted to use the existing roads in the establishment area for the purpose of transporting equipment and materials and for use of labour etc. The Engineer-in-Charge, however, will not undertake to provide any approach roads to the actual site of work. It shall be the entire responsibility of the Contractor to provide and maintain such temporary approach roads including cross drainage works if any at his own cost for the purpose of movement of men, materials and equipment. Layout of such approach roads shall be submitted to Engineer-in-Charge for his approval before undertaking the construction of the same. Such approach roads shall be made available to other agencies for carrying out the work in the same area in consultation with the Engineer-in-Charge of the works without any cost.

Clause 11: Operations and Storage Areas

All operations of the Contractor shall be confined to areas authorized by the Engineer-in-Charge and storage of materials shall be over the areas specially indicated by the Engineer-in-Charge. Materials like sand and metal of different sizes shall be stored in properly constructed bins with hard floor to avoid inter mixing as well as mixing with objectionable materials. The Contractor shall be obliged to keep the premises in hygienic conditions by proper drainages of the area provided with suitable approaches throughout the period of Contract. He shall rectify all damages caused to the Government property within the areas thus allotted. He shall

be responsible to clear all rank, vegetation at site at his own cost.

Clause 12: Contractor's Storage and Site Office

The Contractor shall make own arrangement for storing his equipment, plant, materials etc. and for his site office and cement godown. The Contractor be solely responsible for watching or guarding his property and materials. Contractor shall cover all materials at site with requisite insurance against theft, larceny, dacoits, fire tempest and flood. The Contractor, however, shall have to dismantle the shed and vacate the land after the receipt of due notice from the Engineer-in-Charge if the same is obstructing any work. The Contractor should obtain necessary permission / approval from Statutory Authorities such as Municipal corporations / Local bodies etc. for construction of temporary structures at site of work such as cement godown, stores, site office etc. It will be responsibility of the Contractor to prepare proper plans, to pay any requisite fees to statutory authorities and to execute the work for the temporary structure at their own cost as per the conditions and rules laid by statutory authorities.

Clause 13: Temporary Buildings

Any temporarily buildings and office facilities as required by the Contractor shall be arranged by the Contractor at his own expense. Area for the same will be made available by the Employer, if available. Prior approval of the Engineer-in-Charge shall be obtained in respect of location and layout and details of those buildings. After the work is over, all these temporary facilities shall be removed by the Contractor at his own expense to the satisfaction of the Engineer-in-Charge within 10 days from the date of completion.

Labour Camp is permitted at site. However, no labour shall be permitted to stay in the partly completed building at any time. Unauthorized occupation of any area/partly completed building by the Contractor's labourer will be treated as trespass and action will be taken to evict them including termination of Contract if deemed fit. Sanitary as well as water supply and drainage facilities as required by the labour laws in force, are to be provided by the Contractors at his own cost. The labour camp should be dismantled by the Contractor before handing over the buildings.

Clause 14: Traffic Interference & Inconvenience to the Public

The Contractor shall so conduct his operations as to interfere as little as possible with the traffic/public. When interference to traffic is inevitable, a notice of such interference shall be given to the Engineer-in-Charge well in advance (at least 2 days) at any stage, if it becomes necessary to divert the traffic, the Contractor shall obtain permission from the local traffic authorities at his own expense. The Employer will render reasonable assistance in the matter. The Contractor shall take all precautionary and other measure, such as providing warning signals, temporary diversion etc. all as directed by the Engineer-in-Charge.

The Contractor shall not deposit materials anywhere at work site which will seriously inconvenience the public. The Engineer-in-Charge may require the Contractor to remove any materials which are considered to be a danger or inconvenience to the public or cause them to

be removed at the Contractor's cost.

The Contractor shall exercise full care to ensure that no damage is caused by him or his workmen, during the operation to the existing water supply and power lines. The cost of any such damage and risks arising out of this shall be entirely borne by the Contractor.

Clause 15: Drainage around the Buildings and Foundation for other Works

The Contractor shall be entirely responsible for the provision and maintenance of efficient drainage arrangements in the work site to lead all water whatsoever pumped out from the excavations on account of rains, floods, springs or any other source whatsoever. The foundation trenches shall be kept free from water while all the works below ground level are in progress.

Flooding or ponding of water in the work site shall not be permitted under any circumstances whatsoever and the Contractor shall take all necessary precautions to prevent the same by providing suitable pumps and other dewatering arrangement.

The cost of repairing damages if any, to the work under execution or to any government property in and around the site shall be entirely borne by the Contractor where such damages are due to his non-compliance with the above conditions.

Clause 16: Samples for Materials

Samples of all materials to be incorporated in the work shall be submitted to the Engineer-in-Charge for his approval without any extra cost. The approved samples will be kept with Engineer-in-Charge till completion of the work. Materials not conforming strictly to the approved samples will be rejected.

Samples of various materials required for testing shall be provided free of charge by the Contractors. Testing charges if any, including all other expenses required to be incurred for taking the samples, conveyance, packing etc., shall be borne by the Contractors.

In addition to submission of samples of materials, the Contractor shall make a sample mock up ready in all respects, including the finishing items of works of civil works including installation of fittings as well as those of water supply, plumbing and sanitation work and electrical, internal fittings, fixtures and wiring etc. to determine the acceptable standard of materials and workmanship. The sample mock up with all final finishes and installations etc. shall be got approved from the Engineer-in-Charge in advance before taking up the finishing items of the work in the building(s). Each of these samples of items of work / trade / materials approved by the Engineer-in-Charge will be endorsed as "Guide line samples", as per which further works shall be executed in strict conformity with standard of materials & workmanship.

The provision of co-ordination and co-operation with other agencies shall be mutatis-mutandis applicable to the above mentioned "Sample mock-up / Sample finishing works" also.

Testing charges shall be borne by the Contractor. If any additional test needs to be at site, Contractor shall bear the cost.

Clause 17: Execution of Work and Inspection

The work shall be conducted under the general direction of the Engineer-in-Charge and is subject to inspection by his appointed representative to ensure strict compliance with the terms of the Contract and shall at all times be open and accessible to the inspection and supervision of Engineer-in-Charge. No failure of the Engineer-in-Charge or his designated representative during the progress of the work to discover or to reject materials, or work not in accordance with the requirement of this Contract shall be deemed as on acceptance thereof or a waiver of defects therein and no payment by the Engineer-in-Charge or partial or entire occupancy of the premises shall be construed to be an acceptance of work or materials which are not strictly in accordance with the requirements of the Contract. No changes whatsoever to any provision of specifications shall be made without authorization from the Engineer-in-Charge. If any work has been executed with unsound, imperfect, or unskillful workmanship shall be removed / replaced/ reconstructed by the Contractor at no extra cost.

Clause 18: Supply of Water for Construction Purpose

Contractor shall make his own arrangement of water required for the work, at his own cost, subject to the approval of the Engineer-in-Charge. However, the Contractor will be permitted to drill bore well/s at site and the Contractor shall pay all charges to local bodies / authorities / royalty if any and obtain statutory approvals, geological survey provide pump, pipeline, casing with all accessories required for functioning of the bore well. The water should be tested in an approved laboratory and should be permitted to use in work if found suitable for construction. However, Contractor shall make alternate arrangements in case the water is not found fit for construction. After completion of work the Contractor will handover complete bore well/s with pump/s and accessories to the Employer at no cost.

The Engineer-in-Charge shall make alternative arrangements for supply of water at the risk and cost of Contractor(s) if the arrangements made by the Contractor(s) for procurement of water are in the opinion of the Engineer-in-Charge, unsatisfactory.

The Contractor shall arrange to provide a minimum storage of 5000 Liters. (Or two days requirement whichever is higher) of water at building location with all necessary pumps for storage of water shall be built by the Contractor at his own cost at location to be approved by the Engineer-in-Charge. The water storage tanks should be leak proof and wastage and misuse of water is strictly prohibited, Contamination and pollution of water to be strictly avoided. Construction water should not be used for drinking or for domestic purpose. Contractor will make his own arrangement for water required for drinking purposes at site of work at his own cost.

Clause 19: Supply of Electricity for Construction Purpose

The Contractor shall make his own arrangement for the same as required at his own cost. Required authorization letter will be issued by Employer.

Clause 20: Construction and Maintenance by the Contractor

As mentioned above, the Contractor shall maintain his entire electrical installation, appliances etc. in good and safe condition as required under relevant rules and BIS codes of practice etc. However, the following precautions and directives shall be followed in addition to observing other essential rules:

a. The minimum clearance (measured at the lowest sag point) to be maintained for all overhead lines shall be 4 Mtrs. cross country or along roads and 6.1 metres across roads.

b. Metallic poles as a general rule should be avoided and if used should be earthed individually.

c. All loose hanging of wires and cables should be avoided. The line wires should be properly supported and an approved method of fixing shall be adopted.

d. Installation shall not cause any hindrance to the normal movement of men and materials at site.

e. All cables and wires should be adequately protected against mechanical damage during construction activity of all Contractors, working at site.

f. In case the cable is required to be laid in ground, it should be adequately protected by covering the same with bricks, R.C.C. tiles or any other approved means and cable markers provided at suitable intervals as per approval of the Engineer-in-Charge.

g. Laying of cable and wires direct on floor shall not be allowed but if absolutely necessary for some very short lengths, the same shall be taken through suitable mechanical covering like G.I. / M.S. Pipes etc.

h. All the cut door switch boards, equipment etc., should be adequately protected against rain or preferably they should not be exposed to weather.

i. If overhead lines using bare conductors are installed, a guard wire system of adequate size shall run along the cables / wires and earthed effectively.

j. The connection for portable machines shall be taken only through suitably rated 3 pin socket points. Iron clad industrial type outlets are preferred. While taking supply through socket outlet a plug top must be used, avoiding inserting of loose wires in the sockets. The third pin of the plug shall invariably be earthed and 3 core wire of appropriate specifications and capacity shall be used.

k. All three-phase equipment shall be provided with duplicate earthing. All metallicframes, light fixtures, portable equipment's etc. should be effectively earthed to main earthing.

l. Duly authorized persons having valid wireman's license / competence certificate must be employed under the supervision of a qualified and experienced Electrical Supervisor for carrying out electrical work and repair of electrical equipment, installation and maintenance etc. at site.

m. Special precaution shall be taken by the Contractor not to disturb the sapling/trees recently planted by the side of the boundary wall. The sapling/trees fall within the

building/road etc. shall be transplanted to suitable place with written approval of the Engineer-in-Charge and maintained by the Contractor till completion of works at his own cost.

Clause 21: Stores and Materials at Site

Stores and materials required for the works are to be deposited by the Contractor only in places to be indicated by the Engineer-in-Charge. The Engineer-in-Charge shall have a right at any time to inspect and examine any stores and materials intended to be used in or on the works either on the site or at any factory or workshops or other places where such stores or materials are being constructed or manufactured or processed or any place from where they are being obtained and the Contractor shall give such facilities as required to be given for such inspection and examination.

The Engineer-in-Charge shall be entitled to have tests made without any extra cost to the Employer at the laboratory selected by the Employer for any stores and or materials supplied by the Contractors, who shall provide at his own expense all the facilities which the Engineer-in-Charge may require for this purpose.

Any stores and materials brought to site for use on the work and which has been rejected by Engineer-in-Charge shall be immediately removed off the site by Contractor at his own expenses and intimate in writing accordingly to the Engineer-in-Charge. The rejected materials shall not be used in any manner in the construction of the project.

Clause 22: Proper drawings and instructions

The Contractor shall provide shop drawings and other drawings to the Engineer-in-Charge in line with the requirement of contract agreement from time to time for approval for the purpose of proper and adequate execution and maintenance of the work and the Contractor shall carry out the work and be bound by the same.

Copies of the drawings approved by the Engineer-in-Charge and the construction drawings issued shall be kept by the Contractor at the site and the same shall at all reasonable times be made available for inspection and use by the Engineer-in-Charge and any other person authorized by the Engineer-in-Charge.

Clause 23: Employment of Staff for Plumbing & Electrical Works

- **Employment of certified plumber:** Certified plumbers should be employed by the Contractor on the work for main sewer, filtered and unfiltered main.
- **Employment of licensed electrical foreman:** The Contractor should employ a licensed electrical foreman to supervise the Electrical works.

Clause 24: Urgent repairs

If by reason of any accident or failure or other event occurring to or in connection with the work or any part thereof either during the period of construction or maintenance, any remedial or other work or repair shall in the opinion of the Engineer-in-Charge be urgently necessary for

security etc. and the Contractor is unable or unwilling, at once, to do such work or repair, the Engineer-in-Charge may be his own or other workmen do such work or repair as he may consider necessary. If the work or repair so done which in the opinion of the Engineer-in-Charge, the Contractor was liable to do at his own expenses under the Contract and all cost and charges properly incurred by the Engineer-in-Charge in so doing shall on demand be paid by the Contractor or may be deducted from any sum due or which may become due to the Contractor provided always that the Engineer-in-Charge shall soon after the occurrence of any such emergency as may be reasonable, practicable, notify the Contractor thereof in writing.

Clause 24A: Cost of Repairs

Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions including the situation as stipulated at Clause 24 of this Section.

Clause 25: Security Regulations

The Contractor has to strictly follow the security regulations at the work site regarding entry of personnel, material etc. and any other regulation that might be enforced from time to time.

All materials and articles brought by the Contractor to the work site shall have to be declared at the security gate. Similarly, no materials shall be taken out from the premises without proper gate pass.

The Contractors, Suppliers, vendors, workers engaged in work/business will be issued with renewable entry permit to avoid unauthorized entry in the work site on scrutiny of applications in prescribed form.

For working on Sundays, Holidays and late hours, even though permission will be accorded by the Engineer-in-Charge, the Contractor will have to make application to the Engineer-in-Charge also and keep them informed well in advance.

The area where the proposed work is to be carried is residential / non-residential area under the control of Security authorities, entry to the site of work shall be through the main gate only. The Contractor shall follow strictly the security regulations at site of work regarding entry of personnel, materials etc. and other regulations that might be enforced from time to time at the work site and also in the campus for smooth and efficient operation. The Contractors, his agents, representatives, workmen etc. and his materials, carts, trucks or other means of transport etc. will be allowed to enter through and leave from such point of entry/exit at such times, the authorities in charge of the area, at their sole discretion, may permit.

The Contractors, his agents and representatives are required to be in possession of the individual identity / muster cards or passes. The muster cards or passes are examined by the security staff at the time entry / exit inside the premises and also at any time or number of times within such area.

The Contractor will have to apply for entry/muster permits of likely number of labour to be engaged during the week for the workers and authorize their representatives to collect the entry permits for labour from the Employer's Security Authorities.

It will be the responsibility of the Contractor to maintain the list of laborers permitted to work inside the premises in a register and the representative of Contractor's labour will have to issue entry pass to each labour after making necessary entry in the registers.

The Contractor, his agents, representatives, workmen shall strictly observe the orders pertaining to prevailing fire precautions.

In addition to the above, other security regulations as may be imposed by the Security authorities / Engineer-in-Charge shall be complied with / observed by the Contractor and his workmen, in addition to the above.

Any breach of above security regulations and rules in force from time to time will be viewed seriously. No claim whatsoever will be entertained by the Employer on account of the observation of the Security regulations.

Clause 26: Watch and Ward and Lighting

The Contractor shall in connection with the works provide and maintain at his own cost all lights, guards, fencing and watching when and where necessary or as required by the Engineer-in-Charge and duly constituted authority for the protection of the workers or for safety and convenience of the public or others. The Contractor shall be responsible for all damages and accidents caused due to negligence in this regard.

It will be the entire responsibility of the Contractor to protect the work(s) carried out by them including the fittings, fixtures and other accessories provided by them till the entire work is satisfactorily handed over to the Employer.

Clause 27: Third Party Inspection of Works

Notwithstanding the any other conditions of Contract, the Employer shall get the work inspected by any third party (any Institutes or Government organization) during the progress of work or any time after the construction and development of project up to the defect liability period. The Contractor, his consultant, subcontractors of all tiers and suppliers thereof shall make available during the inspection with all records necessary to demonstrate that the Works have been executed in accordance with the Contract Agreement.

The Contractor shall also be responsible for consequential effects arising out during the inspection done by the third party from time to time and will take appropriate action for rectification of defective work. Rectification of defective works or replacement of sub-standard materials or articles, as pointed out by the third party authorized by Employer, will be carried out or replaced by the Contractor at his own risk and cost. The Employer will not pay any extra amount for such rectification or replacement.

Clause 28: Other Conditions

1. The Contractor shall deploy the resources at site to start the construction after written approval from Employer. No claim shall be entertained for idle of labour, idle machinery, idle technical / non-technical staff, idle T&P if any, due to delay in start of the works. If any dispute/ hindrance may arise during construction due to any reason whatsoever, the Contractor is not liable for any financial claim or damages due to such circumstances.
2. The efforts will be made by the employer to handover the site to the Contractor free of encumbrances. However, in case of any delay in handing over of the site to the Contractor, the employer shall only consider suitable extension of time for the execution of the work. It should be clearly understood that the employer shall not consider any revision in contract price or any other compensation whatsoever viz. towards idleness of Contractor's labour, equipment etc.
3. The Contractor shall be responsible for removal of all over-ground and under-ground structures (permanent, semi-permanent and temporary) and constructions from the site. The cost to be incurred in this regard shall be deemed to be included in the quoted rate of Bill of Quantities items and contractor shall not be entitled for any extra payment whatsoever, in this regard. The contractor, if required, shall demolish old structures on the proposed site, properly. The useful material obtained from demolition of structures & services shall be the property of the owner/Employer and these materials shall be stacked in workmanship like at the place specified by the Engineer- in-charge.
4. If required, the contractor has to do site clearance, enabling work, barricading, diversion of Roads, shifting/ realignment of existing utility services, drains, nallahs etc. at his own cost as per direction of Engineer-in-charge and the contractor shall not be entitled for any extra payment whatsoever in this regard.

5. Necessary arrangements including its maintenance are to be made by the contractor for temporary diversion of flow of existing drain and road, as the case may be. The existing drain, road would be demolished, wherever required, with the progress of work under the scope of proposed project. The existing Road and Drain, which are not in the alignment of the said project but are affected and/ or need to be demolished during execution for smooth progress of the project, shall be rehabilitated to its original status and condition (including black topping) by the contractor at his own cost. The cost to be incurred by contractor in these regards shall be deemed to be included in the quoted rates of the Bill of Quantities items and contractor shall not be entitled for any extra payment whatsoever, in these regards.

6. The Contractor shall be responsible to co-ordinate with service provider/concerned authorities for cutting of trees, shifting of utilities and removal of encroachments etc. and making the site un-encumbered from the project construction area required for completion of work. This shall include initial and frequent follow up meetings/ actions/ discussions with each involved service provider/ concerned authorities. The contractor shall not be entitled for any additional compensation for delay in cutting of trees, shifting of utilities

and removal of encroachments by the service provider/ concerned authorities.

7. The information about the public utilities (whether over ground or underground) like electrical/ telephone/ water supply lines, OFC Cables, open drain etc. is the responsibility of contractor to ascertain the utilities that are to be affected by the works through the site investigation and collection of information from the concerned utility. The Contractor shall render all help and assistance in documenting the total sequence of this project by way of photography, slides, etc. nothing extra shall be payable to the agency on this account.
8. Contractor shall provide R.O. Plant sufficient for workers employed at site, his technical staff and site staff.
9. The Contractor shall make his own arrangements for obtaining electric connection and water Connection/arrangement (if required). The water charges and electricity charges as charged by the Owner and Local Authorities shall be borne by the Contractor. No dispute in this regard shall be entertained.
10. The Contractor shall dispose of all the dismantled materials, debris, garbage, waste outside of the campus of the works at his own cost and provide clear and clean site at the time of handing over the works
11. The Contractor shall be entirely and exclusively responsible for the horizontal, vertical and other alignment, the level and correctness of every part of the work and shall rectify effectively any errors or imperfections therein. Such rectifications shall be carried out by the Contractor at his own cost to the instructions and satisfaction of the Engineer-in-Charge.
12. The cost/rates quoted by the Contractor are deemed to be inclusive of site clearance, setting out work, profile, establishment of reference bench mark, spot levels, construction of all safety and protection devices, barriers, earth embankments, preparatory works, all testing of materials working during monsoon, working at all depths, height and locations etc. unless specified in the schedule of quantities.
13. The contractor shall deposit royalty and obtain necessary permit for supply of bajri, stone, kankar, sand etc. from the local authorities and quoted rates shall be inclusive of royalty on any account whatsoever.
14. Any cement slurry added over base surface (or) for continuation of concreting for better bond is deemed to have been in-built in the items and nothing extra shall be payable (or) extra cement considered in consumption on this account.
15. Samples of various materials required for testing shall be provided free of charges by the Contractor. Testing charges, if any, unless otherwise provided shall be borne by the Contractor. All other expenditure required to be incurred for taking the samples, conveyance, packing etc. shall be borne by the Contractor himself.
16. The Contractor shall have to make approaches road to the site, if so required and keep them in good condition for transportation of labour and materials as well as inspection of works by the Engineer-in-Charge. Nothing extra shall be paid on this account.

17. No payment shall be made for any damage caused by rain, snowfall, flood or any other natural calamity, whatsoever during the execution of the work. The Contractor shall be fully responsible for any damage to the govt. property and work for which the payment has been advanced to him under the contract and he shall make good the same at his risk and cost. The Contractor shall be fully responsible for safety and security of his material, T&P, Machinery brought to the site by him.

18. Wherever work is specified to be done or material procured through specialized agencies, their names shall be got approved well in advance from Engineer-in-Charge. Failure to do so shall not justify delay in execution of work. It is suggested that immediately after award of work, Contractor should negotiate with concerned specialist agencies and send their names for approval to Engineer-in-Charge. Any material procured without prior approval of Engineer-in-Charge in writing is liable to be rejected. Engineer-in-Charge reserves right to get the materials tested in laboratories of his choice before final acceptance. Nonstandard materials shall not be accepted.

19. The construction joints shall be provided in predetermined locations only as decided by Engineer-in-Charge. The cost of shuttering for these construction joints shall be included in item of Concrete work / RCC work and nothing extra shall be payable on this account to the Contractor.

20. No chase cutting/dismantling of plaster/RCC/CC shall be allowed, so Contractor has to execute the electrical work accordingly.

21. The Contractor shall invariably prepare the samples of finishing items i.e. flooring of different types, external & internal finishing i/c colour scheme of paint, tiles in dado, flooring in platforms & staircase, water supply & sanitary fittings and any other item as per direction of Engineer-in-Charge. The Contractor shall proceed with further finishing items only after getting the samples of these items approved in writing from Engineer-in-Charge. No extra claim whatsoever beyond the payments due at agreement rates will be entertained from the Contractor on this account.

22. For the purpose of Clause 33 (vi) of Section-IV, the Contractor shall submit along with every running bill (on account or interim bill) material wise consumption statements supported by complete calculations. Engineer-in-Charge shall be within his rights to check all the calculations and if not satisfied, shall made his own calculations and communicated to the Contractor, which shall be final and binding on the Contractor.

23. **Special Conditions for Steel**: The Contractor shall procure TMT bars of Fe500D grade from primary steel producers as per the list of approved makes.

24. **Special Conditions for Waterproofing:** The contractor shall associate himself with the specialized firm, to be approved by the Engineer-in-Charge in writing, for water proofing treatment for lower ground floor, underground tank, pump room and on roofs. Guarantee in the prescribed proforma attached with tender document shall be given by the specialized firm, for a period of ten years from the date after the maintenance period prescribed in the contract, which shall be counter signed by the contractor as token of overall responsibility. If however any defect is noticed during the guarantee period, it shall be rectified by the contractor within seven days of intimation. In case it is not attended to, the same will be

got done by another agency at the risk and cost of the contractor. This guarantee deposit can however be released in full if a bank guarantee of equivalent amount for 10 years is produced and deposited with the Employer.

25. **Use of Fly Ash Bricks**: The contractor is required to use fly ash clay bricks conforming to IS 3812, in view of the Fly Ash Notification issued by the Government of India from time to time.

26. Contractor shall not divert any advance payments or part thereof for any work other than that needed for completion of the contracted work. All advance payments received as per terms of the contract (i.e., mobilization advance, secured advance against materials brought at site, secured advance against plant & machinery and/or for work done during interim stages, etc.) are required to be re-invested in the contracted work to ensure advance availability of resources in terms of materials, labour, plant & machinery needed for required pace of progress for timely completion of work.

SECTION-VI
Project Execution & Supervision Aspects, List of Site Equipment, Contract Management Framework & Completion Schedule

Section-VI - Project Execution & Supervision Aspects, List of Site Equipment, Contract Management Framework & Completion Schedule

Clause 1: Project Execution & Supervision Aspects

1. The Bidder, who shall act as Contractor for the project shall be composed of qualified and experienced experts, who can carry out all the routine construction works as a fully competent and independent unit.

   However, in preparing his proposal for the construction, the Bidder should allow for a suitable mechanism which will ensure thorough co-ordination of the design and execution teams, so that each team is at all times fully aware of the remedies to common problems used by the other team.

2. The Project Head/Project Manager Representative on behalf of the Contractor should be authorized with whom day to day interactions shall be made by the Engineer-in-Charge for execution and supervision of works. He should be a senior Civil Engineer with at least 10 years of professional experience out of which 5 years in planning and construction of building works. He should have executed at least one major building work of similar in nature as proposed by the Bidder. He should be familiar with modern construction equipment and Contract conditions. The candidate should have a thorough understanding and experience with IS code relating to building construction.

3. The Bidder shall provide competent personnel for the project execution and supervision who shall be managed by the Project Head/Project Manager at site in performing the assignment under this Contract.

   The Bidder's personnel should have the required experience and expertise in conducting similar type of works with highest professional standards.

   The Bidder is required to set-up the site office at the work site and make their own arrangements for the accommodation, furniture and equipment etc.

   The project execution and supervision personnel should be mobilized from the date of commencement of works by the Bidder. During the Defects Liability Period, the Bidder would be expected to provide technical advisory services on an "as required" basis.

   After award of the Contract, the Employer expects all of the proposed personnel to be available during implementation of the Contract.

4. It is the duty of the Contractor to:

   - Ensure that high quality of construction is achieved
   - Ensure that all works are carried out in full compliance with the Engineering design, technical specifications and Contract documents;
   - Check / conduct all necessary measurements, tests, and control the quality of various items of work s and in accordance with the relevant code of Building specification with the latest edition.

Key Personnel:

The Contractor shall employ the key personnel named in the Schedule of Key Personnel as referred to in Annexure 9 in Section-III of Volume-I to carry out the functions stated in the Schedule or other personnel approved by the Engineer-in-Charge. The Engineer-in-Charge will approve any proposed replacement of key personnel only if their qualifications, abilities, and relevant experience are substantially equal to or better than those of the personnel listed in the Schedule.

If the Engineer-in-Charge asks the Contractor to remove a person who is a member of the Contractor's staff or his work force stating the reasons the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

Clause 2: Minimum Site Equipment Required

Availability (either owned or leased having validity for the period till completion of project) of the key and critical equipment required at site as per Annexure 11 of Section-III of Vo. I.

- The Bidder shall provide further details of proposed items of equipment using the relevant form in Section III (Annexures).
- The Bidder is to provide their own estimate of the number of equipment, commensurate with their work plan and methodology.
- The Bidder to fill up the table based on its assessment of requirement of the project to be completed within the stipulated time period.

Clause 3: Equipment for Testing of Materials & Concrete at Site Laboratory (Indicative Only)

All necessary equipment for conducting necessary tests shall be provided at the site laboratory by the Bidder at his own cost as per Annexure 13 of Section-III of Vo. I.

Clause 4: Duties and Responsibilities of the Engineer-in-Charge

The duties of the Engineer-in-Charge are to administer the works Contract and ensure that the contractual Clauses, whether related to quality or quantities of work, are respected. The duties of the Engineer-in-Charge include issuing of decisions; certificates and orders as specified in details in the construction Contract documents. The Engineer-in-Charge will also co-ordinate the teams, to ensure that the technical policies are correctly and consistently implemented.

The principal responsibilities of the Engineer-in-Charge will be, but not be limited to, the following:

a. to give the order to commence the works;

b. to inspect Contractor's plant and equipment's and recommend augmentation/ rectification of deficiencies, if required

c. to order special tests of materials and/or completed works, and/or order removal and substitution of improper materials and/or the works as required;

d. to review all the test result/ certificates of all construction materials and inspect sources of materials to establish their quality suitable to the required standard.

e. to check all bituminous mix designs and concrete mix design proposed by the Bidder where ever required and in due time and suggest modifications in the mix design, laying methods, sampling and testing procedure and quality control measures, to ensure required standard and consistency in quality at the commencement of times;

f. to check and certify the laboratory and field tests carried out by the Contractor and also carry out independent tests, if required. The report of such test shall be submitted to the Engineer-in-Charge within a period of 7 days of such tests.

g. to issue completion certificate of part or all the works;

h. to inspect the works during the construction period and the Defects Liability Period, and to issue Defects Liability Certificates after rectification by the Contractor of defects notified to him by the Engineer-in-Charge;

i. to advise the Employer on all matter relating to execution of the works and claims from the Contractor, and to make recommendations thereon, including the possible recourse to arbitration;

j. to approve the setting out the works;

k. to approve materials and sources of materials;

l. to instruct the removal from the site of materials which are not as per specifications or reconstruction of parts of the works which do not comply with the specification;

m. to issue monthly progress reports;

n. to issue interim payment certificates for works carried out by the Contractor, and certify completion of parts or the totality of the works (payments are to be recorded in the measurement book before issue of interim certificates);

o. to assist the Employer in providing clarification/explanation to observations made, from time to time by the Accountant General's office/Auditors.

p. To get implemented any orders/ instructions issued by the concerned officers of the Employer.

Clause 5: Actions Requiring Specific Approval of the Employer

The Engineer-in-Charge will be required to obtain the specific approval of the Employer before taking any of the following actions:

- Approving subcontracting of any parts of the Works;
- Certifying additional cost, fixing rates or prices for deviation / variation, if any
- Determining an extension of time;
- Approving programme for execution of works;
- Suspension of works

Clause 6: Duties & Responsibilities of the Project Head/Project Manager

The duties of the Project Head/Project Manager of the Contractor are, to supervise construction of the works and, to test and examine any material to be used or workmanship employed in connection with the works. The principal responsibilities of the Project Head/Project Manager

of the Contractor are likely to be but not limited to as follows:

- to ensure that the construction work is accomplished in accordance with the technical specifications and Contract Conditions;
- to identify construction problems and delays and to recommend to the Engineer-in-Charge, actions to expedite progress
- to ensure proper keeping of records
- to monitor and check the day-to-day quality control and quantity measurements of the work carried out under the Contract and prepare the monthly payment certificates.
- to prepare in consultation with the Engineer-in-Charge, a Construction Supervision Manual outlining routine and procedures to be applied in Contract management, construction supervision and administration;
- to prepare a maintenance manual outlining the routines to be adopted in each specific reach and for the cross-drainage works and buildings;
- to comply with his contractual obligations in executing work in all matters concerning safety and care of the works (including the erection of temporary signs) and, if required, to request the Contractor to provide any necessary lights, guards, fencing and watchmen for smooth and effective working and traffic flow.
- to write a day-by-day project diary which shall record all events pertaining to the administration of the Contract, request forms and orders given to the Contractor, and any other information which may at a later date be of assistance in resolving queries which may arise concerning execution of the works;
- Any other work as outlined in contract agreement, which is the responsibility of the Contractor.

Clause 7: Data, Services and Facilities to be Provided by the Employer

Attention is drawn to the following which are **not provided by the Employer** and are to be arranged by the Contractor at his own cost.

- The Employer will not provide office accommodation. The Contractor shall make his own office accommodation arrangements for their office staff for each of the field supervision teams including furniture, equipment, operation and maintenance.
- The Employer will not provide project vehicles to the Contractor. The Contractor shall make his own arrangements in respect of vehicles. The Contractor shall ensure that vehicles for the team are of good makes and are of excellent working condition.
- The Contractor shall be responsible for making his own arrangements for survey equipment.
- The Contractor shall be responsible for making his own arrangements for communications.

Site Laboratories:

The site laboratories (including furniture, equipment, running and maintenance) shall be provided by the Contractor, the cost of which is included in quoted percentage rate. The laboratory equipment shall be as specified and as required by the Engineer-in-Charge.

Clause 8: Reporting Requirements

The Project Head/Project Manager of the Contractor project site shall prepare and submit to the Engineer-in-Charge **six** copies each of the following reports:

(i) **Monthly Reports:** The Project Head/Project Manager of the Contractor (Contractors) shall, **not** later than the 5th of each month, prepare a brief progress report summarizing the progress of the construction Contract. The report shall outline any problem encountered (administrative, technical or financial) and give recommendations on how these problems may be overcome. The report should record the status of payment.

(ii) **Quarterly/ Annual Reports:** The Project Head/Project Manager of the Contractor (Contractors) shall prepare a comprehensive report summarizing all activities quarterly/annually. Such reports shall summarize the progress of the Contract, all Contract variations and change orders, the status of Contractor claims, if any, brief descriptions of the technical and contractual problems encountered and Engineer-in-Charge's / Employer's suggestions on how to overcome those, financial status of the Contract as a whole consisting of the costs incurred and costs forecast, as well as financial plan and other relevant information for the ongoing Contract.

(iii) **Sectional/ Final Completion Report:** The Project Head/Project Manager of the Contractor shall prepare a comprehensive Final Completion Report for the Contract when it reaches a stage of substantial completion during the period of the services. Completion Reports must also be submitted immediately after the taking over of each Section or part of the Permanent Works. The Reports shall summarize the method of construction and supervision and recommendations for future projects of similar nature to be undertaken by the Employer.

Besides the above, six copies each of Construction Supervision and Maintenance Manuals are to be submitted along with the Final Completion Report.

Clause 9: Documents Prepared Shall be the Property of the Employer

All plans, drawings, specifications, designs, reports and other documents (both computer hard copies and soft copies) in performing the works shall become and remain the property of the Employer, and the Contractor shall, not later than upon termination or expiration of this Contract, deliver all such documents to the Employer, together with a detailed inventory thereof. The Contractor may retain a copy of such documents but shall not use these documents for purposes unrelated to this Contract without the priory written approval of the Employer.

Clause 10: Completion Schedule/deliverables

The works has to be completed in the following phasing:

Sl. No.	Activity/Milestone	Time
1.	Construction of Boundary Wall including entry gates, guard rooms and RCC Frame/ Building upto Plinth level	Within 5 months from the date of commencement of work
2.	Construction of RCC frame/building from ground	

	floor to stair roof, overhead tank etc.	
	a) Upto 50%	Within 10 months from the date of commencement of work
	b) Upto 100%	Within 13 months from the date of commencement of work
3.	Execution of finishing Items such as brick work, plaster work (inside and outside) including internal water supply lines, flooring (including internal sewer lines), doors and windows, painting, staircase, hand railing, sanitary fixtures etc.	Within 15 months from date of commencement of work
4.	Providing all External Services such as Construction of School Buildings, Girls & Boys Hostels, Warden Residences, Principal Residence, Vice - Principal Residence, Kitchen & Dining, Type III Quarters, Type II Quarters, Guest House, Sub Station Building, Pump House, Sentry Booth, including internal water supply, sanitary installation, drainage and providing electrical installations, street lighting & fire extinguishers, footpaths, kerbs and road protection, land protection with retaining walls, boundary wall etc. as per the relevant architectural, structural and other details as outlined in bidding document.	Within 18 months from the date of commencement of work
5.	Testing and Commissioning of all internal and external services complete in all respects and handing over the project to the Owner	Within 18 months from the date of commencement of work

Note: The work of plantation, internal & external services, etc. shall be completed simultaneously during the progress of work as and when the site is available for the same, as per direction of Engineer-in-Charge.

Clause 11: Site Offices and facilities

The cost of providing the work/facilities stated in the sub-clauses of this clause are to be borne by the Contractor and shall be deemed to be included in the percentage rate quoted by the Contractor.

11.1 The Contractor shall supply, erect and satisfactorily maintain Site Office for the Employer in good condition until final completion of works, a well-lighted, well ventilated and air-conditioned and adequately weather proofed temporary, burglar proof readily available Site Office (Portable Cabins) of adequate capacity having the covered area not less than 500 Sq. Ft. with all facilities such as telephone, fax, internet, photocopier, computer/ laptop & printer along with operator, regular electric & purified drinking water supply etc. and 4-wheeled

transportation/inspection vehicle, in running condition & duly maintained as per the requirement of the project, without any extra cost to employer. The Contractor shall provide adequate access to the office. The Contractor shall be responsible during the continuance of the Contract for the security of the office and for all plans, documents and papers and other clauses contained therein. The sitting of the office shall be in accordance with the instructions of the Engineer-in-Charge. Service personnel shall also be made available at the Office at all times and shall clean site office daily. The Contractor shall provide uninterrupted power and water to the Office as directed for 24 hours free of cost. An amount equal to 1% of gross bill from all running account & final bill shall be recovered, if the above facilities are not provided by the Contractor.

The Contractor shall dismantle and remove from site all such temporary structures on completion of Contract or whenever required by the Employer.

The contractor shall also make sufficient arrangement for Photography/ Videography preferably by maintaining a camera/video camera at site so that video and photographs can be taken of a specific activity at any point of time. The contractor shall also provide software like MS Project/Primavera etc. for the purpose of preparing progress report etc.

11.2 The Contractor shall provide at his own cost, One Site sign Board, at directed location of overall size 2.40 metres wide and 1.50 metres height and of approved design. The names of the Project, Employer, Consultants, Engineer and Contractor etc. shall be exhibited as directed.

11.3 The Contractor shall maintain daily weather record. Daily maximum and minimum temperature and corresponding, humidity shall be recorded and charted. Rainy days shall be recorded when the rain lasting more than one hour hampers the work. Any other inclemency in weather shall be recorded. The records shall be regularly shown to the Engineer-in-Charge and his signature obtained.

11.4 The Contractor shall arrange at his own cost to maintain a progress record of the works by taking (5”x 7”)/8’X10” size colour photographs minimum 6 Nos. or more per month as directed by the Engineer-in-Charge during the construction stages and after completion and shall supply one set to the Engineer-in-Charge at no extra cost. These photographs shall also be submitted as part of the Contractors R.A Bills.

11.5 The same shall be furnished as per requirement of Monthly Progress report.

11.6 The Contractor shall provide arrangements for firefighting at his own cost. For this purpose, he shall provide requisite number of fire extinguishers and adequate number of buckets, some of which are to be always kept filled with sand and some with water. This equipment shall be provided at suitable prominent and easily accessible places and shall be properly maintained. The Contractor may be subject to periodic fire prevention inspections and any deficiency or unsafe condition shall be corrected by the Contractor at his own cost and to approval of the Engineer-in-Charge and the relevant authorities.

These fire prevention inspections shall include but not limited to the following:

- Proper handling, storage and disposal of combustible materials, liquids and wastes.
- Work operations which can create fire hazards.

- Access for firefighting equipment.
- Type, size, number and location of fire extinguishers or other firefighting equipment.
- Inspection and maintenance records for extinguishers
- Type, number and location of containers for the removal of surplus materials and rubbish.
- General housekeeping

11.7 For the purpose of quick communication between the Engineer-in-Charge and the Contractor or his Representative, Site Order Books shall be maintained at site in the manner as described below:

Any communication, relating to the works may be conveyed through records in the site order book. Such a communication from one party to the other shall be deemed to have been adequately served in terms of the Contract. Each site order book shall have machine-numbered pages in triplicate and shall be carefully maintained and preserved by the Contractor and shall be made available to the Engineer-in-Charge as and when demanded. Any instruction which the Engineer-in-Charge may like to issue to the Contractor may be recorded by him in the site order book and two copies thereof taken by the Engineer-in-Charge for his record. The Contractor or his Contractor or Representative may similarly record in the site order book any communication he may like to send to the Engineer-in-Charge. Two copies thereof when sent to the Engineer-in-Charge and receipt obtained thereof, will constitute adequate services of the communication to the Engineer-in-Charge.

11.8 The Contractor shall provide all materials as provided in the tender. The Employer shall approve any make after inspection of samples.

11.9 The Contractor shall display all permissions, licenses, registration certificates and other statements required to be displayed under various labour laws and other legislations applicable to the works at the site office and also maintain the requisite register / records factually and up to date and keep them ready for inspection by the concerned authorities and also make available the same to the Engineer-in-Charge / Owner for inspection.

11.10 The relevant I.S. codes of practice and other relevant codes shall be of latest version with their amendments/ revisions. The Contractor shall keep and maintain copies of the latest editions of codes at the work site and make it available to Employer whenever required.

11.11 In case of Guarantees specified for certain periods for due performance of materials and specialist items of work, the Contractor shall be a co-guarantor with the Specialist Contractor or Supplier offering such Guarantee and shall offer such co- Guarantee in a format approved by the Employer.

11.12 General shift & normal working period means from 8.00 am to 5.00 pm. No night or rest day work. A weekly holiday is to be observed on Sunday. For carrying out work on Sunday and Holidays or during night, the Contractor will approach the Engineer-in-Charge or his representative at least two days in advance and obtain his permission. The Engineer-in-Charge at his discretion can refuse such permission. The Contractor shall have no claim on this account whatsoever. If work demand, the Contractor shall make arrangements to carry out the work on Sundays, Holidays and in two, three shifts with the approval of Engineer-

in-Charge at no extra cost to Employer.

11.13 The Contractor has to make own security arrangement. Contractor shall maintain upto date record of in & out of the material & labour / staff at the security gate of campus at its own expenses.

11.14 If desired by the Employer, the Contractor shall stack and spread to the require profile the excess earth available suitable for filling in layers not exceeding 200mm, watering, consolidation within the campus and dispose of all surplus material to the nearest dumping ground/ land fill area without any additional cost, etc.

11.15 The Employer may if require, request the assistance of Contractor labour for purpose other than from part of Contract. The Contractor will not unreasonably deny such assistance and the Engineer-in-Charge decision in this regard shall be binding on the Contractor. The Contractor will be then paid on the basis of minimum wages rates and provision made in the General Conditions of Contract.

11.16 The Contractor shall provide safety equipment to the Employers/officers (whenever required).

11.17 The agreement between Contractor & their Subcontractors (MEP & utility services) should have clause regarding obligation by the Subcontractor to enter into Contract with the Employer for comprehensive AMC if required at the rate & terms & condition mutually decided with Engineer-in-Charge after expiry of Defects Liability & Maintenance Period successfully.

11.18 Contractor shall deploy security/ watchmen for 24 hours on site at entire execution period.

11.19 Contractor shall provide safety gadgets to the Employer officers.

11.20 Working on extended hours beyond normal working hours with prior agreement and /or determination between Contractor and the Engineer-in-Charge/Employer's Representative to work on extended hours, Contractor has to make arrangement of Transportation for Employer's Representative / the Engineer-in-Charge as determine and agreed jointly.

11.21 Contractor shall properly cover up & protect all the work throughout the duration of work at his cost until completion, particularly flooring, risers, mouldings, steps, terrace or special floor finishes (by a layer of 25 mm thick Plaster of Paris over Polyethylene sheet as approved by Engineer-in-Charge) staircases and balustrades, doors and glass, paint work, furniture and all finishing.

11.22 Contractor shall prepare Mock-up for flooring, false ceiling, partition etc. & take the approval from the Employer and Consulting Architect before proceeding with the work.

Clause 12: Drawings

12.1 Good for Construction Drawings

The work shall be carried out in accordance with the approved architectural drawings, structural drawings, MEP services drawings to be issued from time to time, by the Engineer-in-Charge, and approved shop drawings prepared by the Contractor. Before commencement of any item of work the Contractor shall correlate all the relevant architectural and structural drawings, nomenclature of items and specifications etc. issued for the work and satisfy himself that the information available

from there is complete and unambiguous. The figure and written dimension of the drawings shall be superseding the measurement by scale. The discrepancy, if any, shall be brought to the notice of the Engineer-in-Charge before execution of the work. The Contractor alone shall be responsible for any loss or damage occurring by the commencement of work based on any erroneous and or incomplete information and no claim whatsoever shall be entertained by the department on this account.

12.2 Coordinated drawings

Before taking up the work, the Contractor shall prepare shop drawings for the works listed below for various civil and electrical services showing details of layout in plan including sections & elevations & large-scale details and Contractor shall plan and mobilize his resources as per these drawings and as per actual site conditions to facilitate convenient execution, installation as well as maintenance of these items. Nothing extra shall be payable on this account.

12.3 Shop drawings

The bill of quantities, technical specifications and drawings together shall be considered as a tender requirement and the work shall be carried out as per good for construction (GFC) drawings, issued by Engineer-in-Charge. The Contractor shall study the GFC drawings and taking into account actual site conditions and selected material and requirements shall prepare shop drawings for the following works, as fully coordinated drawings, as given above.

a. Aluminium work, Stainless steel work and railings etc.
b. Expansion joint work
c. Reflected Ceiling Plan (RCP), coordinated with all ceiling related services.
d. Marble, granite, vitreous, ceramic, tile work details.
e. All Electrical work
f. All Sanitary and sewerage work
g. All plumbing works.
h. Rainwater Pipe details/ position, roof slopes etc.
i. Drainage details.
j. Door Window details
k. All steel fabrication work.
l. Fixture, Furniture and Equipment (FFE) work.
m. Any other works detail if required.

Within the time frame agreed with the Engineer-in-Charge, the Contractor shall prepare shop drawings using latest version of AutoCAD. Shop drawings shall show all layouts, details in plans & sections showing all connections, junctions, bends, supports, clearances. fixing arrangements with dimensions room, etc shall be prepared by the Contractor on AutoCAD based on the architectural drawings and site measurements. All measurable items quantities shall be mentioned on each shop drawing being submitted for approval by the Contractor. 3 sets of shop drawings (soft copy also) shall be submitted for approval and Seven sets of final shop drawings after approval by Engineer-in-Charge shall be submitted by the Contractor along with the soft copy. The shop drawings, shall be prepared as per schedule given in PERT Chart.

Technical submittals of manufacturer’s catalogues and technical data shall be submitted for approval. The Contractor shall designate an Engineer responsible for issue and preparation of shop drawings and control of GFC drawings.

12.4 As built drawings

i. The Contractor shall make available four (04) sets of completed Building Drawings, "As Built Drawings" along with literatures, manuals, warranty certificates etc. of various installed fittings, fixtures and equipment for the completed projects. This shall be the prerequisite for payment of final bill.

ii. The Contractor shall make available three (03) sets of all services drawings including Electrical & HVAC work internal and external services i.e. Water Supply, Sanitary line and Drainage lines. This shall be the prerequisite for payment of final bill. These drawings shall have the following information:

   a. Run off for all piping and their diameters including soil, waste pipes and vertical stacks.

   b. Ground and invert level of all drainage pipes together with locations of all manholes and connections, up to outfall.

   c. Run off for all water supply lines with diameters location of control valves, access panels etc.

Clause 13- Testing and Commissioning and Handover

1. The Contractor shall arrange electricity at his own cost for testing of the various electrical and mechanical installations as directed by Engineer-in-Charge and for the consumption by the Contractor for executing the work. Also all the water required for testing various electrical installations, fire pumps, firefighting/ firefighting equipment, fire sprinklers. and testing water supply, sanitary and drainage lines, water proofing of underground sump, overhead tanks, water proofing treatment etc. shall be arranged by the Contractor at his own cost. Nothing extra shall be payable on this account.

2. Testing of equipment shall be carried out as per technical Specifications, manufacturer's recommendation and latest standards available up to date. The testing report shall be submitted along with Operation and Maintenance manual of the equipment at the time of handover.

3. Contactor to provide training for operation and maintenance of equipment through respective manufacturer for the routine and preventative maintenance of equipment post Defect Liability Period.

4. The Contractor shall demonstrate trouble free functioning of all the Civil and E&M installation sand services. The Engineer-in-Charge or his authorized representatives shall carry out final inspection of the various Civil and E & M services and installations. Any defect(s) noticed during demonstration shall be rectified by the Contractor at his own cost to the entire satisfaction of the Engineer-in-Charge. Nothing extra shall be payable on this account.

Section-VII
Safety Codes

Section-VII: Safety Codes

1. Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable footholds and handholds shall be provided on the ladder and the ladder shall be given an inclination not steeper than 1/4 to 1 (1/4 horizontal and 1 vertical).
2. Scaffolding or staging more than 3.6 m. (12 feet) above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90 cm. (3 feet) high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
3. Working platform, gangways, and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6 m. (12 feet) above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (ii) above.
4. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 90 cm. (3 feet).
5. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 m in length while the width between side rails in rung ladder shall in no case be less than 29 cm for ladder up to and including 3 m in length. For longer ladders this width should be increased at least 1/4" for each additional 30 cm of length. Uniform step spacing or not more than 30 cm. shall be kept. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The Contractor shall provide all necessary fencing and lights to protect the public from accident, and shall be bound to bear the expenses of defense of every suit, action or other proceedings at law that may be brought by any persons for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit, action or proceedings to any such persons or which may, with the consent of the Contractor, be paid to compensate any claim by any such person.
6. Excavation and trenching: All trenches, 1.2 m or more in depth, shall at all times be Supplied with at least one ladder for each 30m in length or fraction thereof, Ladder shall extend from bottom of the trench to at least 90 cm above the surface of the ground. The side of the trenches which are 1.5 m or more in the depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 m of the edges of the trench or half of the depth of the trench whichever is more.

   Cutting shall be done from top to bottom. Under no circumstances undermining or under cutting shall be done.
7. Demolition: Before any demolition work is commenced and also during the progress of the work: -

   i. All roads and open areas adjacent to the work site shall either be closed or suitably protected.

ii. No electric cable or apparatus which is liable to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged.

iii. All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.

8. All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the Contractor should take adequate steps to ensure proper use of equipment by those concerned. The following safety equipment shall invariably be provided:

   i. Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.

   ii. Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes shall be provided with protective goggles.

   iii. Those engaged in welding works shall be provided with welders protective eye shields.

   iv. Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.

   v. When workers are employed in sewers and manholes, which are in active use, the Contractors shall ensure that the manhole covers are opened and are ventilated at least for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public.

In addition, the Contractor shall ensure that the following safety measures are adhered to:

Entry for workers into the line shall not be allowed except under supervision of the EIC or his representative.

i. At least 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manhole for working inside.

ii. Before entry, presence of Toxic gases should be tested by inserting wet lead acetate paper which changes colour in the presence of such gases and gives indication of their presence

iii. Presence of Oxygen should be verified by lowering a detector lamp into the manhole.

In case, no Oxygen is found inside the sewer line, workers should be sent only with Oxygen kit.

iv. Safety belt with rope should be provided to the workers. While working inside the manholes, such rope should be handled by two men standing outside to enable him to be pulled out during emergency.

v. The area should be barricaded or cordoned of by suitable means to avoid mishaps of any kind. Proper warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.

vi. No smoking or open flames shall be allowed near the blocked manhole being leaned. VII. The malba obtained on account of cleaning of blocked manholes and sewer lines

should be immediately removed to avoid accidents on account of slippery nature of the malba.

vii. Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Engineer-in-Charge may decide the time up to which a worker may be allowed to work continuously inside the manhole.

viii. Gas masks with Oxygen Cylinder should be kept at site for use in emergency

ix. Air-blowers should be used for flow of fresh air through the manholes. Whenever called for, portable air blowers are recommended for ventilating the manholes. The motors for which shall be vapour proof and of totally enclosed type. Non-sparking gas engines also could be used but they should be placed at least 2 metres away from the opening and on the leeward side protected from wind so that they will not be a source of friction on any inflammable gas that might be present.

x. The workers engaged for cleaning the manholes / sewers should be properly trained before allowing to work in the manhole.

xi. The workers shall be provided with gum-boots or non-sparking shoes bump helmets and glows gas masks and non-sparking tools safety lights and gas masks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer line.

xii. Workmen descending a manhole shall try each ladder stop or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rungs fixed to manhole.

xiii. If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.

xiv. The extent to which these precautions are to be taken depend on individual situation but the decision of the Engineer-in-Charge regarding the steps to be taken in this regard in an individual case will be final.

xv. The Contractor shall not employ men and women below the age of 18 years the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precautions should be taken:

- No paint containing lead or lead products shall be used except in the form of paste or readymade paint.
- Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scrapped.
- Overalls shall be supplied by the Contractors to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on cessation of work.
- The Contractor shall not employ women and men below the age of 18 on the work of painting with product containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following principles must be observed for such use White lead, sulphate of lead, or product containing these pigments, shall not be used in painting operation, except in the form of paste or of paint ready for use.

1. Measures shall be taken, wherever required in order to prevent danger arising from the application of a paint in the form of spray.
2. Measures shall be taken, wherever practicable, to prevent danger arising out of from

dust caused by dry rubbing down and scrapping.

3. Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.
4. Overalls shall be worn by working painters during the whole of the working period.
5. Suitable arrangements shall be made to prevent clothing put off during working hours, being soiled by painting materials.
6. Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by a medical man appointed by the Competent Authority of the Department.
7. The Employer may require, when necessary, medical examination of workers.
8. Instruction with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters.
9. When the work is done near any place where there is risk of drowning, all necessary equipment should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision should be made for prompt first-aid treatment of all injuries likely to be obtained during the course of the work.
10. Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions:

I. These shall be of good mechanical construction, sound material and adequate strength and free from patent defects and shall be kept repaired and in good working order.

II. Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent detects.

- Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding winch or give signals to operator.
- In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the state working load. In case of a hoisting machine having a variable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the sate working load except for the purpose of testing.
- In case of departmental machines, the safe working load shall be noticed by the Electrical Engineer-in-Charge. As regards Contractors machines the Contractors shall notify the sate working load of the machine to the Engineer-in-Charge whenever he brings any machinery to site of work and get it verified by the Electrical Engineer concerned.

11. Motors, gearing, transmission, electrical wiring and other dangerous parts of hoisting appliances should be provided with efficient safe-guards. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energised, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The workers should not wear any rings, watches and

carry keys or other materials which are the good conductors of electricity.

12. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.
13. These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot the person responsible for compliance of the safety code shall be named therein by the Contractor.
14. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the Contractor shall be open to inspection by the Labour Officer or Engineer-in-Charge of the Department or their representatives.
15. Notwithstanding the above Clauses from (1) to (14) there is nothing in these to exempt the Contractor from the operations of any other Act or Rule in force in the Republic of India.

Section - VIII
Safety with Scaffolding

Section-VIII: Safety with Scaffolding

1. Introduction:

1.1. Following paragraphs deals with the safety regulations and precautions to be followed in the construction use, maintenance, etc. of scaffolds. This will serve as a guide to users of scaffolds in the construction and maintenance operations.

1.2. Suitable scaffolds are used for performing work that cannot be done from the ground, part of a permanent structure, a ladder or other available means of support.

Scaffolds are used in many construction and maintenance operations. Fall of person is the most common hazard accompanying the use of scaffolds because of the height usually involved.

2. General Requirements:

2.1. Every scaffold and its supporting members should be designed to support given load, with a safety factor of at least four. No alterations should be made that might impair the strength of such structures, no improvised, make-shift or substandard scaffold should be permitted even for the most temporary use.

2.2. All work in connection with such structures, including construction, alteration and removal should be carefully done under the direction and supervision of persons who have had experience in such works.

3. Materials of Construction:

3.1. Every scaffold and every part thereof, including supports, should be of good construction, sound material, of adequate strength for the purpose which it is meant to be used and should be properly maintained.

3.2. Planks should be laid flat with an overlap, lengthwise, of at least 30 cm. with the centre of the overlap directly over a bearer. Boards and planks used for the floors should be of uniform thickness, closely laid and securely fastened in place.

3.3. All lumber used in the construction of scaffolds should be sound, straight-grained, free from cross-grains, shakes and loose or dead knots. It should also be free from dry rot, large checks, worm holes, or other defects impairing its strength or durability.

3.4. All nails used in the construction of scaffolds, staging and supports should be of ample size and used in sufficient quantities at each connection to develop the

3.5. designed strength of scaffold. Nails should penetrate to the holding piece to a depth of at least 12 times the diameter of nail.

3.6. Barrels, boxes, loose tile blocks, loose piles of bricks or other unstable objects should not be used to support planks used as working platforms.

4. Platforms, Railings and Tee-Boards:

The minimum uniformly distributed design load per Sq. m. of platforms should be

250 kg. Any concentrated load at any point in the span should not exceed the designed uniformly distributed load. Planks should not be less than 50 mm thick.

4.1. The rear of outer side of every scaffolding, platform and ramp more than 2M above the surrounding ground or solid construction, or adjacent to deep holes, excavations, railroad tracks, high tension electrical wires, should be provided with a substantial guard rail of standard construction consisting of top and intermediate rails, and toe-boards all supported by posts and securely connected to scaffold at intervals of not more than 2.4 M (See figure

- 1).

4.2. The width of the scaffolds should be such as to provide a clear walkway 50 cm wide. If part of the width of scaffold is to be used for keeping materials such as brick, mortar or lumber, the scaffold should be made wider so as to provide a walkway of the required width.

4.3. Where scaffolds are erected over sidewalks or over areas in which persons must work or pass, the space between the railing and toe-board should be fitted with side screens.

4.4. There should be a screen or other protection suspended from the scaffold to catch materials that may fall from above. Screens should extend beyond the edge of the scaffold to catch any materials that may fall over the edges.

5. Means of Access:

5.1. A safe and convenient means of access should be provided to the platform or scaffold. This requirement does not apply to swinging scaffolds or those with convenient access from adjacent floors (see figure- 2).

5.2. Means of access may be a portable ladder, fixed ladder, ramp or it may be a stairway. The use of cross braces or frame work as means of access to the working surface should not be permitted.

5.3. If scaffolds are to be used to a great extent or for a long period of time, a regular plank stairway, wide enough to allow two persons to pass, should be erected. Such stairways should have handrails on both sides.

5.4. No stairway or run of slope exceeding 2 in 3 should be used.

5.5. Where the slope of a stairway or run renders additional foot hold necessary, and in every case where the slope is more than 1 in 4, there should be provided proper stepping laths which should have a minimum section of 50 x 30 mm and be placed at maximum interval of 45 cm and be of length to cover the full width of the stairway of run except that they may be interrupted over a width of not more than 10 cm to facilitate the movement of barrows.

6. Overhead Protection:

6.1. Overhead protection should be provided on the scaffold whenever persons are working at higher places. This protection should be not more than 3m above the scaffold floor and should be of planks or other suitable materials.

7. Use of Scaffolds:

7.1. Good housekeeping should be maintained at all times upon scaffolding, platforms and ramps. Excessive storage of materials thereon should be avoided. Care must be taken to avoid accumulating of small objects, such as boards, tools, pieces of reinforcing steel, waste concrete which may easily be disturbed on knock off. Hand rails should be kept in good repair and securely nailed or otherwise fastened down. Scaffold should be cleared of all tools, materials and rubbish at the end of each working day/shift.

7.2. Persons should not be permitted on scaffolds when the platform or guard rails are slippery. Persons should not be permitted to work on scaffolds during a storm or strong winds.

7.3. Suspended scaffolds should never be used for the storage of stone or heavy materials. Two or more swinging scaffolds should not at any time be combined into one by bridging the distance between them with planks or any other form of connection. Life lines securely fastened from above should be provided for each person working on a swinging scaffold. Safety belts should be tied to the life lines (See figure- 3).

8. Inspection:

8.1. As scaffolds have to remain in position normally for many weeks, they must be inspected at least once a week to make sure that nothing has gone wrong since erection. In addition, they must always be inspected after a spell of bad weather which might have affected their stability.

8.2. The inspections must be carried out by someone who knows the faults to look for and how they may be put right. It is important to know that the work of inspection has been completed and what faults have been found, the results of each inspection must, therefore be recorded. Any scaffold damaged or weakened from any cause should be immediately repaired and persons should not be allowed to use it until repairs have been completed.

9. Dismantling:

9.1. The dismantling of scaffold should be carefully done under experienced supervision. Care should be taken not to drop small, loose objects when removing scaffold planks. All nails should be promptly removed from scaffold planks and the planks safely piled.

10. Precautions against particular Hazards:

10.1. Care should be taken to see that no uninsulated electric wire exists within 3M. of the working platform, stairways, etc. of the scaffold.

10.2. While carrying bars, rods or pipes of any conducting material of length greater than 3 M. in the vicinity of electric wires, special care should be taken that these bars do not touch the electric wires.

10.3. Care should be taken against any possibility of wooden scaffold catching fire. In suspended scaffolds, if a blow torch or other flame is used for removing paints, only wire ropes not less than 10mm in diameter should be used.
Care should be taken to see that no part of a scaffold is struck by a truck or other heavy moving equipment and no material should be dumped against it.

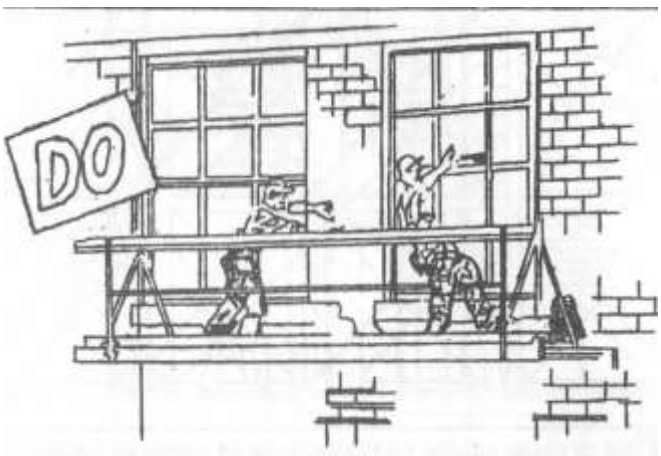
10.4. Scaffolds on thoroughfare should be provided with light.

10.5. Access to cable tunnels, hydrants, etc. should remain free at all times.

10.6. Care should be taken from damaging underground cables and equipment. This is especially important when parts of scaffolds for other fasteners have to be driven in the ground.

* Guard Rails *

The rear on outer side of the scaffold should be provided with a substantial guard rail of standard construction

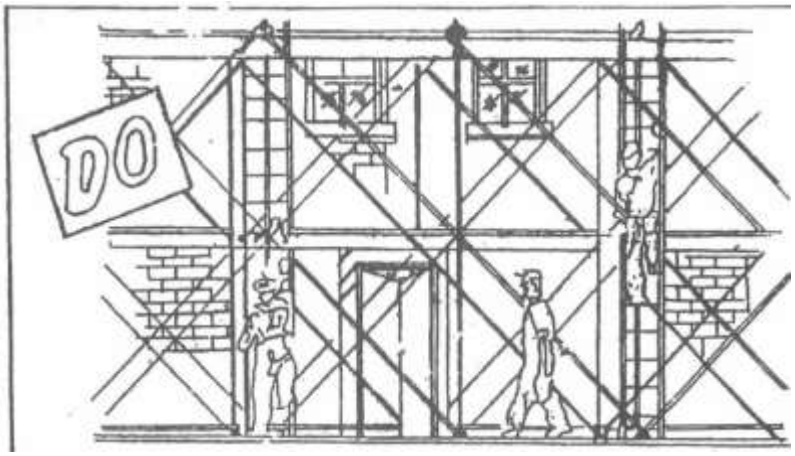


Persons should not be allowed to work on scaffolds where the edges are unguarded. A slight

slip will result in serious injury or even death.

Figure – 1:

A safe convenient means of access should be provided to the scaffold



The use of cross braces or frame work as means of access to the working surface should not be permitted.

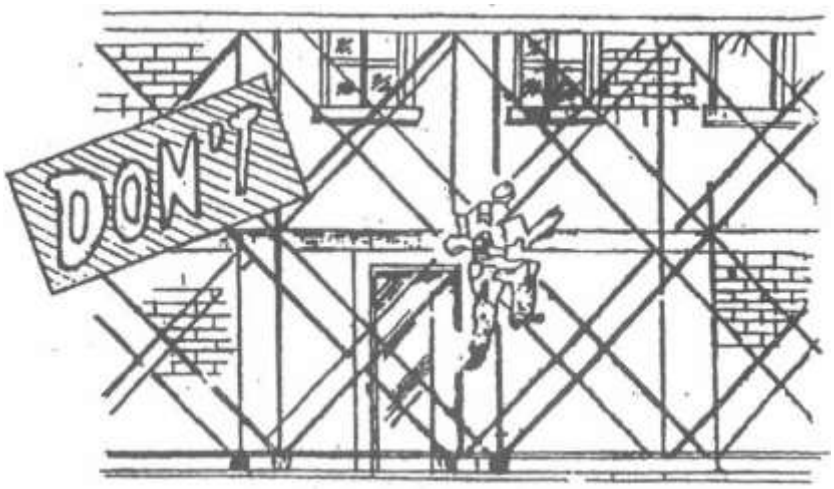
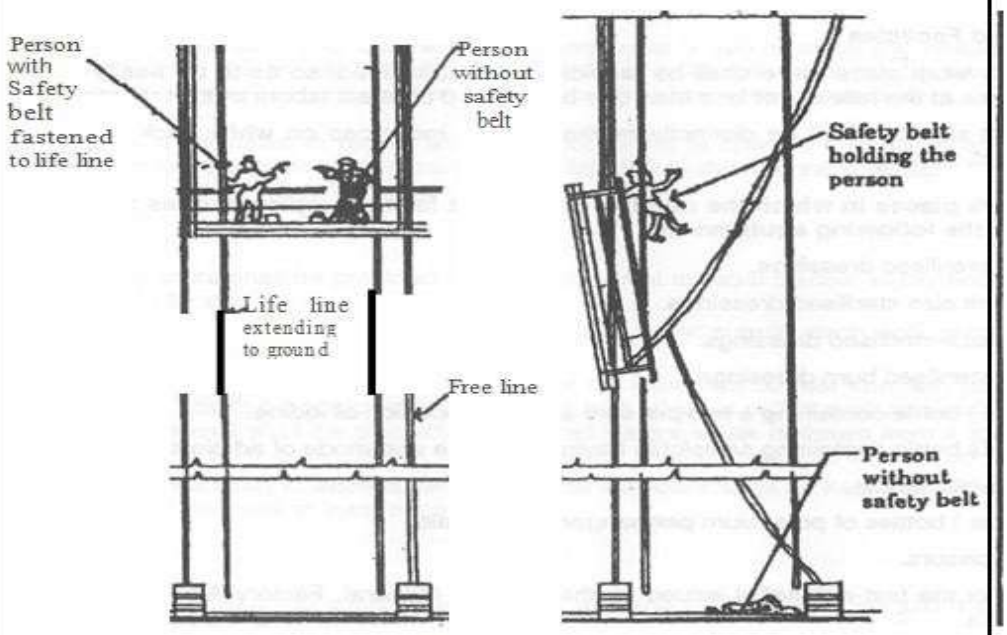


Figure – 2



THE USE OF LIFE LINE & SAFETY BELT WILL PREVENT PERSONS FROM INVOLVING IN SERIOUS ACCIDENTS

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FIGURE -3

Section - IX

Model Rules

Section-IX: Model Rules

Model Rules for The Protection of Health and Sanitary Arrangements for Workers Employed

1. **Application:** These rules shall apply to all buildings and construction works in charge of Department in which twenty or more workers are ordinarily employed or are proposed to be employed in any day during the period during which the Contract work is in progress.

2. **Definition:** Work place means a place where twenty or more workers are ordinarily employed in connection with construction work on any day during the period during which the Contract work is in progress.

3. **First-Aid Facilities:**

   i. At every work place there shall be provided and maintained, so as to be easily accessible during working hours, first-aid boxes at the rate of not less than one box for 150 Contract labour or part thereof ordinarily employed.

   ii. The first-aid box shall be distinctly marked with a red cross on white back ground and shall contain the following equipment, namely:

A. For work places in which the number of Contract labour employed does not exceed 50. Each first-aid box shall contain the following equipment:

- 6 small sterilised dressings.
- 3 medium size sterilised dressings.
- 3 large size sterilised dressings.
- 3 large sterilised burn dressings.
- 1 (30 ml.) bottle containing a two per cent alcoholic solution of iodine.
- 1 (30 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.
- 1 snake-bite lancet.
- 1 (30 gms.) bottles of potassium permanganate crystals.
- 1 pair scissors.
- 1 copy of the first-aid leaflet issued by the Director General, Factory Advice Service and Labour Institutes, Government of India.
- 1 bottle containing 100 tablets (each of 5 gms.) of aspirin.
- Ointment for burns.
- A bottle of suitable surgical antiseptic solution.

B. For work places In which the number of Contract labour exceeds 50. Each first-aid box shall contain the following equipments:

- 12 small sterilised dressings.
- 6 medium size sterilised dressings.
- 6 large size sterilised dressings.
- 6 large size sterilised burn dressings.
- 6 (15 gms.) packets sterilised cotton wool.
- 1 (60 ml.) bottle containing a two per cent alcoholic solution of iodine.
- 1 (60 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.
- 1 roll of adhesive plaster.

- 1 snake-bite lancet.
- 1 (30 gms.) bottle of potassium permanganate crystals.
- 1 pair scissors.
- 1 copy of the First-Aid leaflet issued by the Director General, Factory Advice Service and Labour Institute, Government of India.
- A bottle containing 100 tablets (each of 5 gms.) of aspirin.
- Ointment for burns.
- A bottle of suitable surgical antiseptic solution.

i. Adequate arrangements shall be made for immediate recoupment of the equipment when necessary.
ii. Nothing except the prescribed contents shall be kept in the first aid box.
iii. The First-Aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours of the work place.
iv. A person in charge of the First-Aid box shall be a person trained in First-Aid treatment, in work places where the number of Contract labour employed is 150 or more.
v. In work places where the number of Contract labour employed is 500 or more and hospital facilities are not available within easy distance from the works, First-Aid posts shall be established and run by a trained compounder. The compounder shall be on duty and shall be available at all hours when the workers are at work.
vi. Where work places are situated in places which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or persons suddenly taken ill to the nearest hospital.

4. Drinking water:

i. In every work place, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water fit for drinking.
ii. Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.
iii. Every water supply or storage shall be at a distance of not less than 50 feet from any latrine, drain or other source of pollution. Where water has to be drawn from an existing well which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap-door which shall be dust and water proof.
iv. A reliable pump shall be fitted to each covered well, the trap-door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

5. Washing facilities:

i. In every work place adequate and suitable facilities for washing shall be provided and maintained for the use of Contract labour employed therein.
ii. Separate and adequate cleaning facilities shall be provided for the use of male and female workers.
iii. Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition.

6. Latrines and Urinals:

i. Latrines shall be provided in every work place on the following scale, namely:

- Where females are employed, there shall be at least one latrine for every 25 females.
- Where males are employed, there shall be at least one latrine for every 25 males.

Provided that where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25 males or females, as the case may be, up to the first 100, and one for every 50 thereafter.

ii. Every latrine shall be under cover and so partitioned off as to secure privacy and shall have a proper door and fastening.

iii. Construction of latrines: The inside walls shall be constructed of masonry or some suitable heat resisting, non-absorbent materials and shall be cement washed Inside and outside at least once a year. Latrines shall not be of a standard lower than bore-hole system.

- Where workers of both sexes are employed, there shall be displayed outside each block of latrine and urinal, a notice In the language understood by the majority of the workers "For Men only" or "For Women only" as the case may be.
- The notice shall also bear the figure of a man or of a woman, as the case may be.

iv. There shall be at least one urinal for male workers up to 50 and one for female workers up to 50 employed at a time. Provided that where the number of male or female workmen, as the case may be, exceeds 500, it shall be sufficient if there is one urinal for every 50 males or females up to the first 500 and one for every 100 or part thereof, thereafter.

- The latrines and urinals shall be adequately ' lighted and shall be maintained in a clean and sanitary condition at all times.
- Latrines and urinals other than those connected with a flush sewerage system shall comply with the requirements of the Public Health Authorities.

v. Water shall be provided by means of a tap or otherwise so as to be conveniently accessible in or near the latrines and urinals.

vi. Disposal of excreta: Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternately excreta may be disposed of by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15 cm. layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn into manure).

vii. The Contractor shall, at his own expense, carry out all instructions issued to him by the Engineer-in-Charge to effect proper disposal of night soil and other conservancy work in respect of the Contractor's workmen or employees on the site. The Contractor shall be responsible for payment of any charges which may be levied by Municipal or Cantonment Authority for execution of such work on his behalf.

7. Provision of shelter during rest: At every place there shall be provided, free of cost, four suitable sheds, two for meals, and the other two for rest separately for the use of men and women labour. The height of each shelter shall not be less than 3 metres from the floor level to the lowest part of the roof. These shall be kept clean and the space provided shall be on the basis of 0.6 Sq.m.per head.

8. Creches:

i. At every work place at which 20 or more women workers are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years. One room shall be used as a play room for the children and the other as their bed-room. The rooms shall be constructed with specification.

ii. The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean.

iii. The Contractor shall supply adequate number of toys and games in the play rooms and sufficient number of cots and beddings in the bed room.

iv. creche when the number of women workers does not exceed 50 and two Dais when the number of women workers exceeds 50.

v. The use of the rooms earmarked as creches shall be restricted to children, their attendants and mothers of the children.

9. Canteens:

i. In every work place where the work regarding the employment of Contract labour is likely to continue for six months and wherein Contract labour numbering one hundred or more are ordinarily employed, an adequate canteen shall be provided by the Contractor for the use of such Contract labour.

ii. The canteen shall be maintained by the Contractor in an efficient manner.

iii. The canteen shall consist of at least a dining hall, kitchen, store room, pantry and washing places separately for workers and utensils.

iv. The canteen shall be sufficiently lighted at all times when any person has access to it.

v. The floor shall be made of smooth and impervious material and inside walls shall be lime washed or colour washed at least once in each year: Provided that the inside walls of the kitchen shall be lime washed every four months.

vi. The premises of the canteen shall be maintained in a clean and sanitary condition.

vii. Waste water shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance.

viii. Suitable arrangement shall be made for the collection and disposal of garbage.

ix. The dining hall shall accommodate at a time 30 per cent of the Contractor labour working at a time.

x. The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs shall not be less than one square metre per diner to be accommodated as prescribed in sub-rule (ix).

- A portion of the dining hall and service counter shall be partitioned off and reserved for women workers, in proportion to their number.
- Washing places for women shall be separate and screened to secure privacy.
- diners to be accommodated as prescribed in sub-rule (ix).

xi.

(a) (1) There shall be provided and maintained sufficient utensils, crockery, furniture and any other equipment necessary for the efficient running of the canteen.

(a) (2) The furniture, utensils and other equipment shall be maintained in a clean and hygienic condition.

(b) (1) Suitable clean clothes for the employees serving in the canteen shall be provided and maintained.

(b) (2) A service counter, if provided, shall have top of smooth and impervious material. (b) (b) (3) Suitable facilities including an adequate supply of hot water shall be provided for the cleaning ·of utensils and equipment.

xii. The food stuffs and other items to be served in the canteen shall be in conformity with the

normal habits of the Contract labour.

xiii. The charges for food stuffs, beverages, and any other items served in the canteen shall be based on No profit, No loss and shall be conspicuously displayed in the canteen.

xiv. In arriving at the price of food stuffs and other articles served in the canteen, the following items shall not be taken into consideration as expenditure, namely:-

- The rent of land and buildings;
- The depreciation and maintenance charges for the building and equipment provided for the canteen;
- The cost of purchase, repairs and replacement of equipments including furniture, crockery, cutlery and utensils;
- The water charges and other charges incurred for lighting and ventilation;
- The interest and amounts spent on the provision and maintenance and equipments provided for the canteen.

xv. The accounts pertaining to the canteen shall be audited once every 12 months by registered accountants and auditors.

10. Anti-Malarial Precautions: The Contractor shall at his own expense, conform to all anti-malarial instructions given to him by the Engineer-in-Charge including the filling up of any borrow pits which may have been dug by him.

11. **Amendments**: Employer may, from time to time, add to or amend these rules and issue directions it may consider necessary for the purpose of removing any difficulty which may arise in the administration thereof.

Section - X
Contractor's Labour Regulations

Section-X: Contractor's Labour Regulations

1. **Short Title:**

These regulations may be called as the Project's "Labour Regulations".

2. Definitions:

i. "Fair Wages" means wages whether for time or piece work fixed and notified under the provisions of the Minimum Wages Act from time to time.

ii. " Contractors" shall include every person who undertakes to produce a given result other than a mere supply of goods or articles of manufacture through Contract labour or who supplies Contract labour for any work and includes a sub- Contractor.

iii. "Wages" shall have the same meaning as defined in the payment of wages act.

3. Working hours

i. Normally working hours of an adult employee should not exceed 9 hours a day. The working day shall be so arranged that inclusive of interval for rest, if any, it shall not spread over more than 12 hours on any day.

ii. When an adult worker is made to work for more than 9 hours on any day or for more than 48 hours in any week, he shall be paid over time for the extra hours put in by him at double the ordinary rate of wages.

iii. a. Every worker shall be given a weekly holiday normally on a Sunday, in accordance with the provisions of the Minimum Wages (Central) Rules, 1960 as amended from time to time irrespective of whether such worker is governed by the Minimum Wages Act or not.

b. Where the Minimum Wages prescribed by the Government under the Minimum Wages Act are not inclusive of the wages for the weekly day of rest, the worker shall be entitled to rest day wages at the rate applicable to the next preceding day, provided he has worked under the same Contractor for a continuous period of not less than 6 days.

c. Where a Contractor is permitted by the Engineer-in-Charge to allow a worker to work on a normal weekly holiday, he shall grant a substituted holiday to him for the whole day on one of the five days immediately before or after the normal weekly holiday and pay wages to such worker for the work performed on the normal weekly holiday at over time rate.

4. Display of Notice regarding wages etc.:

The Contractor shall before he commences his work on Contract, display and correctly maintain and continue to display and correctly maintain in a clear and legible condition in conspicuous places on the work, notices in English and in the local Indian languages spoken by the majority of the workers, giving the minimum rates of wages fixed under the Minimum Wages Act, the actual wages being paid, the hours of work for which such wages are earned, wage periods, dates of payment of wages and other relevant information as per Appendix - III.

5. Payment of Wages;

i. The Contractor shall fix wage periods in respect of which wages shall be payable.
ii. No wage period shall exceed one month.
iii. The wages of every person employed as Contract labour in an establishment or by a Contractor where less than one thousand, such parsons are employed shall be paid before the expiry of the seventh day and in other cases before the expiry of tenth day after the last day of the wage period in respect of which the wages are payable.
iv. Where the employment of any worker is terminated by or on behalf of the Contractor, the wages earned by him shall be paid before the expiry of the second working day from the date on which his employment is terminated.
v. All payments of wages shall be made on a working day at the work premises and during the working time and on a date notified in advance and in case the work is completed before the expiry of the wage period, final payment shall be made within 48 hours of the last working day.
vi. Wages due to every worker shall be paid to him direct or to other person authorised by him in this behalf.
vii. Wages shall be paid without any deductions of any kind except those specified by the Central Government by general or special order in this behalf or permissible under the payment of Wages Act, 1956.
viii. A notice showing the wages period and the place and time of disbursement of wages shall be displayed at the place of work and a copy sent by the Contractor to the Engineer-in-Charge under acknowledgement.
ix. It shall be the duty of the Contractor to ensure the disbursement of wages in the presence of the Engineer-in-Charge or any other authorised representative of the Engineer-in-Charge who will be required to be present at the place and time of disbursement of wages by the Contractor to workmen.
x. The Contractor shall obtain from the Engineer-in-Charge or any other authorised representative of the Engineer-in-Charge as the case may be, a certificate under his signature at the end of the entries in the "Register of wages" or the "Wage-cum-Muster Roll" as the case may be in the following form:

"Certified that the amount shown in column No. .....has been paid to the workman concerned in my presence on..... at.....

6. Fines and Deductions Which May Be Made from Wages:

i. The wages of a worker shall be paid to him without any deductions of any kind except the following:

- Fines
- Deductions for absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.
- Deduction for damage to or loss of goods expressly entrusted to the employed person for custody, or for loss of money or any other deduction which he is required

to account, where such damage or loss is directly attributable to his neglect or default.

- Deduction for recovery of advances or for adjustment of over-payment of wages; advances granted shall be entered in a register.
- Any other deduction which the Central Government may from time to time allow.

ii. No fines should be imposed on any worker save in respect of such acts and omissions on his part as have been approved of by the Chief Labour Commissioner.

Note: An approved list of acts and omissions for which fines can be imposed is enclosed at Appendix- X

iii. No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.

iv. The total amount of fine which may be imposed in any one wage period on a worker shall not exceed an amount equal to three paisa in a rupee of the total wages, payable to him in respect of that wage period.

v. No fine imposed on any worker shall be recovered from him by instalment, or after the expiry of sixty days from the date on which it was imposed.

vi. Every fine shall be deemed to have been imposed on the day of the act or omission in respect of which it was imposed.

7. Labour Records:

i. The Contractor shall maintain a "Register of persons employed" on work on Contract in Form XIII of the CL (R&A) Central Rules, 1971 (Appendix-IV).

ii. The Contractor shall maintain a "Muster Roll" register in respect of all workmen employed by him on the work under Contract in form XVI of the CL (R&A) Rules, 1971 (Appendix-V).

iii. The Contractor shall maintain a 'Wage Register" in respect of all workmen employed by him on the work under Contract in form XVII of the CL (R&A) Rules,1971 (Appendix-VI).

iv. **Register of accidents**: The Contractor shall maintain a register of accidents in such form as may be convenient at the work place but the same shall include the following particulars:

- Full particulars of the labourers who met with accident.
- Rate of wages.
- Sex.
- Age.
- Nature of accident and cause of accident.
- Time and date of accident.
- Date and time when admitted in Hospital.
- Date of discharge from Hospital.

- Period of treatment and result of treatment
- Percentage of loss of earning capacity and disability as assessed by Medical Officer
- Claim required to be paid under workmen's Compensation Act.
- Date of payment of compensation.
- Amount paid with details of the person to whom the same was paid.
- Authority by whom the compensation was assessed.
- Remarks.

v. **Register of Fines**: The Contractor shall maintain a "Register of Fines" in the form XII of the CL (R&A) Rules, 1971 (Appendix-XI).
The Contractor shall display in a good condition and in a conspicuous place of work the approved list of Acts and omissions for which fines can be imposed (Appendix-X).

vi. **Register of Deductions:** The Contractor shall maintain a "Register of deductions for damage or loss" in Form XX of the CL (R&A) Rules, 1971 (Appendix- XII).

vii. **Register of Advances:** The Contractor shall maintain a "Register of Advances" in form XXII of the CL (R&A) Rules, 1971 (Appendix-XIII).

viii. **Register of Overtime:** The Contractor shall maintain a "Register of Overtime" in form XXIII of the CL (R&A) Rules, 1971 (Appendix-XIV).

8. Attendance Card-cum-Wage slips:

I. The Contractor shall issue an attendance card-cum-wage slip to each workman employed by him in the specimen format (Appendix-VII).

II. The card shall be valid for each wage period.

I. The Contractor shall mark the attendance of each workman on the card twice each day, once at the commencement of the day and again after the rest interval, before he actually starts work.

IV. The card shall remain in possession of the worker during the wage period under reference.

V. The Contractor shall complete the wage slip portion on the reverse of the card at least a day prior to the disbursement of wages in respect of the wage period under reference.

VI. The Contractor shall obtain the signature or thumb impression of the worker on the wage slip at the time of disbursement of wages and retain the card with himself.

9. Employment Card:

The Contractor shall issue an Employment Card in form XIV of the CL (R&A) Central Rules, 1971 to each worker within three days of the employment of the worker (Appendix- VIII).

10. Service Certificate:

On termination of employment for any reason whatsoever the Contractor shall issue to the workman whose services have been terminated, a service certificate in form XV of the CL (R&A) Central Rule , 1971 (Appendix-IX).

11. Preservation of Labour Records:

All records required to be maintained under Regulations Nos.6 and 7 shall be preserved in original for a period of three years from the date of last entries made in them and shall be made available for inspection by the Engineer-in-Charge or Labour Officer or any other officers authorised by the Department in this behalf.

12. Power of Labour Officers to make Investigations or enquiry:

The Labour Officer or any other person authorised by Central Government on their behalf shall have power to make enquiries with a view to ascertaining and enforcing due and proper, observance of the Fair Wages Clauses and the Provisions of Regulations. He shall investigate into any complaint regarding the default made by the Contractor or Subcontractor in regard to such provision.

13. Report of Labour Officer:

The Labour Officer or other persons authorised as aforesaid shall submit a report of result of his investigation or enquiry to the Engineer-in-Charge concerned indicating the extent, if any, to which the default has been committed with a note that necessary deductions from the Contractor's bill be made and the wages and other dues be paid to the labourers concerned. In case an appeal is made by the Contractor under Clause 13 of these regulations, actual payment to labourers will be made by the Engineer-in-Charge after the obtaining the decision of competent authority given his decision on such appeal.

The Engineer-in-Charge shall arrange payments to the labour concerned within 45 days from the receipt of the report from the Labour Officer or the approval, as the case may be.

14. Appeal against the decision of Labour Officer:

Any person aggrieved by the decision and recommendations of the Labour Officer or other person so authorised may appeal against such decision to the higher authority concerned within 30 days from the date of decision, forwarding simultaneously a copy of his appeal to the Engineer-in-Charge concerned but subject to such appeal, the decision of the Officer shall be final and binding upon the Contractor.

15. Prohibition regarding representation through lawyers:

I. A workman shall be entitled to be represented in any investigation or enquiry under these regulations by:

- An officer of a registered trade union of which he is a member.
- An officer of a federation of trade unions to which the trade union referred to in Clause is affiliated.

II. Where the Employer is not a member of any registered trade union, by an officer of a registered trade union, connected with the industry in which the worker is employed or by any other workman employed in the industry in which the worker is employed.

- An Employer shall be entitled to be represented in any investigation or enquiry under these regulations by
- An officer of an association of employers of which he is a member.
- An officer of a federation of associations of employers to which association referred to in Clause (a) is affiliated.
- Where the Employer is not a member of any association of employers, by an officer of association of Employer, connected with the industry in which the Employer is engaged or by any other Employer, engaged in the industry in which the Employer is engaged.

II. No party shall be entitled to be represented by a legal practitioner in any investigation or enquiry under these regulations.

16. Inspection of Books and slips:

The Contractor shall allow inspection of all the prescribed labour records to any of his workers or to his agent at a convenient time and place after due notice is received or to the Labour Officer or any other person, authorized by the Central Government on his behalf.

17. Submission of Returns:

The Contractor shall submit periodical returns as may be specified from time to time.

18. Amendments:

The Central Government may, from time to time, add to or amend the regulations and on any question as to the application, interpretation or effect of those regulations the decision of the Engineer-in-Charge concerned in that behalf shall be final.

Section - XI - Schedule of Quantities

Detailed Estimate of Construction of Phase-A works at JNV, Tufanganj, Cooch Behar(WB)				
SUMMARY OF PROJECT				
Sl. No.	**Description**	**Amount DSR -2021**	**Amount DSR -2022**	**Amount Non-DSR**
A.	**RESIDENTIAL / NON-RESIDENTIAL BUILDINGS**			
1	**Cost of School Building (D/S, RCC framed structure)**			
(i)	COST OF CIVIL WORKS	52061322.44		1497712.60
(ii)	COST OF INTERNAL WATER SUPPLY & SANITATION WORKS	2731009.92		408255.50
(iii)	COST OF INTERNAL ELECTRICAL WORKS		3287343.00	788686.07
(iv)	COST OF FIRE FIGHTING WORK	819884.00		173916.00
	Total	**55612216.36**	**3287343.00**	**2868570.17**
1.1	**Construction of School Shed Scope of work: Self Supported Roof sheet with RCC Column as per geo technical investigation with Kota flooring under covered area along with 600 mm raised stage as per drawings**			
(i)	COST OF CIVIL WORKS	3827777.67		1980293.70
(ii)	COST OF INTERNAL ELECTRICAL WORKS		87832.40	110000.00
	Total	**3827777.67**	**87832.40**	**2090293.70**
2	**Cost of Kitchen & Dinning Hall (Single storey, RCC framed structure)**			
(i)	COST OF CIVIL WORKS	21265284.42		1095777.20
(ii)	COST OF INTERNAL WATER SUPPLY & SANITATION WORKS	579654.71		110795.00
(iii)	COST OF INTERNAL ELECTRICAL WORKS		649173.00	316602.13
	Total	**21844939.13**	**649173.00**	**1523174.33**
3	**1.50 unit Boys Dormitory with 6 Nos warden Residence, (RCC framed structure) Plus 02 Nos. of Type III**			
(i)	COST OF CIVIL WORKS	73889745.34		2241591.40
(ii)	COST OF INTERNAL WATER SUPPLY & SANITATION WORKS	3837138.73		637292.00
(iii)	COST OF INTERNAL ELECTRICAL WORKS		6979589.00	1626511.68
(iv)	COST OF 48 Nos Steel Beds over RCC	649284.25		
	Total	**78376168.32**	**6979589.00**	**4505395.08**
4	**1.00 unit Girls Dormitory with 4 Nos warden Residence, (RCC framed structure)**			
(i)	COST OF CIVIL WORKS	48475075.58		1447606.60
(ii)	COST OF INTERNAL WATER SUPPLY & SANITATION WORKS	2525127.08		440346.00
(iii)	COST OF INTERNAL ELECTRICAL WORKS		4192834.00	1033879.95
(iv)	COST OF 48 Nos Steel Beds over RCC	649284.25		
	Total	**51649486.91**	**4192834.00**	**2921832.55**
5	**COST OF Principal Residence (Single storey, RCC framed structure)**			
(i)	COST OF CIVIL WORKS	3570980.47		150316.00
(ii)	COST OF INTERNAL WATER SUPPLY & SANITATION WORKS	261682.80		79235.00
(iii)	COST OF INTERNAL ELECTRICAL WORKS		420189.00	23162.72
	Total	**3832663.27**	**420189.00**	**252713.72**
6	**COST OF Vice Principal Residence (Single storey, RCC framed structure)**			
(i)	COST OF CIVIL WORKS	3136317.66		153650.00
(ii)	COST OF INTERNAL WATER SUPPLY & SANITATION WORKS	217210.40		88197.00
(iii)	COST OF INTERNAL ELECTRICAL WORKS		382607.00	20011.39
	Total	**3353528.06**	**382607.00**	**261858.39**
7	**COST OF T-III Qtrs. 18 nos.3 Blocks (RCC framed structure) Approved Cost 20 Nos Residence**			
(i)	COST OF CIVIL WORKS	36239625.62		782987.20
(ii)	COST OF INTERNAL WATER SUPPLY & SANITATION WORKS	2438834.42		372021.00
(iii)	COST OF INTERNAL ELECTRICAL WORKS		3804239.00	338565.00

Sl. No.	Description	Amount DSR -2021	Amount DSR -2022	Amount Non-DSR
	Total	**38678460.04**	**3804239.00**	**1493573.20**
8	**COST OF T-II Qtrs. 13 nos.3 Blocks (RCC framed structure)**			
(i)	COST OF CIVIL WORKS	22254324.29		487442.20
(ii)	COST OF INTERNAL WATER SUPPLY & SANITATION WORKS	1688832.18		242587.00
(iii)	COST OF INTERNAL ELECTRICAL WORKS		2264627.00	248707.01
	Total	**23943156.47**	**2264627.00**	**978736.21**
9	**COST OF Guest house (RCC framed structure)**			
(i)	COST OF CIVIL WORKS	2648982.78		101478.60
(ii)	COST OF INTERNAL WATER SUPPLY & SANITATION WORKS	161223.30		46525.00
(iii)	COST OF INTERNAL ELECTRICAL WORKS		291620.00	13741.84
	Total	**2810206.08**	**291620.00**	**161745.44**
10	**COST OF Substation Building (RCC framed structure)**			
(i)	COST OF CIVIL WORKS	1654699.33		72834.20
(iii)	COST OF INTERNAL ELECTRICAL WORKS		88413.00	19254.10
	Total	**1654699.33**	**88413.00**	**92088.30**
11	**COST OF Pump House with 100 kl UG Tank (RCC framed structure)**			
(i)	COST OF CIVIL WORKS	2526164.50		1400.00
(ii)	COST OF INTERNAL ELECTRICAL WORKS		30568.00	4933.17
	Total	**2526164.50**	**30568.00**	**6333.17**
12	**COST OF Boundary Wall with 1.80 mtrs. height masonry work RCC Column & beam, top band, filler walls in brick work etc with 600 mm dia concertina Coil on top as per NVS standard drwaing**			
(i)	COST OF CIVIL WORKS	8506131.63		
	Total	**8506131.63**		
13	**Main Entry Gate (Shall be 6.00 mtrs. wide as per fire norms) including Guard Room**			
(i)	COST OF CIVIL WORKS	1273536.76		1400.00
(ii)	COST OF INTERNAL ELECTRICAL WORKS		56955.00	62367.49
	Total	**1273536.76**	**56955.00**	**63767.49**
	Total (A)	**297889134.53**	**22535989.40**	**17220081.75**
B.	**EXTERNAL SITE DEVELOPEMNT WORKS**			
1	COST OF PATHWAY 2 mtr wide	2587845.63		
2	COST OF Bituminous Road of 3.50 m wide	3299171.17		
3	Sport facility infrastructure.			
3.1	200 m running track only earth filling for a height of 03 mtrs (size:97.50m x 55m)	593065.69		
3.2	Mini integrated sports complex (i.e. combining 02 nos Basketball court, supply of 01 pair movable basketball poles, 01 pair movable handball poles, volley ball pole & net, lawn tennis pole & net and chain link fencing, acrylic flooring, line marking of each game)	3216216.60		1563056.00
4	Land development i.e earth cutting & filling	2345126.75		
5	External Water Supply	1360957.05		
6	tube / open well including Submersible Pump 7.50 HP and cabling etc. complete	564839.85		321280.00
7	Watersupply Submesible Pump-01 no.			235000.00
8	External Sewerage line	4666241.92		
9	Drainage System Size:250 mm x150 mm, Length:-1326.50 mtrs	2258926.96		
10	Drainage System Size:300 mm x300 mm, Length:-401.50 mtrs	961830.05		
11	Rain Water Harvesting	1829077.38		
12	Hume pipe culvert 15 nos.	432765.89		

Sl. No.	Description	Amount DSR -2021	Amount DSR -2022	Amount Non-DSR
13	Eco-friendly STP 100 KLD	5406588.21		1995518.19
14	Water tank for horticulture & STP treated Water Supply line	903162.48		200600.00
15	Horticulture/ Landscaping Work	461024.79		38000.00
16	External Electrification SITC of DG set Including all accessories. Main Boars earthing Supplying and Laying of cable external lighting Provisionfor Obtaning Electric connetction (11 Kv HT connection) from local authority (AISCOM) Htequipment * 250 KVA Transformer		3780027.00	13007318.45
	Total (B)	**30886840.42**	**3780027.00**	**17360772.64**
	Total (A+B) (In Rs.)	**328775974.95**	**26316016.40**	**34580854.39**
	Add additional GST @5.36% as per CPWD Circular dated: 30.09.2022	**17622392.26**	**1410538.48**	
	Total (A+B) Cost (In Rs.)	**346398367.21**	**27726554.88**	**34580854.39**
	Add Cost Index 119 as on 04/2022 for Cooch behar based on PAR-21, i.e 19% on PAR-21, DSR-21 & DSR-22	**65815689.77**	**5268045.43**	
	Total (A+B) Cost = (C) (In Rs.)	**412214056.98**	**32994600.31**	**34580854.39**
	Grand Total (C) including 18% GST (In Rs.)	**479789511.68**		
	Grand Total (C) including 18% GST (Rs. in Cr.)	**47.98**		

Construction of Phase- A works at JNV Cooch Behar (WB)

ABSTRACT OF COST

[SCHOOL BUILDING]

S.N.	DESCRIPTION OF ITEM	DSR-2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
A	**Earth Work**						
1	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.	2.8.1	383.350	CUM	286.85	109,963.95	
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 upto 50 m and lift upto 1.5 m.	2.25	268.345	CUM	253.95	68,146.21	
3	Supplying and filling in plinth with sand under floors, including watering, ramming,consolidating and dressing complete.	2.27	74.520	CUM	2161.20	161,052.62	
4	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.	2.25a	257.815	CUM	368.65	95,043.50	
B	**Concrete Work**						
5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:5:10 (1 cement : 5 coarse sand (zoneIII)derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	4.1.10	118.950	CUM	6050.65	719,724.82	
6	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 12.5mm nominal size derived from natural sources)	4.10	84.220	SQM	370.85	31,232.99	
7	Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification.	4.12	22.000	per 50kg cement	57.15	1,257.30	
8	Providing & applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	4.13	84.220	SQM	113.85	9,588.45	
9	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand,including necessary excavation,levelling & dressing & finishing the top smooth.	4.17	101.090	SQM	681.65	68,908.00	
10	Brick edging in full brick width and half brick depth including excavation, refilling and disposal of surplus earth lead upto 50 metres. With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	16.7.1	168.490	RM	179.50	30,243.96	
C	**Reinforced Cement Concrete**						
11	Centering and shuttering including strutting, propping etc. and removal of form for all heights :						
(a)	Foundations, footings, bases of columns, etc. for mass concrete.	5.9.1	462.970	SQM	307.95	142,571.61	
(b)	Suspended floors, roofs, landings, balconies and access platform.	5.9.3	2126.140	SQM	766.55	1,629,792.62	
(c)	Lintels, beams, plinth beams, girders, bressumers	5.9.5	2200.870	RM	608.35	1,338,899.26	
(d)	Columns,Pillars, Piers, Abutments, Posts and Struts.	5.9.6	804.010	SQM	804.25	646,625.04	
(e)	Edges of slabs and breaks in floors and walls Under 20 cm wide.	5.9.16.1	576.580	SQM	181.90	104,879.90	
12	Extra for additional height in centering, shuttering where ever required with adequate bracing, propping etc., including cost of de-shuttering and decentering at all levels, over a height of 3.5 m, for every additional height of 1 metre or part thereof (Plan area to be measured).	5.11					

S.N.	DESCRIPTION OF ITEM	DSR-2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
	Suspended floors, roofs, landing, beams and balconies (Plan area to be measured)	5.11.1	128.38	SQM	319.25	40,985.32	
13	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.	5.22.6	669.320	QTL.	8965.00	6,000,453.80	
14	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete a**bove plinth level.** Thermo-Mechanically Treated bars of grade Fe-500 D or more.	5.22.A.6	591.062	QTL.	8965.00	5,298,869.26	
	PILE WORK						
15	Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by percussion drilling using Direct mud circulation (DMC) or Bailer and chisel technique by tripod and mechanical Winch Machine all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap). Note: Truck Mounted rotary/TMR/Tubewell boring machine shall not be used . **600 mm dia piles**	**20.2.3**	1917.000	metre	3060.10	5,866,211.70	
16	Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform by Kentledge/Anchor piles method and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer in-charge. Note: 1. Initial and Routine Load Test shall not be carried out by Dynamic method of testing. Note: 2. Testing agency shall submit the design of loading platform for the approval of Engineer-in-charge.	20.6					
	Single pile upto 50 tonne Safe capacity						
(i)	Initial test (Test Load 2.5 times the Safe capacity)	20.6.1.1	2.000	per test	51510.60	103,021.20	
(ii)	Routine test (Test Load 1.5 times the Safe capacity)	20.6.1.2	6.000	per test	18463.55	110,781.30	
17	**Group of two or more piles upto 50 tonne Safe capacity**						
(i)	Initial test (Test Load 2.5 times the Safe capacity)	20.6.3.1	3.000	per test	66227.90	198,683.70	
(ii)	Routine test (Test Load 1.5 times the Safe capacity)	20.6.3.2	11.000	per test	38131.20	419,443.20	
18	Add for plaster drip course/ groove in plastered surface or moulding to R.C.C. projections.	5.30	1456.370	RM	64.70	94,227.14	
19	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. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.	5.33					
(I)	**All works upto plinth level**	5.33.1					
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.1.1					
	(i) R.C.C. work in Footing	5.33.1.1	192.590	CUM	8683.80	1,672,413.04	
	(ii) R.C.C. work in Beam	5.33.1.1	56.570	CUM	8683.80	491,242.57	
	(iii) R.C.C. work in Columns	5.33.1.1	1.790	CUM	8683.80	15,544.00	
(II)	**All works above plinth level upto floor V level**	5.33.2					
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.2.1					
	(i) R.C.C. work in Lintel	5.33.2.1	15.560	CUM	10306.20	160,364.47	
	(ii) R.C.C. work in Beam	5.33.2.1	135.600	CUM	10306.20	1,397,520.72	
	(iii) R.C.C. work in Columns	5.33.2.1	80.830	CUM	10306.20	833,050.15	

S.N.	DESCRIPTION OF ITEM	DSR-2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
	(iv) R.C.C. work in Slab	5.33.2.1	264.110	CUM	10306.20	2,721,970.48	
20	Expansion Joint Treatment						
	Providing and fixing of expansion joint system related with floor location as per drawings and direction of Engineer-In-Charge. The joints system will be of extruded aluminum base members, self aligning / self centering arrangement and support plates etc. as per ASTM B221-02. The system shall be such that it provides floor to floor /floor to wall expansion control system for various vertical localtion in load application areas that accommodates multi directional seismic movement without stress to it's components. System shall consist of metal profiles with a universal aluminum base member designed to accommodate various project conditions and finish floor treatments. The cover plate shall be designed of width and thickness required to satisfy projects movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self- centering arrangement that freely rotates / moves in all directions. The Self - centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement. Provision of Moisture Barrier Membrane in the Joint System to have watertight joint is mandatory requirement all as per the manufactures design and as approved by Engineer -in- Charge. (Material shall confirm to ASTM 6063).	5.44					
	Floor Joint of 100 mm gap	5.44.1	6.000	RM	5800.15	34,800.90	
21	Providing and fixing of expansion joint system related with wall joint (internal/ external) location as per drawings and direction of Engineer-In- Charge. The joints shall be of extruded aluminum base members, self aligning / centering arrangement and support plates as per ASTM B221- 02. The material shall be such that it provides an Expansion Joints System suitable for vertical wall to wall/ wall to corner application, both new and existing construction in office Buildings & complexes with no slipping down tendency amongst the components of the Joint System. The Joint System shall utilize light weight aluminum profiles exhibiting minimal exposed aluminum surfaces mechanically snap locking the multicellular to facilitate movement. (Material shall conform to ASTM 6063.)	5.45					
	Wall Joint of 100 mm gap	5.45.1	27.160	RM	4835.50	131,332.18	
22	Providing and fixing of expansion joint system of approved make and manufacture for various roof locations as per approved drawings and direction of Engineer-In-Charge. The joints shall be of extruded aluminum base members with, self aligning and self centering arragement support plates as per ASTM B221-02. The system shall be such that it provides water tight roof to roof /roof to corner joint cover expansion control system that is capable of accommodating multidirectional seismic movement without stress to its components. System shall consist of metal profile that incorporates a universal aluminum base member designed to accommodate various project conditions and roof treatments. The cover plate shall be designed of width and thickness required to satisfy movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self-centering arrangement that freely rotates / moves in all directions. The Self centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement. The Joint System shall resists damage or deterioration from the impact of falling ice, exposure to UV, airborne contaminants and occasional foot traffic from maintenance personnel. Provision of Moisture Barrier Membrane in the Joint System to have water tight joint is mandatory requirement. (Material shall confirm to ASTM 6063.)	5.46					
	Roof Joint of 100 mm gap	5.46.1	9.640	RM	5424.20	52,289.29	
D	**Masonry Work**						
23	Half brick masonry 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.Cement mortar 1:4 (1 cement :4 coarse sand)	6.13.2	217.870	Sqm	1018.05	221,802.55	
24	Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.	6.15	217.870	SQM	86.45	18,834.86	

S.N.	DESCRIPTION OF ITEM	DSR-2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
25	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in superstructure above plinth level up to floor V level in : Cement mortar 1:6 (1 cement : 6 coarse sand)	6.34.2	358.140	CUM	7676.30	2,749,190.08	
26	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in: Cement mortar 1:6 (1 cement : 6 coarse sand)	6.1.2	105.520	CUM	6658.25	702,578.54	
E	**Cladding Work**						
	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.						
27	Area of slab upto 0.50 sqm	8.2.2.1	12.03	SQM	4679.35	56,292.58	
28	Area of slab over 0.50 sqm	8.2.2.2	61.67	SQM	4425.35	272,911.33	
29	Providing edge moulding to 18mm thick marble stone counters, Vanities etc. including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.						
	Granite work	8.3.2	120.06	RM	418.85	50,287.13	
30	Extra for fixing marble /granite stone over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive including cleaning etc. complete.	8.4	120.06	RM	475.55	57,094.53	
31	Extra for providing opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/Granite/stone work including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	8.5	12.00	EACH	808.15	9,697.80	
32	Stone tile (polished) work for wall lining over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and cement slurry @ 3.3 kg/sqm including pointing in white cement complete**. 8mm thick Granite of any colour and shade**	8.9.1.2	448.020	SQM	3105.50	1,391,326.11	
F	**Wood and PVC Work**						
33	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:	9.21					
	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	9.21.1	133.040	SQM	2015.75	268,175.38	
34	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	9.23	133.040	SQM	401.40	53,402.26	
35	Extra for cutting rebate in flush door shutters (Total area of the shutter to be measured).	9.26	3.780	SQM	93.65	354.00	
36	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete. Fixed to steel windows by welding.	9.48.1	5503.050	KG	181.00	996,052.05	
37	Providing and fixing oxidised M.S. casement stays (straight peg type) with necessary screws etc. complete.						
(i)	300 mm weighing not less than 200 gms	9.68.1	248.00	NOS	59.25	14,694.00	
(ii)	250 mm weighing not less than 150 gms	9.68.2	193.00	NOS	51.90	10,016.70	
38	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete. Twin rubber stopper	9.101.2	63.000	NOS	62.25	3,921.75	

S.N.	DESCRIPTION OF ITEM	DSR-2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
39	Providing and fixing factory made door frame (single rebate) made out of single piece extruded solid PVC foam profile with homogenous fine cellular structure having smooth outer integral skin having 62 mm width & 32 mm thickness, frame will be mitred & Jointed with self driven self tapping screws of size 38 mm x 4 mm & PVC solvent cement, including fixing the frame to wall with suitable dia & length anchor fastener as per manufacturer's specification and direction of Engineer-in-charge.	9.123	140.950	RM	481.85	67,916.76	
40	Providing and fixing PVC rigid foam sheet 1 mm thick on existing door shutters (bathroom and W.C. doors) using synthetic rubber based adhesive.	9.125	43.580	SQM	1293.05	56,351.12	
41	Providing & Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt/ suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality. 1.0 mm thick	9.127.2	222.50	SQM	764.00	169,990.00	
42	Providing and fixing bright /matt finished Stainless Steel handles of approved quality & make with necessary screws etc all complete. (a) 125 mm.	9.165.1	126.000	NOS	100.45	12,656.70	
43	Providing & fixing Stainless steel sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with nuts and screws etc complete. (a) 250mm x 16mm .	M.R.	62.000	NOS	560.00		34,720.00
44	Providing and fixing stainless steel towerbolts (barrel type) with necessary screws etc. complete.						
	300 x 10mm	M.R.	62.000	NOS	448.00		27,776.00
	150 x 10mm	M.R.	62.000	NOS	392.00		24,304.00
45	Providing and fixing 6mm thick both sides Pre-laminated cement bonded wood particle board as per IS : 15786:2008 of approved brand and shade with suitable full threaded steel screws etc. on the backing of racks, drawer, cupboard, kitchen cabinet under kitchen counter etc. all complete as per direction of Engineer in-charge.	9.167	7.84	SQM	902.55	7075.99	
46	Providing and fixing cupboard shutter with 19mm thick one side decorative and other side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand including 2mm thick PVC edge banding tape with hot glue by edge bending machine etc. with auto closing spring loaded hinges (hydraulic type) etc. complete as per direction of Engineer in-charge.(Payment of providing and fixing auto closing hinges shall be paid separately)	9.168	7.84	SQM	2563.75	20099.80	
47	Providing and fixing 19mm thick both side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand boxes,shelves,racks,almirah, cupboard and drawer etc. including necessary nails,screws etc. complete as per direction of Engineer-in-charge.	9.169	26.30	SQM	2339.60	61531.48	
48	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge. 200 mm	9.170.1	6.00	Nos.	153.15	918.90	
49	Providing and fixing stainless steel soft closing spring hinges at 0 degree hinges (hydraulic type) of approved make/brand to cupboard shutters with full threaded steel screws including making necessary recess in board and finished etc. complete asper direction of Engineer-in-charge	9.17	24.00	Nos.	226.75	5442.00	

S.N.	DESCRIPTION OF ITEM	DSR-2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
G	**Steel Work**						
50	Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side /top /centre hung, with beading and all members such as F7D, F4B, K11 B and K12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design, (sectional weight of only steel members shall be measured for payment). Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).	10.11.1	6095.79	KG	175.65	1,070,725.51	
51	Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size	10.13.1	1232.55	KG	114.65	141,311.86	
52	Providing and fixing M.S. Tubular frames for doors, windows, ventilators and cupboard with rectangular/ L-Type sections, made of 1.60 mm thick M.S. Sheet, joints mitred, welded and grinded finish, with profiles of required size, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer. Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	10.15.1	6719.87	Kg	146.55	984,796.95	
53	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	10.25.2	1801.040	KG	142.30	256,287.99	
54	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge.	10.28	305.240	KG	612.25	186,883.19	
55	Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with : 4.0 mm thick glass panes.	10.30.1	28.990	SQM	940.30	27,259.30	
H	**Flooring**						
56	Chequerred precast cement concrete tiles 22 mm thick in footpath & courtyard, jointed with neat cement slurry mixed with pigment to match the shade of tiles, including rubbing and cleaning etc. complete, on 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand). **Medium shade pigment using 50% white cement 50%** **Grey cement**	11.20.2	21.960	SQM	1160.00	25,473.60	
57	Providing and fixing 10 mm thick acid and/or alkali resistant tiles of approved make and colour using acid and/or alkali resisting mortar bedding, and joints filled with acid and/or alkali resisting cement as per IS : 4457, complete as per the direction of Engineer-in-Charge.In flooring on a bed of 10 mm thick mortar 1:4 (1 acid proof cement : 4 coarse sand) Acid and alkali resistant tile.	11.21.1	62.330	SQM	1515.45	94,458.00	
58	Providing and fixing 10 mm thick acid and/or alkali resistant tiles of approved make and colour using acid and/or alkali resisting mortar bedding, and joints filled with acid and/or alkali resisting cement as per IS : 4457, complete as per the direction of Engineer-in-Charge.In dado/skirting on 12 mm thick mortar 1:4 (1 acid proof cement : 4 coarse sand) Acid and alkali resistant tile.	11.21.2	48.470	SQM	1637.70	79,379.32	
59	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : 25 mm thick	11.26.1	1316.520	SQM	1706.60	2,246,773.03	

S.N.	DESCRIPTION OF ITEM	DSR-2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
60	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	11.27	161.960	SQM	2038.55	330,163.56	
61	Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily.Glazed Vitrified tiles **Matt/Antiskid** finish of size **Size of Tile 600 x 600 mm**	11.41A.3	110.240	SQM	1311.05	144,530.15	
62	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joints with white cement and matching pigments etc., complete. (a) Size of Tile 600x600 mm	11.41.2	470.370	SQM	1416.65	666,349.66	
63	Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and onforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joint with white cement & matching pigments etc. complete. Size of Tile 600x600 mm	11.46.2	28.200	SQM	1466.50	41,355.30	
64	Providing and laying 60mm thick faciory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction, of approved s;ze, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with line sand etc. all complete as per the direction of Engineer-in-charge.	16.68	1360.230	SQM	951.00	1,293,578.73	
65	Providing and laying factory made chamfered edge Cement Concrete paver blocks in footpath, parks, lawns, drive ways or light traffic parking etc, of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand. complete all as per direction of Engineer-in-Charge.**80 mm thick C.C. paver block of M-30 grade with approved color design and pattern..**	16.91.2	44.909	SQM	1011.20	45,411.48	
I	**Finishing**						
66	15 mm cement plaster on the rough side of single or half brick wall of mix : 1:6 (1 cement: 6 coarse sand)	13.5.2	2134.520	SQM	339.10	723,815.73	
67	12mm cement plaster in single coat on fair side of single or half brick wall for exterior plastering up to floor two level including internal rounded angles chamfers, and/or rounded angles not exceeding 80mm in girth and finished even and smooth no extra for mixing any additive. 1:6 (1 cement: 6 coarse sand)	13.4.2	3900.720	SQM	294.35	1,148,176.93	
68	6 mm cement plaster on celling (a) 1:3(1 cement:3 fine sand)	13.16.1	2082.540	SQM	253.05	526,986.75	
69	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer.	13.41.1	5983.260	SQM	162.55	972,578.91	
70	Finishing walls with textured exterior paint of required shade: New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm	13.45.1	426.904	SQM	245.00	104,591.48	

S.N.	DESCRIPTION OF ITEM	DSR-2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
71	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade. New work (Two or more coats applied @ 1.43 ltr/ 10 sqm. over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm).	13.47.1	1707.616	SQM	162.35	277,231.46	
	Applying priming coat:	13.50					
72	With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	13.50.1	87.139	SQM	61.45	5,354.69	
73	With ready mixed red oxide zink chromate primer of approved brand and manufacture on steel galvanised iron/steel works.	13.50.3	101.000	SQM	55.50	5,605.50	
74	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade:	13.61					
	Two or more coats on new work.	13.61.1	188.139	SQM	131.45	24,730.87	
75	Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade : Two or more coats on new work	13.65.1	23.52	SQM	115.10	2707.15	
76	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	13.80	2082.540	SQM	123.85	257,922.58	
J	**Water Proofing**						
77	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying : a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm. This layer will be allowed to air cure for 4 hours. b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.	22.5	75.83	SQM	516.60	39,173.78	
78	Cinder Filling	MR	12.540	CUM	2240.00		28,089.60
79	Providing and fixing 8mm thick glass shelves in labs.	21.3.3	28.170	SQM	1496.15	42,146.55	
80	Painting top of roofs with bitumen of approved quality @ 17kg per 10 sqm impregnated with a coat of coarse sand at 60 cudm per 10 sqm, including cleaning the slab surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil complete :	12.15					
	With residual type petroleum bitumen of grade VG -10	12.15.1	28.17	SQM	133.15	3,750.84	
81	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.	10.16.1	10436.40	KG	154.90	1,616,598.36	

S.N.	DESCRIPTION OF ITEM	DSR-2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
82	Supply & Fixing of Prepainted coloured Trapezoidal or approved profiled Sheeting 1000-1020 mm cover width, 28-30 mm high crests with subtle square fluting in the five pan at nominal 190-255 mm (as approved by EIC) centre-to-centre manufactured out of 0.50 mm TCT hi-tensile prepainted Zincalume /Galvalume steel (AZ-150 gsm. Aluminium –Zinc alloy metallic coating of total both sides 550 MPa yield stress as per AS-1397). Colour/ Exterior coat of RMP 20 micron top coat applied over 5 micron primer and a 5 micron polyester back coat applied over 5 microns primer OR equivalent coating/painting. The sheet shall have wide pans with stiffening ribs for effective water shedding and special male/female ends with full return legs on side laps for purlin support. The male end of the sheet shall have anti-capillary flute at side laps to prevent leakages. The sheet shall be fixed by means of anti corrosive approved make "Rust Shield" (Epoxy Polymer) coated self-drilling self tapping fasteners 12-14 X 55 mm with EPDM seals through crest for roofing and 12-24 X 20 mm through valley (pans) for wall cladding. The sheet shall be supplied in lengths maximum up to 6-12 meter long to suit site dimensions. The scope includes all sealing of joint, curves, edges or other accessories with silicon sealant.	M.R.	1304.55	SQM	1060.00		1,382,823.00
83	Boundary wall 2.1 Mtr Height with 0.6 Mtr Extra Plinth hight	Analysis	46.010	RM	12942.06	595,464.18	
					TOTAL	**52,061,322.44**	**1,497,712.60**
			Say Rs. In Lacs			**520.61**	**14.98**

SUMMARY SHEET OF PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)			
School Building Electrical Work			
Sl.No.	Name of Work	TOTAL AMOUNT (IN RS.)	
		DSR-2022	MR
I	SUB HEAD - I: CIRCUIT CUM POINT WIRING	2,713,914.00	305,388.74
II	SUBHEAD -II - FITTINGS & FIXTURES	262,080.00	483,297.33
III	SUBHEAD - III - DISTRIBUTION BOARDS	178,408.00	-
IV	SUBHEAD - IV -LIGHTNING CONDUCTOR	132,941.00	-
	TOTAL	3,287,343.00	788,686.07
	Say in lacs	32.87	7.89

PROJECT :- PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)								
Detailed Estimate for ELECTRICAL Works SCHOOL BUILDING (G+1)								
S.No.	DSR-2022/NSI	Description	Unit	Qty	Rate		Amount	
					DSR-2022	NSI	DSR-2022	NSI
		SUB HEAD - I: CIRCUIT CUM POINT WIRING						
		SWITCH CONTROL LIGHT POINTS						
1	DSR 1.10	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	DSR 1.10.3	Group C	Point	250	1,467.00		366,750.00	
2	DSR-1.55	**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 **PVC conduit**, **and earthing the point with 1.5 sq. mm** FRLS PVC insulated **copper conductor single core cable** etc as required. **(Switch Control Secondary Points)**	Point	126	858.00		108,108.00	
2.1	DSR-1.55.3	Group C						
3	DSR-1.3	**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 **steel 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. **(Switch Control Primary Points)**						
3.1	DSR-1.3.3	Group C	Point	0	1,845.00		-	
4	DSR-1.54	**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. **(Switch Control Secondary Points)**						
4.1	DSR-1.54.3	Group C	Point	0	1,094.00		-	
		MCB CONTROL LIGHT POINTS						
5	NSI-1	**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 **steel 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. **(Switch Control Primary Points)**						
5.1	NSI-1.1	**Primary point controlled by one MCB.**	Point	25		1,523.13		38,078.14
5.2	NSI-1.2	Same as item above but **Secondary point**. i.e. Points to be looped with Primary point with 2.5 sqmm wire and Point wiring	Point	50		1,354.89		67,744.66
6	DSR 1.5	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	980	433.00		424,340.00	

7	**DSR 1.7**	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.						
7.1	**DSR 1.7.1**	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Metre	30	327.00		9,810.00	
7.2	**DSR 1.7.2**	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	2965	369.00		1,094,085.00	
7.3	**DSR 1.7.4**	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	250	589.00		147,250.00	
7.4	**DSR 1.7.5**	2 x 10 sq. mm + 1 x 10 sq.mm earth wire	Metre	0	710.00		-	
7.5	**DSR 1.7.10**	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	0	1,166.00		-	
7.6	**DSR 1.7.11**	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	285	1,645.00		468,825.00	
8	**DSR 1.31**	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 Amp modular socket outlet and 5/6 A modular switch, connection etc. as required.	Each	84	477.00		40,068.00	
9	**NSI-2**	Supply and Wiring for 250 volts single phase and neutral 2 Nos 6 amps socket outlate with control by 1 No switched with 2.5 sq.mm PVC insulated copper conductor 1100 volts grade stranded flexible FRLS wires in concealed or surface mounted 25 mm dia 2mm thick PVC conduit including providing and fixing of 6 amps 3 pin switch socket outlet of aprpoved make and design in 2 mm thick GI box with grid plate and earthing of third pin of the socket with 2.5 Sq. mm PVC insulated copper conductor stranded flexible FRLS wire.(maximum four no. of switches socket shall be connected on one circuit)	Each	112		1,781.84		199,565.94
10	**DSR 1.32**	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 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	Each	72	586.00		42,192.00	
11	**NSI-3**	Supplying and fixing 63 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 63 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		11,284.98		-
12	**NSI-4**	Supplying and fixing 80 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 80 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		17,343.23		-
13	**DSR-1.33**	Supplying and fixing **3 pin, 5 A ceiling rose** on the existing junction box/ wooden block including connections etc. as required.	Each	14	87		1,218.00	
14	**DSR-1.57**	Supplying & fixing suitable size GI box wih modular plate and cover in front on surface or in recess i/c providing and fixing 25 amp modular socket outlet and 25 Amps modular SP MCB, "C" curve including connection, painting etc. as required. (AC's & Gysers)	Each	10	727		7,270.00	
15	**DSR 1.24**	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.						
15.1	**DSR 1.24.6**	Telephone socket outlet	Nos	11	148.00		1,628.00	
16	**DSR 1.27**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
16.1	**DSR 1.27.1**	1 or 2 Module (75mmX75mm)	Nos	0	298.00		-	
16.2	**DSR 1.27.4**	6 module (78mm X 205 mm X 50 mm)	Nos	0	402.00		-	

17	**DSR 1.24**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
17.1	**DSR 1.24.4**	3 pin , 5/6 amps socket outlet	Each	0	122.00		-	
17.1	**DSR 1.24.1**	5/6 amps switch	Each	0	103.00		-	
18	**DSR 1.21**	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.						
18.1	**DSR 1.21.2**	25 mm	Mtr	10	145.00		1,450.00	
18.2	**DSR 1.21.3**	32 mm	Mtr	5	184.00		920.00	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - I					**2,713,914.00**	**305,388.74**
		SUBHEAD -II - FITTINGS & FIXTURES						
1	**NSI-1**	Supply, Installation, Testing and Commissioning of 10 W Bulk head Light.	Each	0		1,158.20		-
2	**NSI-2**	Supply, Installation, Testing and Commissioning of 5W Mirror Light.	Each	19		445.46		8,463.73
3	**NSI-3**	Supply, Installation, Testing and Commissioning of 18W Surface/Recessed Mounted LED circular Downlighter.	Each	159		1,470.02		233,732.70
4	**NSI-4**	Supply, Installation, Testing and Commissioning of 18/20W Wall/Surface mouted 4 ft. LED	Each	113		1,336.38		151,010.83
5	**NSI-5**	Supply, Installation, Testing and Commissioning of 15W Surface mounted LED Square Downlighter.	Each	16		1,380.93		22,094.80
6	**NSI-6**	Supply, Installation, Testing and Commissioning of 150 W CHANDELIER	Each	0		89,091.94		-
7	**NSI-7**	Supply, Installation, Testing and Commissioning of 12/9W Recessed mounted LED circular Downlighter.	Each	34		1,069.10		36,349.51
8	**NSI-8**	Supply, Installation, Testing and Commissioning of 9W (Nominal) Wall Bracket Light	Each	0		222.73		-
9	**DSR 19.1**	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019),THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	Each	96	2,730.00		262,080.00	-
10	**NSI-9**	Supply Installation, Testing and Commissioning of 250 mm dia Domestic Exhaust Fan	Each	14		2,260.41		31,645.75
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - II					**262,080.00**	**483,297.33**
		SUBHEAD - III - DISTRIBUTION BOARDS						
1	**DSR 2.3**	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)						

1.1	**DSR 2.3.1**	6 way, Double door	Each	0	2206		-	
1.2	**DSR 2.3.2**	8 way, Double door	Each	0	2573		-	
1.3	**DSR 2.3.3**	12 way, Double door	Each	0	2315		-	
2	**DSR 2.4**	Supplying and fixing following way, three pole and neutral, sheet steel, MCB distribution board, 415 volts, on surface/ recess complete with tinned copper busbar, neutral busbar, earth bar, din bar, detachable gland plate, interconnections, phosphatized and powder painted including earthing etc. as required. (But without MCB/ RCCB/ Isolator)						
2.1	**DSR 2.4.1**	4 way (4 + 12), Double door	Each	0	4,091.00		-	
2.2	**DSR 2.4.2**	6 way (4 + 18), Double door	Each	0	4,974.00		-	
2.3	**DSR 2.4.3**	8 way (4 + 24), Double door	Each		5,967.00		-	
3	**DSR 2.5**	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note :Vertical type MCB TPDB is normally used where 3 phase outlets are required.)						
3.1	**DSR 2.5.3**	12 way (4 + 36), Double door	Each	6	12833		76,998.00	
4	**DSR 2.10**	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "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.						
4.1	**2.10.1**	Single Pole	Each	180	256		46,080.00	
4.2	**2.10.2**	Single Pole Neutral	Each	0	599		-	
5	**DSR 2.12**	Supplying and fixing following rating, double pole, 240 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
5.1	**DSR 2.12.1**	40 A	Each	0	435		-	
5.2	**DSR 2.12.2**	63 A	Each	0	527		-	
6	**DSR 2.13**	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
6.1	**DSR 2.13.1**	25 A	Each	0	970		-	
6.1	**DSR 2.13.1**	40 A	Each	0	970		-	
6.2	**DSR 2.13.2**	63 A	Each	6	1034		6,204.00	
7	**DSR 2.14**	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
7.1	**DSR 2.14.1**	25 A	Each	0	2028		-	
7.2	**DSR 2.14.2**	40 A	Each	0	2642		-	
7.3	**DSR 2.14.3**	63 A	Each	18	2722		48,996.00	
8	**DSR 2.11**	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	10	13		130.00	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - III					**178,408.00**	**-**
VI		**SUB HEAD-IV , LIGHTNING CONDUCTOR**						
		LIGHTNING CONDUCTOR						

1	6.2	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required.	Each	6.0	518.00		3,108.00	
2	6.3	Fixing of lightning conductor finial (single prong) with base plate including holes etc. complete as required.	Each	6.0	360.00		2,160.00	
3	6.4	Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required.	Metre	15.0	113.00		1,695.00	
4	6.7	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)	Metre	220.0	126.00		27,720.00	
5	6.8	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	50.0	197.00		9,850.00	
6	6.10	Fixing of copper/ G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	30.0	162.00		4,860.00	
7	6.12	Providing and fixing testing joint, made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 nos. of G.I. bolts, nuts, chuck nuts and spring washers etc. complete as required.	Each	54.0	121.00		6,534.00	
8	5.4	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 metre long etc. with charcoal/ coke and salt as required. Details of cost for one Set	Each	7.0	7,472.00		52,304.00	
9	5.11	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.	Metre	35.0	706.00		24,710.00	
		TOTAL SUB HEAD (VI)					**132,941.00**	

Construction of Phase-A works at JNV Cooch Behar(WB) for Fire Fighting							
S.No	**DSR 2022 /NS**	**Description of items**	Rate	UNIT	SCHOOL BUILDING		
A.		**SUB HEAD - PUMP & EQUIPMENT**			QTY	Amt	
						DSR	MR
1	**18.4**	Supplying, installation, testing and commissioning of electric driven terrace pump suitable for automatic operation and consisting of following, complete in all respects, as required: (Terrace Pump)					
		Horizontal type, multistage, centrifugal, split casing pump of cast iron body & bronze impeller with stainless steel shaft, mechanical confirming to IS : 1520					
		Suitable HP squirell cage induction motor TEFC type suitable for operation on 415 volts, 3 phase, 50 Hz, AC supply with IP55 class of protection for enclosure, horiziontal foot mounted type with Class-'F' insulation, conforming to IS-325.					
		M.S.fabricated common base plate, coupling, coupling guard, foundation bolts etc.as required.					
		Suitable cement concrete foundation duly plastered and with anti vibration pads.					
1.1	**18.4.1**	900 lpm at 35 m Head	101,859.00	Set		-	
1.2	**18.4.2**	450 lpm at 35 m Head	86,203.00	Set	2.00	172,406.00	
2	**18.7**	Providing, laying, testing & commissioning of 'C' class heavy duty MS pipe conforming to IS 3589/IS 1239 including Welding, fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. and fixing the pipe on the wall/ceiling with suitable clamp/support frame and painting with two or more coats of synthetic enamel paint of required shade complete as required :					
2.1	**18.7.1**	25 mm dia	744.00	Metre	25.00	18,600.00	
2.3	**18.7.7**	100 mm dia	2,555.00	Metre	150.00	383,250.00	
3	18.11	Supplying Fixing Testing and Commissioning of **butterfly valve** of PN 1.6 Rating with Bronze /Gunmetal Sheet duly ISI marked complete with nuts , bolts , washers , gaskets conforming to IS : 13095 of following sizes as required .					
3.2	18.11.5	100 mm dia	6,667.00	Set	4.00	26,668.00	
4	18.14	Providing Installation Testing and Commissioning of **Non Return Valve** of following sizes conforming to IS : 5312 complete with rubber gasket , GI Bolts , Nuts , washers etc as required .					
4.2	18.14.5	100 mm dia	11,050.00	Set	2.00	22,100.00	
5	18.15	Providing Installation Testing and Commissioning of Stainless Steel **Y Strainer** fabricated out of 1.6 mm thick stainless steel , Grade 304 , Sheet with 3 mm dia holes with stainless steel flange .					
5.1	18.15.2	100 mm dia	6,664.00	Each	1.00	6,664.00	

6	18.17	Supplying and Fixing **First aid hose reel** with MS Construction Spray painted in Post office red conforming to IS : 884 complete with the following as required					
		20 mm nominal internal dia water hose thermoplastic (Textile Reinforced) Type - 2 as per IS : 12585					
		20 mm nominal internal dia gunmetal globe valve and nozzle					
		Drum and Brackets for fixing the equipments on wall					
		Connections from Riser with 25 mm dia stop gunmetal valve and MS Pipe and socket					
6.1	18.17.2	40 Metre Length	12,073.00	Set	8.00	96,584.00	
7	18.19	Supplying and Fixing of **Fire brigade connection** of Cast iron body with gunmetal male intantaneous inlet coupling complete with cap and chain as required for suitable dia ms pipe connection conforming to IS : 904 as required					
7.1	18.19.1	2 Way - 100 mm dia MS Pipe	6,742.00	Set		-	
8	18.20	Supplying and Fixing **Air Vessel made of 250** mm dia 8 mm thick ms sheet 1200 mm in height with air release valve on top and flanged connection to riser drain arrangement with 25 mm dia gunmetal wheel valve with required accessories pressure gauge and painting with synthetic enamel paint of approved shade as required	18,244.00	Set	5.00	91,220.00	
8.1	18.22	Providing & fixing of **pressure switch** in M.S. pipe line including connection etc. as required.	1,546.00	Each		-	
9	**16.8**	Providing and fixing dial type pressure gauge with isolation cock and copper pipe on main header Dial diameter 100 mm celebration 0-16 / sq. cm.	1,196.00	Each	2.00	2,392.00	
10	**NS-1**	Providing & fixing double flanged flexicon rubber expansion joint with unit control of standard length as per maufacturers specs. Tested to a pressure of 20 Kg/Sqcm including rubber gaskets, flanges, nuts, bolts and washers complete as required. **(Make - Kanwal / Resistoflex)**					
10.1	**1.1**	100mm dia	8,338.00	Each	2.00		16,676.00
11	**NS-2**	Providing and fixing **Fire Extinguishers (CO2 type powder)** 4.5 Kg Capacity complete with all accessories as per manufacturers specifications.	11,859.00	Each	8.00		94,872.00
12	**NS-3**	Providing and fixing **Fire Extinguishers (A, B, C type powder)** 9 Kg Capacity complete with all accessories as per manufacturers specifications.	7,796.00	Each	8.00		62,368.00
					TOTAL	819,884.00	173,916.00
					Say in lacs	**8.20**	**1.74**

ABSTRACT OF COST

[SHED FOR SCHOOL BUILDING]

S.N.	DESCRIPTION OF ITEM	DSR-2021	QUANTITY	UNIT	RATES	AMOUNT DSR-2021	AMOUNT NON DSR
1	Excavation work by mechanical means (Hydraulic excavator)/ manual means in foundation trenches or drains (not exceeding 1.5m 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 soils as directed, within a lead of 50 m.						
	all kinds of soil	2.8.1	51.930	CUM	286.85	14,896.12	
2	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete	2.25a	111.380	CUM	368.65	41,060.24	
3	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.	2.25	31.160	CUM	219.65	6,844.29	
4	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.	2.27	13.320	CUM	2161.20	28,787.18	
5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:5:10 (1 Cement : 5 coarse sand (zone-III) : 10 graded stone aggregate 40 mm nominal size)	4.1.10	19.820	CUM	6050.65	119,923.88	
6	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge."(Note :- Cement content considered in this item is @ 330 kg/cum."Excess/ less cement used as per design mix is payable/recoverable separately).						
	Upto plinth level						
	(i) R.C.C. work in Footing	5.33.1.1	22.730	CUM	8683.80	197,382.77	
	(ii) R.C.C. work in Beam	5.33.1.1	5.780	CUM	8683.80	50,192.36	
	Above plinth level						
	(i) R.C.C. work in beam	5.33.2.1	10.050	CUM	10306.20	103,577.31	
	(ii) R.C.C. work in column	5.33.2.1	11.250	CUM	10306.20	115,944.75	
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.	5.22.6	116.090	QTL	8965.00	1,040,746.85	
8	Add for using extra cement in the items of design mix over and above the specified cement content therein.	5.35	32.380	QTL	688.45	22,292.01	
	PILE WORK						
9	Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by percussion drilling using Direct mud circulation (DMC) or Bailer and chisel technique by tripod and mechanical Winch Machine all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap). Note: Truck Mounted rotary/TMR/Tubewell boring machine shall not be used . **450 mm dia piles**	**20.2.3**	324.000	metre	3060.10	991,472.40	

10	Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform by Kentledge/Anchor piles method and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer in-charge. Note: 1. Initial and Routine Load Test shall not be carried out by Dynamic method of testing. Note: 2. Testing agency shall submit the design of loading platform for the approval of Engineer-in-charge.	20.6					
	Group of two or more piles upto 50 tonne Safe capacity						
(i)	Initial test (Test Load 2.5 times the Safe capacity)	20.6.3.1	1.000	per test	66227.90	66,227.90	
(ii)	Routine test (Test Load 1.5 times the Safe capacity)	20.6.3.2	1.000	per test	38131.20	38,131.20	
11	Centering and shuttering including strutting, propping etc. and removal of form for all heights :						
(a)	Foundations, footings, bases of columns, etc. for mass concrete.	5.9.1	54.000	SQM	307.95	16,629.30	
(b)	Lintels, beams, plinth beams, girders, bressumers and cantilevers.	5.9.5	134.000	SQM	608.35	81,518.90	
(c)	Columns,Pillars, Piers, Abutments, Posts and Struts.	5.9.6	78.000	SQM	804.25	62,731.50	
12	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in: Cement mortar 1:6 (1 cement : 6 coarse sand).	6.1.2	57.970	CUM	6658.25	385,978.75	
						-	
13	15 mm cement plaster on rough side of single or half brick wall of mix : 1:4 (1 cement: 4 coarse sand).	13.5.1	44.800	SQM	354.50	15,881.60	
14	6 mm cement plaster of mix 1:3 (1 cement : 3 fine Sand)	13.16.1	184.55	SQM	253.05	46,700.38	
15	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : 25 mm thick	11.26.1	177.590	SQM	1706.60	303,075.09	
16	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	11.27	18.040	SQM	2038.55	36,775.44	
17	Providing and fixing on wall face unplasticised-Rigid PVC rain water pipes conforming to IS: 13592 Type A including jointing with seal ring conforming to IS: 5382 leaving 10mm gap for thermal expansion. **110 mm.**	12.41.2	19.500	RM	319.75	6,235.13	

18	Providing and fixing unplasticised-PVC pipe clips of approved design to unplasticised-PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with MS screws of required length including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete. 110 mm	12.43.2	15.000	NO	309.50	4,642.50	
19	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade. New work (Two or more coats applied @ 1.43 ltr/ 10 sqm. over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm).	13.47.1	44.80	SQM	162.35	7,273.28	
20	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	13.80	184.550	SQM	123.85	22,856.52	
21	Providing and fixing of self supported arch shaped mechanically seamed trussless galvalume roofing system such as Proflex or similar as approved by Engineer in-charge, made of superior quality structural grade steel, having 350 MPA yield strength, precoated galvalume sheet as per ASTM A 792 M of base thickness 1.2mm (tolerance +/- .02mm) with minimum coating mass as per AZM 150.Total coated thickness 1.275mm (tolerance +/- .02mm). Roofing should be designed as per ASCE 7-20 international building code 2002.The analysis shall be carried out for span and centre arch-rise considering the required live load, wind load, dead load, and the seismic factor. The roof panel formation shall be done as per the required length and curvature using hydraulic profile machine to give it the trapezoidal shape in required curvature. In this process the width of the sheet reduced from .914 metre to 0.61 meter (tolerance +/- .02mm). installation of panels, G.I anchor bolt of required sizes and type with G.I washer and neoprene washer shall be provided as per design.						
	The roof panel shall be lifted using a suitable crane and using a spreader bar and sling evenly placed to ensure no distortion of the panel during lifting and placing .The crane shall hold/support the panel till the alignment is done and completed using a plumb and water tube and bolted into beam. These curved panels have interlocking formation and are crimped together using mechanical seaming machine, which imposes a load of approximately five tones to insure the seaming of required rigidity. After seaming a clear epoxy lacquer is applied on the inner side of panel end in 15cm width to form a protective layer between panel and concrete beam. These panels are installed over existing water proof concrete gutter-beams having bevelled edge to receive (support) curved panels. Beams shall design for arch reaction and vertical loads. Plaster shall not be applied on the beam. Schmidt hammer test of the concrete should be carried out before erection to ensure that the anchor bolt can be securely fixed on support. In case of steel structure a steel runner plate of 6mm thickness and G.I sheet gutter of suitable size shall be provided for						
	After installation of panels, trapezoidal voids are created between gutter-beam and panels which should be covered by a flashing fabricated or brick masonry which is to be paid separately. Area of this roof shall be measured along the periphery of hem-top between end to end of panels. Ridge and valley shall not be taken into consideration for measuring length transverse to periphery. The rate includes supplying, fixing, loading unloading, hire charges of all plants machineries, anchors, fasteners, washers, bolts, epoxy, paint and all wastage etc. complete, The rate includes supplying and fixing accessories and fixtures like hangers/clamps for installation of lighting/fixtures/utility/duct as per requirement. This item shall be executed only by the agency, which has all require manufacturing machineries and necessary expertise. Rate =2000+18%GST	NON DSR	839.11	SQM	2360.00		1,980,293.70
					TOTAL	**3,827,777.67**	**1,980,293.70**

		ELECTRICAL WORKS					
S.N.	DSR-2022	DESCRIPTION OF ITEM	QUANTITY	UNIT	RATES	AMOUNT	AMOUNT
						DSR-2022	NON DSR
1	1.1	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 steel conduit, with piano type switch, phenolic laminated sheet, suitable size MS box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.					
	1.1.3	Group C	12.00	Nos	1,823.000	21,876.00	
2	1.7	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.					
	1.7.7	4 X 2.5 sq. mm + 2 X 2.5 sq. mm earth wire	94.64	Rmt	560.000	52,998.40	
3	2.4	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)					
	2.4.3	8 way (4 + 24), Double door	2.00	Nos	5,967.000	11,934.00	
4	2.10.1	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, “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.	4.00	Nos	256.000	1,024.00	
5	M.R.	Supply, Installation and Commisioning LED Flood Light 40W with Wall Bracket and all necessary fittings required. Make Crompton, Havells, Bajaj.	5.00	Nos	7,500.000		37,500.00
6	M.R.	Supply, Installation and Commisioning of Industrial Air Circulatin High Speed Wall Fan 24" 250 Watt. Make Almonard, Bajaj.	5.00	Nos	14,500.000		72,500.00
					TOTAL	87,832.40	110,000.00

Construction of Phase-A works at JNV Cooch Behar(WB) [DINING HALL & KITCHEN]							
S.N.	**DESCRIPTION OF ITEM**	**DSR-2021**	**QTY**	**UNIT**	**RATES**	**AMOUNT (In RS.) ON DSR**	**AMOUNT (In RS.) ON NON SHEDULE**
A	**Earth Work**						
1	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.	2.8					
	All kinds of soil	2.8.1	156.37	CUM	286.85	44,854.73	
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 upto 50 m and lift upto 1.5 m.	2.25	109.459	CUM	253.95	27,797.11	
3	Supplying and filling in plinth with sand under floors, including watering,ramming, consolidating and dressing complete.	2.27	66.52	CUM	2161.20	143,763.02	
4	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.	2.25a	265.749	CUM	368.65	97,968.37	
B	**Concrete Work**						
5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:5:10 (1 cement : 5 coarse sand (zoneIII)derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	4.1.10	87.29	CUM	6050.65	528,161.24	
6	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 12.5mm nominal size derived from natural sources)	4.10	53.770	SQM	370.85	19,940.60	
7	Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification.	4.12	13.980	per 50kg cement	57.15	798.96	
8	Providing & applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	4.13	53.770	SQM	113.85	6,121.71	

9	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand,including necessary excavation,levelling & dressing & finishing the top smooth.	4.17	106.480	SQM	681.65	72,582.09	
10	Brick edging in full brick width and half brick depth including excavation refilling and disposal of surplus earth lead upto 50 metres. With common burnt clay F.P.S.(non modulur) bricks of class designation 75	16.7.1	177.46	RM	179.50	31,854.07	
C	**Reinforced Cement Concrete**						
11	Centering and shuttering including strutting, propping etc. and removal of form for all heights :						
(a)	Foundations, footings, bases of columns, etc. for mass concrete.	5.9.1	199.640	SQM	307.95	61,479.14	
(b)	Suspended floors, roofs, landings, balconies and access platform.	5.9.3	908.180	SQM	766.55	696,165.38	
(c)	Lintels, beams, plinth beams, girders, bressumers	5.9.5	888.04	SQM	608.35	540,239.13	
(d)	Columns,Pillars, Piers, Abutments, Posts and Struts.	5.9.6	255.550	SQM	804.25	205,526.09	
(e)	Edges of slabs and breaks in floors and walls Under 20 cm wide.	5.9.16.1	310.520	RM	181.90	56,483.59	
	PILE WORK						
12	Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by percussion drilling using Direct mud circulation (DMC) or Bailer and chisel technique by tripod and mechanical Winch Machine all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap). Note: Truck Mounted rotary/TMR/Tubewell boring machine shall not be used . **450 mm dia piles**	**20.2.1**	1269.000	metre	1916.40	2,431,911.60	
13	Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform by Kentledge/Anchor piles method and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer in-charge. Note: 1. Initial and Routine Load Test shall not be carried out by Dynamic method of testing. Note: 2. Testing agency shall submit the design of loading platform for the approval of Engineer-in-charge.	20.6					
	Single pile upto 50 tonne Safe capacity						

(i)	Initial test (Test Load 2.5 times the Safe capacity)	20.6.1.1	1.000	per test	51510.60	51,510.60	
(ii)	Routine test (Test Load 1.5 times the Safe capacity)	20.6.1.2	4.000	per test	18463.55	73,854.20	
14	**Group of two or more piles upto 50 tonne Safe capacity**						
(i)	Initial test (Test Load 2.5 times the Safe capacity)	20.6.3.1	3.000	per test	66227.90	198,683.70	
(ii)	Routine test (Test Load 1.5 times the Safe capacity)	20.6.3.2	8.000	per test	38131.20	305,049.60	
15	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.	5.22.6	276.750	QTL.	8965.00	2,481,063.75	
16	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete a**bove plinth level.** Thermo-Mechanically Treated bars of grade Fe-500 D or more.	5.22.A.6	207.920	QTL.	8965.00	1,864,002.80	
17	Add for plaster drip course/ groove in plastered surface or moulding to R.C.C. projections.	5.30	275.12	RM	64.70	17,800.26	
18	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. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.	5.33					
(I)	**All works upto plinth level**	5.33.1					
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.1.1					
	(i) R.C.C. work in Footing	5.33.1.1	64.960	CUM	8683.80	564,099.65	
	(ii) R.C.C. work in Beam	5.33.1.1	41.460	CUM	8683.80	360,030.35	
	(iii) R.C.C. work in Columns	5.33.1.1	1.030	CUM	8683.80	8,944.31	
(II)	**All works above plinth level upto floor V level**	5.33.2					
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.2.1					

	(i) R.C.C. work in Lintel	5.33.2.1	3.370	CUM	10306.20	34,731.89	
	(ii) R.C.C. work in Beam	5.33.2.1	44.580	CUM	10306.20	459,450.40	
	(iii) R.C.C. work in Columns	5.33.2.1	23.360	CUM	10306.20	240,752.83	
	(iv) R.C.C. work in Slab	5.33.2.1	113.940	CUM	10306.20	1,174,288.43	
D	**Masonry Work**						
19	Half brick masonry 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. : cement mortar 1:4 (1 cement : 4 coarse sand)	6.13.2	107.18	Sqm	1018.05	109,114.60	
20	Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.	6.15	107.18	sqm	86.45	9,265.71	
21	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in superstructure above plinth level up to floor V level in : Cement mortar 1:6 (1 cement : 6 coarse sand)	6.34.2	115.190	CUM	7676.30	884,233.00	
22	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in: Cement mortar 1:6 (1 cement : 6 coarse sand)	6.1.2	35.930	CUM	6658.25	239,230.92	
E	**Cladding Work**						
	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.	8.2					
	Granite stone slab colour black, Cherry/Ruby red	8.2.2					
23	Area of slab upto 0.50 sqm	8.2.2.1	19.00	SQM	4679.35	88,907.65	
24	Area of slab over 0.50 sqm	8.2.2.2	103.73	SQM	4425.35	459,041.56	
25	Providing edge moulding to 18mm thick marble stone counters, Vanities etc. including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.						
	Granite work	8.3.2	190.04	RM	418.85	79,598.25	
26	Extra for fixing marble /granite stone over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive including cleaning etc. complete.	8.4	190.04	RM	475.55	90,373.52	

27	Extra for providing opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/Granite/stone work including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	8.5	12.00	NO	808.15	9,697.80	
						-	
28	Stone tile (polished) work for wall lining over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and cement slurry @ 3.3 kg/sqm including pointing in white cement complete.Granite of any colour and shade	8.9.1.2	83.14	SQM	3105.50	258,191.27	
29	Providing and fixing Ist quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	8.31	103.250	SQM	1063.45	109,801.21	
F	**Wood and PVC Work**						
30	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	9.21.1	37.91	SQM	2015.75	76,417.08	
31	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	9.23	37.91	SQM	401.40	15,217.07	
32	Extra for cutting rebate in flush door shutters (Total area of the shutter to be measured).	9.26	16.38	SQM	93.65	1,533.99	
33	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete. Fixed to steel windows by welding.	9.48.1	1388.25	Kg	181.00	251,273.25	
34	Providing and fixing oxidised M.S. casement stays (straight peg type) with necessary screws etc. complete.	9.68					
(i)	300 mm weighing not less than 200 gms	9.68.1	50.00	NOS	59.25	2,962.50	
(ii)	250 mm weighing not less than 150 gms	9.68.2	11.00	NOS	51.90	570.90	

35	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete. Twin rubber stopper.	9.101.2	21.00	NOS	62.25	1,307.25	
36	Providing and fixing factory made door frame (single rebate) made out of single piece extruded solid PVC foam profile with homogenous fine cellular structure having smooth outer integral skin having 62 mm width & 32 mm thickness, frame will be mitred & Jointed with self driven self tapping screws of size 38 mm x 4 mm & PVC solvent cement, including fixing the frame to wall with suitable dia & length anchor fastener as per manufacturer's specification and direction of Engineer-in-charge.	9.123	14.850	RM	481.85	7,155.47	
37	Providing and fixing PVC rigid foam sheet 1 mm thick on existing door shutters (bathroom and W.C. doors) using synthetic rubber based adhesive.	9.125	4.73	SQM	1293.05	6,116.13	
38	Providing and fixing wire gauge shutters using stainless steel grade 304 wire gauge with wire of dia 0.5 mm and average width of aperture 1.4 mm in both directions for doors, windows and clerestory windows with necessary screws : **30 mm thick shutters With ISI marked stainless steel butt hinges of required size,** Kiln seasoned and chemically treated hollock wood	9.134.2.2.2	20.58	SQM	3124.15	64,295.01	
39	Providing and fixing bright /matt finished Stainless Steel handles of approved quality & make with necessary screws etc all complete. (a) 125 mm.	9.165.1	42.00	NOS	100.45	4,218.90	
40	Providing & fixing Stainless steel sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with nuts and screws etc complete. (a) 250mm x 16mm .	M.R.	16.00	NOS	560.00		8,960.00
41	Providing and fixing stainless steel towerbolts (barrel type) with necessary screws etc. complete.						
i	300 x 10mm	M.R.	16.00	NOS	448.00		7,168.00
ii	150 x 10mm	M.R.	16.00	NOS	392.00		6,272.00
42	Providing and fixing 6mm thick both sides Pre-laminated cement bonded wood particle board as per IS : 15786:2008 of approved brand and shade with suitable full threaded steel screws etc. on the backing of racks, drawer, cupboard, kitchen cabinet under kitchen counter etc. all complete as per direction of Engineer in-charge.	9.167	13.42	SQM	902.55	12,112.22	
						-	

43	Providing and fixing cupboard shutter with 19mm thick one side decorative and other side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand including 2mm thick PVC edge banding tape with hot glue by edge bending machine etc. with auto closing spring loaded hinges (hydraulic type) etc. complete as per direction of Engineer in- harge.(Payment of providing and fixing auto closing hinges shall be paid separately)	9.168	13.42	SQM	2563.75	34,405.53	
						-	
44	Providing and fixing 19mm thick both side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand boxes,shelves,racks,almirah, cupboard and drawer etc. including necessary nails,screws etc. complete as per direction of Engineer-in-charge.	9.169	45.10	SQM	2339.60	105,515.96	
						-	
45	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge. **100 mm for Kitchen Cabinets**	Analysis	42.00	Nos.	80.00	3,360.00	
46	Providing and fixing stainless steel soft closing spring hinges at 0 degree hinges (hydraulic type) of approved make/brand to cupboard shutters with full threaded steel screws including making necessary recess in board and finished etc. complete as per direction of Engineer-in-charge	9.171	84.00	Nos.	226.75	19,047.00	
G	**Steel Work**						
47	Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side /top /centre hung, with beading and all members such as F7D, F4B, K11 B and K12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design, (sectional weight of only steel members shall be measured for payment). Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).	10.11.1	1683.370	KG	175.65	295683.94	
48	Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer	10.13					
	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size	10.13.1	276.540	KG	114.65	31705.31	

49	Providing and fixing M.S. Tubular frames for doors, windows, ventilators and cupboard with rectangular/ L-Type sections, made of 1.60 mm thick M.S. Sheet, joints mitred, welded and grinded finish, with profiles of required size, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer.						
	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	10.15.1	1779.79	Kg	146.55	260828.22	
50	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete. Electric resistance or induction butt welded tubes.	10.16.3	3426.56	KG	140.85	482,630.91	
51	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	10.25.2	236.25	Kg	142.30	33,618.38	
52	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer. M.S. tube	10.28	155.52	KG	612.25	95,217.12	
53	Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with : 4.0 mm thick glass panes.	10.30.1	1.200	SQM	940.30	1,128.36	
H	**Flooring**						
54	Chequerred precast cement concrete tiles 22 mm thick in footpath & courtyard, jointed with neat cement slurry mixed with pigment to match the shade of tiles, including rubbing and cleaning etc. complete, on 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand). **Medium shade pigment using 50% white cement 50% Grey cement**	11.20.2	10.800	SQM	1160.00	12,528.00	
55	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : 25 mm thick	11.26.1	847.530	SQM	1706.60	1,446,394.70	
56	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	11.27	53.180	SQM	2038.55	108,410.09	

57	Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily.Glazed Vitrified tiles **Matt/Antiskid** finish of size **Size of Tile 600 x 600 mm**	11.41A.3	6.710	SQM	1311.05	8,797.15	
58	Providing and laying 60mm thick faciory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with line sand etc. all complete as per the direction of Engineer-in-charge.	16.68	60.000	SQM	951.00	57,060.00	
J	**Finishing**						
59	15 mm cement plaster on the rough side of single or half brick wall of mix : 1:6 (1 cement: 6 coarse sand)	13.5.2	1160.300	SQM	339.10	393,457.73	
60	12mm cement plaster in single coat on fair side of single or half brick wall for exterior plastering up to floor two level including internal rounded angles chamfers, and/or rounded angles not exceeding 80mm in girth and finished even and smooth no extra for mixing any additive. 1:6 (1 cement: 6 coarse sand)	13.4.2	409.98	SQM	294.35	120,677.61	
61	6 mm cement plaster on celling (a) 1:3(1 cement:3 fine sand)	13.16.1	793.18	SQM	253.05	200,714.20	
62	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer.	13.41.1	1203.160	SQM	162.55	195,573.66	
63	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer.	13.45.1	232.06	SQM	245.00	56,854.70	
64	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade. New work (Two or more coats applied @ 1.43 ltr/ 10 sqm. over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm).	13.47.1	928.24	SQM	162.35	150,699.76	

	Applying priming coat:	13.50					
65	With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	13.50.1	141.44	SQM	61.45	8,691.49	
66	With ready mixed red oxide zink chromate primer of approved brand and manufacture on steel galvanised iron/steel works.	13.50.3	26.06	SQM	55.50	1,446.33	
67	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. On steel work.	13.52.1	178.20	SQM	201.70	35,942.94	
68	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade:	13.61					
	Two or more coats on new work.	13.61.1	167.50	SQM	131.45	22,017.88	
69	Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade : Two or more coats on new work	13.65.1	40.35	SQM	115.10	4,644.29	
70	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	13.80	793.18	SQM	123.85	98,235.34	
J	**Water Proofing**						
71	Painting top of roofs with bitumen of approved quality @ 17kg per 10 sqm impregnated with a coat of coarse sand at 60 cudm per 10 sqm, including cleaning the slab surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil complete :	12.15					
	With residual type petroleum bitumen of grade VG -10	12.15.1	834.42	SQM	133.15	111,103.02	
72	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.	10.16.1	6258.15	KG	154.90	969,387.44	

73	Supply & Fixing of Prepainted coloured Trapezoidal or approved profiled Sheeting 1000-1020 mm cover width, 28-30 mm high crests with subtle square fluting in the five pan at nominal 190-255 mm (as approved by EIC) centre-to-centre manufactured out of 0.50 mm TCT hi-tensile prepainted Zincalume /Galvalume steel (AZ-150 gsm. Aluminium –Zinc alloy metallic coating of total both sides 550 MPa yield stress as per AS-1397). Colour/ Exterior coat of RMP 20 micron top coat applied over 5 micron primer and a 5 micron polyester back coat applied over 5 microns primer OR equivalent coating/painting. The sheet shall have wide pans with stiffening ribs for effective water shedding and special male/female ends with full return legs on side laps for purlin support. The male end of the sheet shall have anti-capillary flute at side laps to prevent leakages. The sheet shall be fixed by means of anti corrosive approved make "Rust Shield" (Epoxy Polymer) coated self-drilling self tapping fasteners 12-14 X 55 mm with EPDM seals through crest for roofing and 12-24 X 20 mm through valley (pans) for wall cladding. The sheet shall be supplied in lengths maximum up to 6-12 meter long to suit site dimensions. The scope includes all sealing of joint, curves, edges or other accessories with silicon sealant.	M.R.	1012.62	SQM	1060.00		1,073,377.20
74	Construction of Brick Boundary Wall 2.7 mtr height	ANALYSIS	21.400	RM	14904.79	318,962.51	
					TOTAL	**21,265,284.42**	**1,095,777.20**
					SAY IN LACS	**212.65**	**10.96**

SUMMARY SHEET OF PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)			
KITCHEN & DINING HALL ELECTRICAL WORK			
Sl.No.	Name of Work	TOTAL AMOUNT (IN RS.)	
		DSR-2022	MR
I	SUB HEAD - I: CIRCUIT CUM POINT WIRING	476,732.00	182,197.89
II	SUBHEAD -II - FITTINGS & FIXTURES	76,440.00	134,404.24
III	SUBHEAD - III - DISTRIBUTION BOARDS	59,491.00	-
IV	SUB HEAD-IV , LIGHTNING CONDUCTOR	36,510.00	
	TOTAL	649,173.00	316,602.13
	Say in lacs	6.49	3.17

PROJECT :- PROPOSED CONSTRUCTION OF PHASE - A & B WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)								
Detailed Estimate for ELECTRICAL Works KITCHEN & DINNING HALL								
S.No.	**DSR-2022/NSI**	**Description**	**Unit**	**Qty**	**Rate**		**Amount**	
					DSR-2022	**NSI**	**DSR-2022**	**NSI**
		SUB HEAD - I: CIRCUIT CUM POINT WIRING						
		SWITCH CONTROL LIGHT POINTS						
1	**DSR 1.10**	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	**DSR 1.10.3**	Group C	Point	37	1,467.00		54,279	
2	**DSR-1.55**	**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 **PVC conduit**, **and earthing the point with 1.5 sq. mm** FRLS PVC insulated **copper conductor single core cable** etc as required. **(Switch Control Secondary Points)**	Point	16	858.00		13,728	
2.1	**DSR-1.55.3**	Group C						
3	**DSR-1.3**	**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 **steel 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. **(Switch Control Primary Points)**						
3.1	**DSR-1.3.3**	Group C	Point	0	1,845.00		-	
4	**DSR-1.54**	**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. **(Switch Control Secondary Points)**						
4.1	**DSR-1.54.3**	Group C	Point	0	1,094.00		-	
		MCB CONTROL LIGHT POINTS						

5	**NSI-1**	**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 **steel 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. **(Switch Control Primary Points)**						
5.1	**NSI-1.1**	**Primary point controlled by one MCB.**	Point	42		1,523.13		63,971
5.2	**NSI-1.2**	Same as item above but **Secondary point**. i.e. Points to be looped with Primary point with 2.5 sqmm wire and Point wiring	Point	45		1,354.89		60,970
6	**DSR 1.5**	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	320	433.00		138,560	
7	**DSR 1.7**	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.						
7.1	**DSR 1.7.1**	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Metre	40	327.00		13,080	
7.2	**DSR 1.7.2**	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	380	369.00		140,220	
7.3	**DSR 1.7.4**	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	50	589.00		29,450	
7.4	**DSR 1.7.5**	2 x 10 sq. mm + 1 x 10 sq.mm earth wire	Metre	50	710.00		35,500	
7.5	**DSR 1.7.10**	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	0	1,166.00		-	
7.6	**DSR 1.7.11**	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	20	1,645.00		32,900	
8	**DSR 1.31**	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 Amp modular socket outlet and 5/6 A modular switch, connection etc. as required.	Each	6	477.00		2,862	
9	**NSI-2**	Supply and Wiring for 250 volts single phase and neutral 2 Nos 6 amps socket outlate with control by 1 No switched with 2.5 sq.mm PVC insulated copper conductor 1100 volts grade stranded flexible FRLS wires in concealed or surface mounted 25 mm dia 2mm thick PVC conduit including providing and fixing of 6 amps 3 pin switch socket outlet of aprpoved make and design in 2 mm thick GI box with grid plate and earthing of third pin of the socket with 2.5 Sq. mm PVC insulated copper conductor stranded flexible FRLS wire.(maximum four no. of switches socket shall be connected on one circuit)	Each	0		1,782		-

10	**DSR 1.32**	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 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	Each	20	586.00		11,720.00	
11	**NSI-3**	Supplying and fixing 63 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 63 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	2		11,284.98		22,569.96
12	**NSI-4**	Supplying and fixing 80 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 80 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	2		17,343.23		34,686.46
13	**DSR-1.33**	Supplying and fixing **3 pin, 5 A ceiling rose** on the existing junction box/ wooden block including connections etc. as required.	Each	7	87		609.00	
14	**DSR-1.57**	Supplying & fixing suitable size GI box wih modular plate and cover in front on surface or in recess i/c providing and fixing 25 amp modular socket outlet and 25 Amps modular SP MCB, “C” curve including connection, painting etc. as required. (AC's & Gysers)	Each	2	727		1,454.00	
15	**DSR 1.24**	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.						
15.1	**DSR 1.24.6**	Telephone socket outlet	Nos	0	148.00		-	
16	**DSR 1.27**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
16.1	**DSR 1.27.1**	1 or 2 Module (75mmX75mm)	Nos	0	298.00		-	
16.2	**DSR 1.27.4**	6 module (78mm X 205 mm X 50 mm)	Nos	0	402.00		-	
17	**DSR 1.24**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
17.1	**DSR 1.24.4**	3 pin , 5/6 amps socket outlet	Each	0	122.00		-	
17.1	**DSR 1.24.1**	5/6 amps switch	Each	0	103.00		-	

18	**DSR 1.21**	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.						
18.1	**DSR 1.21.2**	25 mm	Mtr	10	145.00		1,450.00	
18.2	**DSR 1.21.3**	32 mm	Mtr	5	184.00		920.00	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - I					**476,732.00**	**182,197.89**
		SUBHEAD -II - FITTINGS & FIXTURES						
1	**NSI-1**	Supply, Installation, Testing and Commissioning of 10 W Bulk head Light.	Each	0		1,158.20		-
2	**NSI-2**	Supply, Installation, Testing and Commissioning of 5W Mirror Light.	Each	0		445.46		-
3	**NSI-3**	Supply, Installation, Testing and Commissioning of 18W Surface/Recessed Mounted LED circular Downlighter.	Each	6		1,470.02		8,820.10
4	**NSI-4**	Supply, Installation, Testing and Commissioning of 18/20W Wall/Surface mouted 4 ft. LED	Each	67		1,336.38		89,537.40
5	**NSI-5**	Supply, Installation, Testing and Commissioning of 15W Surface mounted LED Square Downlighter.	Each	12		1,380.93		16,571.10
6	**NSI-6**	Supply, Installation, Testing and Commissioning of 150 W CHANDELIER	Each	0		89,091.94		-
7	**NSI-7**	Supply, Installation, Testing and Commissioning of 12/9W Recessed mounted LED circular Downlighter.	Each	3		1,069.10		3,207.31
8	**NSI-8**	Supply, Installation, Testing and Commissioning of 9W (Nominal) Wall Bracket Light	Each	2		222.73		445.46

9	**DSR 1.21**	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019),THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	Each	28	2,730.00		76,440.00	-
10	**NSI-9**	Supply Installation, Testing and Commissioning of 250 mm dia Domestic Exhaust Fan	Each	7		2,260.41		15,822.88
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - II					**76,440.00**	**134,404.24**
		SUBHEAD - III - DISTRIBUTION BOARDS						
1	**DSR 2.3**	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)						
1.1	**DSR 2.3.1**	6 way, Double door	Each	0	2206		-	
1.2	**DSR 2.3.2**	8 way, Double door	Each	0	2573		-	
1.3	**DSR 2.3.3**	12 way, Double door	Each	0	2315		-	
2	**DSR 2.4**	Supplying and fixing following way, three pole and neutral, sheet steel, MCB distribution board, 415 volts, on surface/ recess complete with tinned copper busbar, neutral busbar, earth bar, din bar, detachable gland plate, interconnections, phosphatized and powder painted including earthing etc. as required. (But without MCB/ RCCB/ Isolator)						
2.1	**DSR 2.4.1**	4 way (4 + 12), Double door	Each	0	4,091.00		-	
2.2	**DSR 2.4.2**	6 way (4 + 18), Double door	Each	0	4,974.00		-	
2.3	**DSR 2.4.3**	8 way (4 + 24), Double door	Each	0	5,967.00		-	

3	**DSR 2.5**	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note :Vertical type MCB TPDB is normally used where 3 phase outlets are required.)						
3.1	**DSR 2.5.3**	12 way (4 + 36), Double door	Each	2	12833		25,666.00	
4	**DSR 2.10**	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "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.						
4.1	**2.10.1**	Single Pole	Each	60	256		15,360.00	
4.2	**2.10.2**	Single Pole Neutral	Each	0	599		-	
5	**DSR 2.12**	Supplying and fixing following rating, double pole, 240 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
5.1	**DSR 2.12.1**	40 A	Each	0	435		-	
5.2	**DSR 2.12.2**	63 A	Each	0	527		-	
6	**DSR 2.13**	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
6.1	**DSR 2.13.1**	25 A	Each	0	970		-	
6.1	**DSR 2.13.1**	40 A	Each	0	970		-	
6.2	**DSR 2.13.2**	63 A	Each	2	1034		2,068.00	
7	**DSR 2.14**	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
7.1	**DSR 2.14.1**	25 A	Each	0	2028		-	
7.2	**DSR 2.14.2**	40 A	Each	0	2642		-	
7.3	**DSR 2.14.3**	63 A	Each	6	2722		16,332.00	
8	**DSR 2.11**	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	5	13		65.00	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - III					**59,491.00**	**-**

VI		SUB HEAD-IV , LIGHTNING CONDUCTOR						
		LIGHTNING CONDUCTOR						
1	6.2	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required.	Each	2.0	518.00		1,036.00	
2	6.3	Fixing of lightning conductor finial (single prong) with base plate including holes etc. complete as required.	Each	2.0	360.00		720.00	
3	6.4	Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required.	Metre	10.0	113.00		1,130.00	
4	6.7	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)	Metre	60.0	126.00		7,560.00	
5	6.8	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	30.0	197.00		5,910.00	
6	6.10	Fixing of copper/ G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	10.0	162.00		1,620.00	
7	6.12	Providing and fixing testing joint, made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 nos. of G.I. bolts, nuts, chuck nuts and spring washers etc. complete as required.	Each	18.0	121.00		2,178.00	
8	5.4	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 metre long etc. with charcoal/ coke and salt as required. Details of cost for one Set	Each	2.0	7,472.00		14,944.00	
9	5.11	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.	Metre	2.0	706.00		1,412.00	
		TOTAL SUB HEAD (VI)					**36,510.00**	

CONSTRUCTION OF PHASE-A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT COOCHBEHAR (WB)

ABSTRACT OF COST

1.00 BOY'S DORMITORY WITH 4 NOS. WARDEN RESIDENCE (G+3)

S.N.	DESCRIPTION OF ITEM	DSR-2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
A	**Earth Work**						
1	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	2.8.1	345.26	CUM	286.85	99,037.83	
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 upto 50 m and lift upto 1.5 m.	2.25	207.16	CUM	253.95	52,608.28	
3	Supplying and filling in plinth with sand under floors, including watering, ramming,consolidating and dressing complete.	2.27	30.51	CUM	2161.20	65,938.21	
4	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.	2.25a	72.25	CUM	368.65	26,634.96	
B	**Concrete Work**						
5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	4.1.10	66.55	CUM	6050.65	402,670.76	
6	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 12.5mm nominal size derived from natural sources)	4.10	51.07	SQM	370.85	18,939.31	
7	Providing & applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	4.13	51.07	SQM	113.85	5,814.32	
8	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand,including necessary excavation,levelling & dressing & finishing the top smooth.	4.17	83.150	SQM	681.65	56,679.20	
9	Brick edging in full brick width and half brick depth including excavation, refilling and disposal of surplus earth lead upto 50 metres. With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	16.7.1	138.60	RM	179.50	24,878.70	
C	**Reinforced Cement Concrete**						

10	Centering and shuttering including strutting, propping etc. and removal of form for all heights :						
(a)	Foundations, footings, bases of columns, etc. for mass concrete.	5.9.1	416.51	SQM	307.95	128,264.25	
(b)	Suspended floors, roofs, landings, balconies and access platform.	5.9.3	2242.82	SQM	766.55	1,719,233.67	
(c)	Lintels, beams, plinth beams, girders, bressumers	5.9.5	1052.27	SQM	608.35	640,148.45	
(d)	Columns,Pillars, Piers, Abutments, Posts and Struts.	5.9.6	980.64	SQM	804.25	788,679.72	
(e)	Edges of slabs and breaks in floors and walls Under 20 cm wide.	5.9.16.1	1828.15	RM	181.90	332,540.49	
11	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.	5.22.6	548.36	QTL.	8965.00	4,916,047.40	
12	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete a**bove plinth level.** Thermo-Mechanically Treated bars of grade Fe-500 D or more.	5.22.A.6	476.21	QTL.	8965.00	4,269,222.65	
	PILES						
13	Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry a safe working load not less than specified,excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by percussion drilling using Direct mud circulation (DMC) or Bailer and chisel technique by tripod and mechanical Winch Machine all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap). Note: Truck Mounted rotary/TMR/Tubewell boring machine shall not be used **.** **450 mm dia piles**	20.2.1	2808.00	RM	1916.40	5,381,251.20	
	Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform by Kentledge/Anchor piles method and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer in-charge. Note: 1. Initial and Routine Load Test shall not be carried out by Dynamic method of testing. Note: 2. Testing agency shall submit the design of loading platform for the approval of Engineer-in-charge.	20.6					
	Group of two or more piles upto 50 tonne Safe capacity	20.6.3				-	
14	Initial test (Test Load 2.5 times the Safe capacity)	20.6.3.1	4.00	per test	66227.90	264,911.60	
15	Routine test (Test Load 1.5 times the Safe capacity)	20.6.3.2	11.00	per test	38131.20	419,443.20	
16	Add for plaster drip course/ groove in plastered surface or moulding to R.C.C. projections.	5.30	869.72	RM	64.70	56,270.88	

17	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. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.	5.33					
(I)	**All works upto plinth level**	5.33.1					
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.1.1					
	(i) R.C.C. work in Footing	5.33.1.1	201.04	CUM	8683.80	1,745,791.15	
	(ii) R.C.C. work in Beam	5.33.1.1	20.80	CUM	8683.80	180,623.04	
	(iii) R.C.C. work in Columns	5.33.1.1	3.81	CUM	8683.80	33,085.28	
(II)	**All works above plinth level upto floor V level**	5.33.2					
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.2.1					
	(i) R.C.C. work in Lintel	5.33.2.1	4.29	CUM	10306.20	44,213.60	
	(ii) R.C.C. work in Beam	5.33.2.1	67.65	CUM	10306.20	697,214.43	
	(iii) R.C.C. work in Columns	5.33.2.1	74.93	CUM	10306.20	772,243.57	
	(iv) R.C.C. work in Slab	5.33.2.1	279.72	CUM	10306.20	2,882,850.26	
	Expansion Joint Treatment						

18	Providing and fixing of expansion joint system related with floor location as per drawings and direction of Engineer-In-Charge. The joints system will be of extruded aluminum base members, self aligning / self centering arrangement and support plates etc. as per ASTM B221-02. The system shall be such that it provides floor to floor /floor to wall expansion control system for various vertical localtion in load application areas that commodates multi directional seismic movement without stress to it's components. System shall consist of metal profiles with a universal aluminum base member designed to accommodate various project conditions and finish floor treatments. The cover plate shall be designed of width and thickness required to satisfy projects movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self- centering arrangement that freely rotates / moves in all directions. The Self - centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement. Provision of Moisture Barrier Membrane in the Joint System to have watertight joint is mandatory requirement all as per the manufactures design and as approved by Engineer -in- Charge. (Material shall confirm to ASTM 6063).	5.44				-	
	Floor Joint of 100 mm gap	5.44.1	4.80	RM	5800.15	27,840.72	
19	Providing and fixing of expansion joint system related with wall joint (internal/ external) location as per drawings and direction of Engineer-In- Charge. The joints shall be of extruded aluminum base members, self aligning / centering arrangement and support plates as per ASTM B221- 02. The material shall be such that it provides an Expansion Joints System suitable for vertical wall to wall/ wall to corner application, both new and existing construction in office Buildings & complexes with no slipping down tendency amongst the components of the Joint System. The Joint System shall utilize light weight aluminum profiles exhibiting minimal exposed aluminum surfaces mechanically snap locking the multicellular to facilitate movement. (Material shall confirm to ASTM 6063).	5.45					
	Wall Joint of 100 mm gap	5.45.1	24.87	RM	4835.50	120,258.89	
20	Providing and fixing of expansion joint system of approved make and manufacture for various roof locations as per approved drawings and direction of Engineer-In-Charge. The joints shall be of extruded aluminum base members with, self aligning and self centering arragement support plates as per ASTM B221-02. The system shall be such that it provides water tight roof to roof /roof to corner joint cover expansion control system that is capable of accommodating multidirectional seismic movement without stress to its components. System shall consist of metal profile that incorporates a universal aluminum base member designed to						

	accommodate various project conditions and roof treatments. The cover plate shall be designed of width and thickness required to satisfy movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self-centering arrangement that freely rotates / moves in all directions. The Self centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement. The Joint System shall resists damage or deterioration from the impact of falling ice, exposure to UV, airborne contaminants and occasional foot traffic from maintenance personnel. Provision of Moisture Barrier Membrane in the Joint System to have water tight joint is mandatory requirement. (Material shall confirm to ASTM 6063.)					-	
	Roof Joint of 100 mm gap	5.46.1	8.54	RM	5424.20	46,322.67	
D	**Masonry Work**						
21	Half brick masonry 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.**Cement mortar 1:4 (1 cement :4 coarse sand)**	6.13.2	410.19	SQM	1018.05	417,593.93	
22	Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.	6.15	410.19	SQM	86.45	35,460.93	
23	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in superstructure above plinth level up to floor V level in : **Cement mortar 1:6 (1 cement : 6 coarse sand)**	6.34.2	297.06	CUM	7676.30	2,280,321.68	
24	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in foundation and plinth in : **Cement mortar 1:6 (1 cement : 6 coarse sand)**	6.1.2	32.15	CUM	6658.25	214,062.74	
E	**Cladding Work**						
	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.	8.2					
	Granite stone slab colour black, Cherry/Ruby red	8.2.2					
25	Area of slab upto 0.50 sqm	8.2.2.1	1.40	SQM	4679.35	6,551.09	
26	Area of slab over 0.50 sqm	8.2.2.2	8.32	SQM	4425.35	36,818.91	
27	Providing edge moulding to 18mm thick marble stone counters, Vanities etc. including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.	8.3					
	Granite work	8.3.2	13.88	RM	418.85	5,813.64	
28	Extra for fixing marble /granite stone over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive including cleaning etc. complete.	8.4	13.88	RM	475.55	6,600.63	

29	Extra for providing opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/Granite/stone work including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	8.5	4.00	NO	808.15	3,232.60	
30	Providing and fixing Ist quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	8.31	700.88	SQM	1063.45	745,350.84	
F	**Wood and PVC Work**						
31	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	9.21.1	179.30	SQM	2015.75	361,423.98	
32	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	9.23	179.30	SQM	401.40	71,971.02	
33	Extra for cutting rebate in flush door shutters (Total area of the shutter to be measured).	9.26	63.38	SQM	93.65	5,935.54	
34	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete. Fixed to steel windows by welding.	9.48.1	7420.56	KG	181.00	1,343,121.36	
35	Providing and fixing oxidised M.S. casement stays (straight peg type) with necessary screws etc. complete.	9.68					
(i)	300 mm weighing not less than 200 gms	9.68.1	264.00	NOS	59.25	15,642.00	
(ii)	250 mm weighing not less than 150 gms	9.68.2	49.00	NOS	51.90	2,543.10	
36	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete. Twin rubber stopper	9.101.2	158.00	NOS	62.25	9,835.50	
37	Providing and fixing factory made door frame (single rebate) made out of single piece extruded solid PVC foam profile with homogenous fine cellular structure having smooth outer integral skin having 62 mm width & 32 mm thickness, frame will be mitred & Jointed with self driven self tapping screws of size 38 mm x 4 mm & PVC solvent cement, including fixing the frame to wall with suitable dia & length anchor fastener as per manufacturer's specification and direction of Engineer-in-charge.	9.123	284.40	RM	481.85	137,038.14	
38	Providing and fixing PVC rigid foam sheet 1 mm thick on existing door shutters (bathroom and W.C. doors) using synthetic rubber based adhesive.	9.125	90.30	SQM	1293.05	116,762.42	

39	Providing and fixing wire gauge shutters using stainless steel grade 304 wire gauge with wire of dia 0.5 mm and average width of aperture 1.4 mm in both directions for doors, windows and clerestory windows with necessary screws : 30 mm thick shutters With ISI marked stainless steel butt hinges of required size Kiln seasoned and chemically treated hollock wood	9.134.2.2.2	53.76	SQM	3124.15	167,954.30	
40	Providing and fixing fly proof stainless steel grade 304 wire gauge, to windows and clerestory windows using wire gauge with average width of aperture 1.4 mm in both directions with wire of dia. 0.50 mm all complete**.With 12 mm mild steel U beading**	9.135.2	213.21	SQM	1051.75	224,243.62	
41	Providing and fixing 6mm thick both sides Pre-laminated cement bonded wood particle board as per IS : 15786:2008 of approved brand and shade with suitable full threaded steel screws etc. on the backing of racks, drawer, cupboard, kitchen cabinet under kitchen counter etc. all complete as per direction of Engineer in-charge.	9.167	28.20	SQM	902.55	25,451.91	
						-	
42	Providing and fixing cupboard shutter with 19mm thick one side decorative and other side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand including 2mm thick PVC edge banding tape with hot glue by edge bending machine etc. with auto closing spring loaded hinges (hydraulic type) etc. complete as per direction of Engineer in-charge.(Payment of providing and fixing auto closing hinges shall be paid separately)	9.168	28.20	SQM	2563.75	72,297.75	
						-	
43	Providing and fixing 19mm thick both side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand boxes,shelves,racks,almirah, cupboard and drawer etc. including necessary nails,screws etc. complete as per direction of Engineer-in-charge.	9.169	77.48	SQM	2339.60	181,272.21	
						-	
44	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge. **200 mm**	9.170.1	32.00	Nos.	153.15	4,900.80	
45	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge. **100 mm for Kitchen Cabinets**	Analysis	16.00	Nos.	80.00	1,280.00	
46	Providing and fixing stainless steel soft closing spring hinges at 0 degree hinges (hydraulic type) of approved make/brand to cupboard shutters with full threaded steel screws including making necessary recess in board and finished etc. complete as per direction of Engineer-in-charge	9.171	96.00	Nos.	226.75	21,768.00	

47	Providing and fixing bright /matt finished Stainless Steel handles of approved quality & make with necessary screws etc all complete. (a) 125 mm.	9.165.1	316.00	NOS	100.45	31,742.20	
48	Providing & fixing Stainless steel sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with nuts and screws etc complete. (a) 250mm x 16mm .	M.R.	116.00	NOS	560.00		64,960.00
49	Providing and fixing stainless steel towerbolts (barrel type) with necessary screws etc. complete.						
(i)	300 x 10mm	M.R.	116.00	NOS	448.00		51,968.00
(ii)	150 x 10mm	M.R.	116.00	NOS	392.00		45,472.00
G	**Steel Work**						
50	Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side /top /centre hung, with beading and all members such as F7D, F4B, K11 B and K12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design, (sectional weight of only steel members shall be measured for payment). Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).	10.11.1	3837.78	KG	175.65	674,106.06	
51	Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size	10.13.1	1277.40	KG	114.65	146,453.91	
52	Providing and fixing M.S. Tubular frames for doors, windows, ventilators and cupboard with rectangular/ L-Type sections, made of 1.60 mm thick M.S. Sheet, joints mitred, welded and grinded finish, with profiles of required size, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer. Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	10.15.1	6485.48	Kg	146.55	950,447.09	
53	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	10.25.2	4875.580	KG	142.30	693,795.03	
54	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer.M.S. tube	10.26.1	162.340	kg	157.15	25,511.73	

55	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge.	10.28	216.000	KG	612.25	132,246.00	
56	Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with : 4.0 mm thick glass panes.	10.30.1	337.36	SQM	940.30	317,219.61	
57	Providing and fixing 1mm thick M.S. sheet for cupboard with frame of 40x40x6 mm angle iron and 3 mm M.S. gusset plates at the junctions and corners, all necessary fittings complete, including finishing with epoxy paint (Two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.	As per quotatio	57.60	SQM	8400.00		483,840.00
H	**Flooring**						
58	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete. 40 mm thick with 20 mm nominal size stone aggregate	11.3.1	311.040	SQM	545.00	169,516.80	
59	Chequerred precast cement concrete tiles 22 mm thick in footpath & courtyard, jointed with neat cement slurry mixed with pigment to match the shade of tiles, including rubbing and cleaning etc. complete, on 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand). **Medium shade pigment using 50% white cement 50% Grey cement**	11.20.2	21.600	SQM	1160.00	25,056.00	
60	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : **25 mm thick**	11.26.1	1187.47	SQM	1706.60	2,026,536.30	
61	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	11.27	162.01	SQM	2038.55	330,265.49	

62	Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily.Glazed Vitrified tiles **Matt/Antiskid** finish of size **Size of Tile 600 x 600 mm**	11.41A.3.1	196.92	SQM	1311.05	258,171.97	
63	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joints with white cement and matching pigments etc., complete. **Size of Tile 600x600 mm**	11.41.2	169.16	SQM	1416.65	239,640.51	
64	Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joint with white cement & matching pigments etc. complete. **Size of Tile 600x600 mm**	11.46.2	20.88	SQM	1466.50	30,620.52	
65	Providing and laying 60mm thick faciory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with line sand etc. all complete as per the direction of Engineer-in-charge.	16.68	120.31	SQM	951.00	114,414.81	
66	P & laying cement concrete	analysis	20.820	SQM	1188.75	24,749.78	
I	**Finishing**						
67	15 mm cement plaster on the rough side of single or half brick wall of mix : 1:6 (1 cement: 6 coarse sand)	13.5.2	2161.44	SQM	339.10	732,944.30	
68	12mm cement plaster in single coat on fair side of single or half brick wall for exterior plastering up to floor two level including internal rounded angles chamfers, and/or rounded angles not exceeding 80mm in girth and finished even and smooth no extra for mixing any additive. 1:6 (1 cement: 6 coarse sand)	13.4.2	2817.81	SQM	294.35	829,422.37	
69	6 mm cement plaster on celling (a) 1:3(1 cement:3 fine sand)	13.16.1	2242.82	SQM	253.05	567,545.60	
70	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer.	13.41.1	5060.63	SQM	162.55	822,605.41	
71	Finishing walls with textured exterior paint of required shade: New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm	13.45.1	864.576	SQM	245.00	211,821.12	

72	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade. New work (Two or more coats applied @ 1.43 ltr/ 10 sqm. over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm).	13.47.1	1296.86	SQM	162.35	210,545.87	
	Steel Painting: Applying priming coat:						
73	With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	13.50.1	638.38	SQM	61.45	39,228.45	
74	With ready mixed red oxide zink chromate primer of approved brand and manufacture on steel galvanised iron/steel works.	13.50.3	766.60	SQM	55.50	42,546.30	
75	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade: Two or more coats on new work.	13.61.1	1404.98	SQM	131.45	184,684.62	
76	Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade : Two or more coats on new work	13.65.1	37.96	SQM	115.10	4,369.20	
77	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	13.80	2242.82	SQM	123.85	277,773.26	
J	**Water Proofing**						
78	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying : a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm. This layer will be allowed to air cure for 4 hours. b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.	22.5	285.21	SQM	516.60	147,339.49	
79	Painting top of roofs with bitumen of approved quality @ 17kg per 10 sqm impregnated with a coat of coarse sand at 60 cudm per 10 sqm, including cleaning the slab surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil complete :With residual type petroleum bitumen of grade VG -10	12.15.1	580.13	SQM	133.15	77,244.31	

80	Supply & Fixing of Prepainted coloured Trapezoidal or approved profiled Sheeting 1000-1020 mm cover width, 28-30 mm high crests with subtle square fluting in the five pan at nominal 190-255 mm (as approved by EIC) centre-to-centre manufactured out of 0.50 mm TCT hi-tensile prepainted Zincalume /Galvalume steel (AZ-150 gsm. Aluminium –Zinc alloy metallic coating of total both sides 550 MPa yield stress as per AS-1397). Colour/ Exterior coat of RMP 20 micron top coat applied over 5 micron primer and a 5 micron polyester back coat applied over 5 microns primer OR equivalent coating/painting. The sheet shall have wide pans with stiffening ribs for effective water shedding and special male/female ends with full return legs on side laps for purlin support. The male end of the sheet shall have anti-capillary flute at side laps to prevent leakages. The sheet shall be fixed by means of anti corrosive approved make "Rust Shield" (Epoxy Polymer) coated self-drilling self tapping fasteners 12-14 X 55 mm with EPDM seals through crest for roofing and 12-24 X 20 mm through valley (pans) for wall cladding. The sheet shall be supplied in lengths maximum up to 6-12 meter long to suit site dimensions. The scope includes all sealing of joint, curves, edges or other accessories with silicon sealant.	MR	580.13	SQM	1060.00		614,937.80
81	Providing and filling of cinder in sunken portions.	M.R.	57.99	CUM	2240.00		129,897.60
82	2.1 Mt Ht. Boundary Wall	Analysis	37.32	RM	12942.06	482,997.68	
					TOTAL	**43,556,469.12**	**1,391,075.40**
					Say in lacs	**435.56**	**13.91**

SUMMARY SHEET OF PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)			
1.00 BOY'S DORMITORY WITH 4 NOS. WARDEN RESIDENCE (G+3)			
Sl.No.	Name of Work	TOTAL AMOUNT (IN RS.)	
		DSR-2022	MR
I	SUB HEAD - I: CIRCUIT CUM POINT WIRING	3,088,276.00	388,161.34
II	SUBHEAD -II - FITTINGS & FIXTURES	305,760.00	663,000.07
III	SUBHEAD - III - DISTRIBUTION BOARDS	554,638.00	-
IV	SUB HEAD-IV , LIGHTNING CONDUCTOR	150,661.00	-
	TOTAL	4,099,335.00	1,051,161.41
	Say in lacs	40.99	10.51

CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)								
Detailed Estimate for ELECTRICAL Works 1.00 BOYS DORMITORY WITH 4 NOS. WARDEN RESIDENCE								
S.No.	**DSR-2022/NSI**	**Description**	**Unit**	**Qty**	**Rate**		**Amount**	
					DSR-2022	**NSI**	**DSR-2022**	**NSI**
		SUB HEAD - I: CIRCUIT CUM POINT WIRING						
		SWITCH CONTROL LIGHT POINTS						
1	**DSR 1.10**	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	**DSR 1.10.3**	Group C	Point	486	1,467.00		712,962	
2	**DSR-1.55**	**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 **PVC conduit**, **and earthing the point with 1.5 sq. mm** FRLS PVC insulated **copper conductor single core cable** etc as required. **(Switch Control Secondary Points)**	Point	78	858.00		66,924	
2.1	**DSR-1.55.3**	Group C						
3	**DSR-1.3**	**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 **steel 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. **(Switch Control Primary Points)**						
3.1	**DSR-1.3.3**	Group C	Point	0	1,845.00		-	
4	**DSR-1.54**	**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. **(Switch Control Secondary Points)**						
4.1	**DSR-1.54.3**	Group C	Point	0	1,094.00		-	
		MCB CONTROL LIGHT POINTS						
5	**NSI-1**	**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 **steel 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. **(Switch Control Primary Points)**						
5.1	**NSI-1.1**	**Primary point controlled by one MCB.**	Point	16		1,523.13		24,370
5.2	**NSI-1.2**	Same as item above but **Secondary point**. i.e. Points to be looped with Primary point with 2.5 sqmm wire and Point wiring	Point	16		1,354.89		21,678
6	**DSR 1.5**	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	825	433.00		357,225	
7	**DSR 1.7**	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.						
7.1	**DSR 1.7.1**	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Metre	20	327.00		6,540	
7.2	**DSR 1.7.2**	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	2230	369.00		822,870	
7.3	**DSR 1.7.4**	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	450	589.00		265,050	
7.4	**DSR 1.7.5**	2 x 10 sq. mm + 1 x 10 sq.mm earth wire	Metre	0	710.00		-	
7.5	**DSR 1.7.10**	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	140	1,166.00		163,240	

7.6	**DSR 1.7.11**	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	380	1,645.00		625,100	
8	**DSR 1.31**	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 Amp modular socket outlet and 5/6 A modular switch, connection etc. as required.	Each	36	477.00		17,172	
9	**NSI-2**	Supply and Wiring for 250 volts single phase and neutral 2 Nos 6 amps socket outlate with control by 1 No switched with 2.5 sq.mm PVC insulated copper conductor 1100 volts grade stranded flexible FRLS wires in concealed or surface mounted 25 mm dia 2mm thick PVC conduit including providing and fixing of 6 amps 3 pin switch socket outlet of aprpoved make and design in 2 mm thick GI box with grid plate and earthing of third pin of the socket with 2.5 Sq. mm PVC insulated copper conductor stranded flexible FRLS wire.(maximum four no. of switches socket shall be connected on one circuit)	Each	192		1,782		342,113
10	**DSR 1.32**	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 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	Each	52	586.00		30,472.00	
11	**NSI-3**	Supplying and fixing 63 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 63 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		11,284.98		-
12	**NSI-4**	Supplying and fixing 80 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 80 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		17,343.23		-
13	**DSR-1.33**	Supplying and fixing **3 pin, 5 A ceiling rose** on the existing junction box/ wooden block including connections etc. as required.	Each	37	87		3,219.00	
14	**DSR-1.57**	Supplying & fixing suitable size GI box wih modular plate and cover in front on surface or in recess i/c providing and fixing 25 amp modular socket outlet and 25 Amps modular SP MCB, “C” curve including connection, painting etc. as required. (AC's & Gysers)	Each	20	727		14,540.00	
15	**DSR 1.24**	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.						
15.1	**DSR 1.24.6**	Telephone socket outlet	Nos	4	148.00		592.00	
16	**DSR 1.27**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
16.1	**DSR 1.27.1**	1 or 2 Module (75mmX75mm)	Nos	0	298.00		-	
16.2	**DSR 1.27.4**	6 module (78mm X 205 mm X 50 mm)	Nos	0	402.00		-	
17	**DSR 1.24**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
17.1	**DSR 1.24.4**	3 pin , 5/6 amps socket outlet	Each	0	122.00		-	
17.1	**DSR 1.24.1**	5/6 amps switch	Each	0	103.00		-	
18	**DSR 1.21**	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.						
18.1	**DSR 1.21.2**	25 mm	Mtr	10	145.00		1,450.00	
18.2	**DSR 1.21.3**	32 mm	Mtr	5	184.00		920.00	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - I					**3,088,276.00**	**388,161.34**
		SUBHEAD -II - FITTINGS & FIXTURES						
1	**NSI-1**	Supply, Installation, Testing and Commissioning of 10 W Bulk head Light.	Each	0		1,158.20		-

2	**NSI-2**	Supply, Installation, Testing and Commissioning of 5W Mirror Light.	Each	0		445.46		-
3	**NSI-3**	Supply, Installation, Testing and Commissioning of 18W Surface/Recessed Mounted LED circular Downlighter.	Each	240		1,470.02		352,804.07
4	**NSI-4**	Supply, Installation, Testing and Commissioning of 18/20W Wall/Surface mouted 4 ft. LED	Each	16		1,336.38		21,382.06
5	**NSI-5**	Supply, Installation, Testing and Commissioning of 15W Surface mounted LED Square Downlighter.	Each	82		1,380.93		113,235.85
6	**NSI-6**	Supply, Installation, Testing and Commissioning of 150 W CHANDELIER	Each	0		89,091.94		-
7	**NSI-7**	Supply, Installation, Testing and Commissioning of 12/9W Recessed mounted LED circular Downlighter.	Each	81		1,069.10		86,597.36
8	**NSI-8**	Supply, Installation, Testing and Commissioning of 9W (Nominal) Wall Bracket Light	Each	24		222.73		5,345.52
9	**DSR 19.1**	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019),THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	Each	112	2,730.00		305,760.00	-
10	**NSI-9**	Supply Installation, Testing and Commissioning of 250 mm dia Domestic Exhaust Fan	Each	37		2,260.41		83,635.20
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - II					**305,760.00**	**663,000.07**
		SUBHEAD - III - DISTRIBUTION BOARDS						
1	**DSR 2.3**	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)						
1.1	**DSR 2.3.1**	6 way, Double door	Each	0	2206		-	
1.2	**DSR 2.3.2**	8 way, Double door	Each	0	2573		-	
1.3	**DSR 2.3.3**	12 way, Double door	Each	0	2315		-	
2	**DSR 2.4**	Supplying and fixing following way, three pole and neutral, sheet steel, MCB distribution board, 415 volts, on surface/ recess complete with tinned copper busbar, neutral busbar, earth bar, din bar, detachable gland plate, interconnections, phosphatized and powder painted including earthing etc. as required. (But without MCB/ RCCB/ Isolator)						
2.1	**DSR 2.4.1**	4 way (4 + 12), Double door	Each	0	4,091.00		-	
2.2	**DSR 2.4.2**	6 way (4 + 18), Double door	Each	0	4,974.00		-	
2.3	**DSR 2.4.3**	8 way (4 + 24), Double door	Each	4	5,967.00		23,868.00	
3	**DSR 2.5**	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note :Vertical type MCB TPDB is normally used where 3 phase outlets are required.)						
3.1	**DSR 2.5.3**	12 way (4 + 36), Double door	Each	16	12833		205,328.00	
4	**DSR 2.10**	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "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.						
4.1	**2.10.1**	Single Pole	Each	552	256		141,312.00	
4.2	**2.10.2**	Single Pole Neutral	Each	0	599		-	

5	**DSR 2.12**	Supplying and fixing following rating, double pole, 240 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
5.1	**DSR 2.12.1**	40 A	Each	0	435		-	
5.2	**DSR 2.12.2**	63 A	Each	0	527		-	
6	**DSR 2.13**	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
6.1	**DSR 2.13.1**	25 A	Each	0	970		-	
6.1	**DSR 2.13.1**	40 A	Each	0	970		-	
6.2	**DSR 2.13.2**	63 A	Each	20	1034		20,680.00	
7	**DSR 2.14**	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
7.1	**DSR 2.14.1**	25 A	Each	0	2028		-	
7.2	**DSR 2.14.2**	40 A	Each	0	2642		-	
7.3	**DSR 2.14.3**	63 A	Each	60	2722		163,320.00	
8	**DSR 2.11**	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	10	13		130.00	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - III					**554,638.00**	**-**
VI		**SUB HEAD-IV , LIGHTNING CONDUCTOR**						
		LIGHTNING CONDUCTOR						
1	6.2	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required.	Each	6.0	518.00		3,108.00	
2	6.3	Fixing of lightning conductor finial (single prong) with base plate including holes etc. complete as required.	Each	6.0	360.00		2,160.00	
3	6.4	Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required.	Metre	15.0	113.00		1,695.00	
4	6.7	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)	Metre	250.0	126.00		31,500.00	
5	6.8	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	60.0	197.00		11,820.00	
6	6.10	Fixing of copper/ G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	30.0	162.00		4,860.00	
7	6.12	Providing and fixing testing joint, made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 nos. of G.I. bolts, nuts, chuck nuts and spring washers etc. complete as required.	Each	62.0	121.00		7,502.00	
8	5.4	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 metre long etc. with charcoal/ coke and salt as required. Details of cost for one Set	Each	8.0	7,472.00		59,776.00	
9	5.11	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.	Metre	40.0	706.00		28,240.00	
		TOTAL SUB HEAD (VI)					**150,661.00**	

DETAILED ESTIMATE OF CONSTRUCTION OF PHASE-A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT COOCHBEHAR (WB)

ABSTRACT OF COST

0.50 BOY'S DORMITORY WITH 2 NOS. WARDEN RESIDENCE (G+3) Plus 2 Nos. of Type III

S.N.	DESCRIPTION OF ITEM	DSR-2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
A	**Earth Work**						
1	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	2.8.1	250.30	CUM	286.85	71,798.56	
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 upto 50 m and lift upto 1.5 m.	2.25	150.18	CUM	253.95	38,138.21	
3	Supplying and filling in plinth with sand under floors, including watering, ramming,consolidating and dressing complete.	2.27	20.72	CUM	2161.20	44,780.06	
4	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.	2.25a	47.43	CUM	368.65	17,485.07	
B	**Concrete Work**						
5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	4.1.10	46.79	CUM	6050.65	283,109.91	
6	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 12.5mm nominal size derived from natural sources)	4.10	32.19	SQM	370.85	11,937.66	
7	Providing & applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	4.13	32.19	SQM	113.85	3,664.83	
8	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand,including necessary excavation,levelling & dressing & finishing the top smooth.	4.17	66.950	SQM	681.65	45,636.47	
9	Brick edging in full brick width and half brick depth including excavation, refilling and disposal of surplus earth lead upto 50 metres. With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	16.7.1	111.59	RM	179.50	20,030.41	
C	**Reinforced Cement Concrete**						
10	Centering and shuttering including strutting, propping etc. and removal of form for all heights :						

(a)	Foundations, footings, bases of columns, etc. for mass concrete.	5.9.1	224.50	SQM	307.95	69,134.78	
(b)	Suspended floors, roofs, landings, balconies and access platform.	5.9.3	1462.34	SQM	766.55	1,120,956.73	
(c)	Lintels, beams, plinth beams, girders, bressumers	5.9.5	914.93	SQM	608.35	556,597.67	
(d)	Columns,Pillars, Piers, Abutments, Posts and Struts.	5.9.6	759.78	SQM	804.25	611,053.07	
(e)	Edges of slabs and breaks in floors and walls Under 20 cm wide.	5.9.16.1	1828.15	RM	181.90	332,540.49	
11	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.	5.22.6	380.74	QTL.	8965.00	3,413,334.10	
12	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete a**bove plinth level.** Thermo-Mechanically Treated bars of grade Fe-500 D or more.	5.22.A.6	336.32	QTL.	8965.00	3,015,108.80	
	PILES						
13	Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry a safe working load not less than specified,excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by percussion drilling using Direct mud circulation (DMC) or Bailer and chisel technique by tripod and mechanical Winch Machine all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap). Note: Truck Mounted rotary/TMR/Tubewell boring machine shall not be used **.** **450 mm dia piles**	20.2.1	1930.50	RM	1916.40	3,699,610.20	
	Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform by Kentledge/Anchor piles method and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer in-charge. Note: 1. Initial and Routine Load Test shall not be carried out by Dynamic method of testing. Note: 2. Testing agency shall submit the design of loading platform for the approval of Engineer-in-charge.	20.6					
	Group of two or more piles upto 50 tonne Safe capacity	20.6.3				-	
14	Initial test (Test Load 2.5 times the Safe capacity)	20.6.3.1	2.00	per test	66227.90	132,455.80	
15	Routine test (Test Load 1.5 times the Safe capacity)	20.6.3.2	8.00	per test	38131.20	305,049.60	
16	Add for plaster drip course/ groove in plastered surface or moulding to R.C.C. projections.	5.30	869.72	RM	64.70	56,270.88	

17	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. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.	5.33					
(I)	**All works upto plinth level**	5.33.1					
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.1.1					
	(i) R.C.C. work in Footing	5.33.1.1	136.76	CUM	8683.80	1,187,596.49	
	(ii) R.C.C. work in Beam	5.33.1.1	19.71	CUM	8683.80	171,157.70	
	(iii) R.C.C. work in Columns	5.33.1.1	3.06	CUM	8683.80	26,572.43	
(II)	**All works above plinth level upto floor V level**	5.33.2					
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.2.1					
	(i) R.C.C. work in Lintel	5.33.2.1	2.38	CUM	10306.20	24,528.76	
	(ii) R.C.C. work in Beam	5.33.2.1	59.32	CUM	10306.20	611,363.78	
	(iii) R.C.C. work in Columns	5.33.2.1	61.04	CUM	10306.20	629,090.45	
	(iv) R.C.C. work in Slab	5.33.2.1	184.90	CUM	10306.20	1,905,616.38	
	Expansion Joint Treatment						

18	Providing and fixing of expansion joint system related with floor location as per drawings and direction of Engineer-In-Charge. The joints system will be of extruded aluminum base members, self aligning / self centering arrangement and support plates etc. as per ASTM B221-02. The system shall be such that it provides floor to floor /floor to wall expansion control system for various vertical localtion in load application areas that commodates multi directional seismic movement without stress to it's components. System shall consist of metal profiles with a universal aluminum base member designed to accommodate various project conditions and finish floor treatments. The cover plate shall be designed of width and thickness required to satisfy projects movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self- centering arrangement that freely rotates / moves in all directions. The Self - centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement. Provision of Moisture Barrier Membrane in the Joint System to have watertight joint is mandatory requirement all as per the manufactures design and as approved by Engineer -in- Charge. (Material shall confirm to ASTM 6063).	5.44				-	
	Floor Joint of 100 mm gap	5.44.1	4.80	RM	5800.15	27,840.72	
19	Providing and fixing of expansion joint system related with wall joint (internal/ external) location as per drawings and direction of Engineer-In- Charge. The joints shall be of extruded aluminum base members, self aligning / centering arrangement and support plates as per ASTM B221- 02. The material shall be such that it provides an Expansion Joints System suitable for vertical wall to wall/ wall to corner application, both new and existing construction in office Buildings & complexes with no slipping down tendency amongst the components of the Joint System. The Joint System shall utilize light weight aluminum profiles exhibiting minimal exposed aluminum surfaces mechanically snap locking the multicellular to facilitate movement. (Material shall confirm to ASTM 6063).	5.45					
	Wall Joint of 100 mm gap	5.45.1	24.00	RM	4835.50	116,052.00	
20	Providing and fixing of expansion joint system of approved make and manufacture for various roof locations as per approved drawings and direction of Engineer-In-Charge. The joints shall be of extruded aluminum base members with, self aligning and self centering arragement support plates as per ASTM B221-02. The system shall be such that it provides water tight roof to roof /roof to corner joint cover expansion control system that is capable of accommodating multidirectional seismic movement without stress to its components. System shall consist of metal profile that incorporates a universal aluminum base member designed to						

	accommodate various project conditions and roof treatments. The cover plate shall be designed of width and thickness required to satisfy movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self-centering arrangement that freely rotates / moves in all directions. The Self centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement. The Joint System shall resists damage or deterioration from the impact of falling ice, exposure to UV, airborne contaminants and occasional foot traffic from maintenance personnel. Provision of Moisture Barrier Membrane in the Joint System to have water tight joint is mandatory requirement. (Material shall confirm to ASTM 6063.)					-	
	Roof Joint of 100 mm gap	5.46.1	6.45	RM	5424.20	34,986.09	
D	**Masonry Work**						
21	Half brick masonry 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.**Cement mortar 1:4 (1 cement :4 coarse sand)**	6.13.2	274.11	SQM	1018.05	279,057.69	
22	Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.	6.15	274.11	SQM	86.45	23,696.81	
23	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in superstructure above plinth level up to floor V level in : **Cement mortar 1:6 (1 cement : 6 coarse sand)**	6.34.2	230.42	CUM	7676.30	1,768,773.05	
24	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in foundation and plinth in : **Cement mortar 1:6 (1 cement : 6 coarse sand)**	6.1.2	29.09	CUM	6658.25	193,688.49	
E	**Cladding Work**						
	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.	8.2					
	Granite stone slab colour black, Cherry/Ruby red	8.2.2					
25	Area of slab upto 0.50 sqm	8.2.2.1	1.40	SQM	4679.35	6,551.09	
26	Area of slab over 0.50 sqm	8.2.2.2	8.32	SQM	4425.35	36,818.91	
27	Providing edge moulding to 18mm thick marble stone counters, Vanities etc. including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.	8.3					
	Granite work	8.3.2	13.88	RM	418.85	5,813.64	
28	Extra for fixing marble /granite stone over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive including cleaning etc. complete.	8.4	13.88	RM	475.55	6,600.63	

29	Extra for providing opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/Granite/stone work including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	8.5	4.00	NO	808.15	3,232.60	
30	Providing and fixing Ist quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	8.31	528.68	SQM	1063.45	562,224.75	
F	**Wood and PVC Work**						
31	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	9.21.1	115.82	SQM	2015.75	233,464.17	
32	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	9.23	115.82	SQM	401.40	46,490.15	
33	Extra for cutting rebate in flush door shutters (Total area of the shutter to be measured).	9.26	37.70	SQM	93.65	3,530.61	
34	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete. Fixed to steel windows by welding.	9.48.1	4638.70	KG	181.00	839,604.70	
35	Providing and fixing oxidised M.S. casement stays (straight peg type) with necessary screws etc. complete.	9.68					
(i)	300 mm weighing not less than 200 gms	9.68.1	156.00	NOS	59.25	9,243.00	
(ii)	250 mm weighing not less than 150 gms	9.68.2	29.00	NOS	51.90	1,505.10	
36	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete. Twin rubber stopper	9.101.2	96.00	NOS	62.25	5,976.00	
37	Providing and fixing factory made door frame (single rebate) made out of single piece extruded solid PVC foam profile with homogenous fine cellular structure having smooth outer integral skin having 62 mm width & 32 mm thickness, frame will be mitred & Jointed with self driven self tapping screws of size 38 mm x 4 mm & PVC solvent cement, including fixing the frame to wall with suitable dia & length anchor fastener as per manufacturer's specification and direction of Engineer-in-charge.	9.123	165.60	RM	481.85	79,794.36	
38	Providing and fixing PVC rigid foam sheet 1 mm thick on existing door shutters (bathroom and W.C. doors) using synthetic rubber based adhesive.	9.125	52.50	SQM	1293.05	67,885.13	

39	Providing and fixing wire gauge shutters using stainless steel grade 304 wire gauge with wire of dia 0.5 mm and average width of aperture 1.4 mm in both directions for doors, windows and clerestory windows with necessary screws : 30 mm thick shutters With ISI marked stainless steel butt hinges of required size Kiln seasoned and chemically treated hollock wood	9.134.2.2.2	31.08	SQM	3124.15	97,098.58	
40	Providing and fixing fly proof stainless steel grade 304 wire gauge, to windows and clerestory windows using wire gauge with average width of aperture 1.4 mm in both directions with wire of dia. 0.50 mm all complete**.With 12 mm mild steel U beading**	9.135.2	127.17	SQM	1051.75	133,751.05	
41	Providing and fixing 6mm thick both sides Pre-laminated cement bonded wood particle board as per IS : 15786:2008 of approved brand and shade with suitable full threaded steel screws etc. on the backing of racks, drawer, cupboard, kitchen cabinet under kitchen counter etc. all complete as per direction of Engineer in-charge.	9.167	28.20	SQM	902.55	25,451.91	
						-	
42	Providing and fixing cupboard shutter with 19mm thick one side decorative and other side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand including 2mm thick PVC edge banding tape with hot glue by edge bending machine etc. with auto closing spring loaded hinges (hydraulic type) etc. complete as per direction of Engineer in-charge.(Payment of providing and fixing auto closing hinges shall be paid separately)	9.168	28.20	SQM	2563.75	72,297.75	
						-	
43	Providing and fixing 19mm thick both side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand boxes,shelves,racks,almirah, cupboard and drawer etc. including necessary nails,screws etc. complete as per direction of Engineer-in-charge.	9.169	77.48	SQM	2339.60	181,272.21	
						-	
44	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge. **200 mm**	9.170.1	32.00	Nos.	153.15	4,900.80	
45	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge. **100 mm for Kitchen Cabinets**	Analysis	16.00	Nos.	80.00	1,280.00	
46	Providing and fixing stainless steel soft closing spring hinges at 0 degree hinges (hydraulic type) of approved make/brand to cupboard shutters with full threaded steel screws including making necessary recess in board and finished etc. complete as per direction of Engineer-in-charge	9.171	96.00	Nos.	226.75	21,768.00	

47	Providing and fixing bright /matt finished Stainless Steel handles of approved quality & make with necessary screws etc all complete. (a) 125 mm.	9.165.1	192.00	NOS	100.45	19,286.40	
48	Providing & fixing Stainless steel sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with nuts and screws etc complete. (a) 250mm x 16mm .	M.R.	73.00	NOS	560.00		40,880.00
49	Providing and fixing stainless steel towerbolts (barrel type) with necessary screws etc. complete.						
(i)	300 x 10mm	M.R.	73.00	NOS	448.00		32,704.00
(ii)	150 x 10mm	M.R.	73.00	NOS	392.00		28,616.00
G	**Steel Work**						
50	Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side /top /centre hung, with beading and all members such as F7D, F4B, K11 B and K12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design, (sectional weight of only steel members shall be measured for payment). Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).	10.11.1	2289.06	KG	175.65	402,073.39	
51	Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size	10.13.1	842.70	KG	114.65	96,615.56	
52	Providing and fixing M.S. Tubular frames for doors, windows, ventilators and cupboard with rectangular/ L-Type sections, made of 1.60 mm thick M.S. Sheet, joints mitred, welded and grinded finish, with profiles of required size, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer. Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	10.15.1	4031.14	Kg	146.55	590,763.57	
53	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	10.25.2	3818.930	KG	142.30	543,433.74	
54	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer.M.S. tube	10.26.1	231.910	kg	157.15	36,444.66	

55	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge.	10.28	216.000	KG	612.25	132,246.00	
56	Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with : 4.0 mm thick glass panes.	10.30.1	210.86	SQM	940.30	198,271.66	
57	Providing and fixing 1mm thick M.S. sheet for cupboard with frame of 40x40x6 mm angle iron and 3 mm M.S. gusset plates at the junctions and corners, all necessary fittings complete, including finishing with epoxy paint (Two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.	s per quotatio	28.80	SQM	8400.00		241,920.00
H	**Flooring**						
58	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete. 40 mm thick with 20 mm nominal size stone aggregate	11.3.1	155.520	SQM	545.00	84,758.40	
59	Chequerred precast cement concrete tiles 22 mm thick in footpath & courtyard, jointed with neat cement slurry mixed with pigment to match the shade of tiles, including rubbing and cleaning etc. complete, on 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand). **Medium shade pigment using 50% white cement 50% Grey cement**	11.20.2	21.600	SQM	1160.00	25,056.00	
60	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : **25 mm thick**	11.26.1	681.21	SQM	1706.60	1,162,552.99	
61	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	11.27	127.91	SQM	2038.55	260,750.93	

62	Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily.Glazed Vitrified tiles **Matt/Antiskid** finish of size **Size of Tile 600 x 600 mm**	11.41A.3.1	111.92	SQM	1311.05	146,732.72	
63	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joints with white cement and matching pigments etc., complete. **Size of Tile 600x600 mm**	11.41.2	169.16	SQM	1416.65	239,640.51	
64	Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joint with white cement & matching pigments etc. complete. **Size of Tile 600x600 mm**	11.46.2	20.88	SQM	1466.50	30,620.52	
65	Providing and laying 60mm thick faciory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with line sand etc. all complete as per the direction of Engineer-in-charge.	16.68	123.18	SQM	951.00	117,144.18	
66	P & laying cement concrete	analysis	10.410	SQM	1188.75	12,374.89	
I	**Finishing**						
67	15 mm cement plaster on the rough side of single or half brick wall of mix : 1:6 (1 cement: 6 coarse sand)	13.5.2	1364.56	SQM	339.10	462,722.30	
68	12mm cement plaster in single coat on fair side of single or half brick wall for exterior plastering up to floor two level including internal rounded angles chamfers, and/or rounded angles not exceeding 80mm in girth and finished even and smooth no extra for mixing any additive. 1:6 (1 cement: 6 coarse sand)	13.4.2	1656.27	SQM	294.35	487,523.07	
69	6 mm cement plaster on celling (a) 1:3(1 cement:3 fine sand)	13.16.1	1462.34	SQM	253.05	370,045.14	
70	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer.	13.41.1	3118.61	SQM	162.55	506,930.06	
71	Finishing walls with textured exterior paint of required shade: New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm	13.45.1	272.912	SQM	245.00	66,863.44	

72	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade. New work (Two or more coats applied @ 1.43 ltr/ 10 sqm. over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm).	13.47.1	1091.65	SQM	162.35	177,229.05	
	Steel Painting: Applying priming coat:						
73	With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	13.50.1	494.99	SQM	61.45	30,417.14	
74	With ready mixed red oxide zink chromate primer of approved brand and manufacture on steel galvanised iron/steel works.	13.50.3	495.26	SQM	55.50	27,486.93	
75	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade: Two or more coats on new work.	13.61.1	990.25	SQM	131.45	130,168.36	
76	Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade : Two or more coats on new work	13.65.1	37.96	SQM	115.10	4,369.20	
77	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	13.80	1462.34	SQM	123.85	181,110.81	
J	**Water Proofing**						
78	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying : a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm. This layer will be allowed to air cure for 4 hours. b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.	22.5	157.14	SQM	516.60	81,178.52	
79	Painting top of roofs with bitumen of approved quality @ 17kg per 10 sqm impregnated with a coat of coarse sand at 60 cudm per 10 sqm, including cleaning the slab surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil complete :With residual type petroleum bitumen of grade VG -10	12.15.1	411.80	SQM	133.15	54,831.17	

80	Supply & Fixing of Prepainted coloured Trapezoidal or approved profiled Sheeting 1000-1020 mm cover width, 28-30 mm high crests with subtle square fluting in the five pan at nominal 190-255 mm (as approved by EIC) centre-to-centre manufactured out of 0.50 mm TCT hi-tensile prepainted Zincalume /Galvalume steel (AZ-150 gsm. Aluminium –Zinc alloy metallic coating of total both sides 550 MPa yield stress as per AS-1397). Colour/ Exterior coat of RMP 20 micron top coat applied over 5 micron primer and a 5 micron polyester back coat applied over 5 microns primer OR equivalent coating/painting. The sheet shall have wide pans with stiffening ribs for effective water shedding and special male/female ends with full return legs on side laps for purlin support. The male end of the sheet shall have anti-capillary flute at side laps to prevent leakages. The sheet shall be fixed by means of anti corrosive approved make "Rust Shield" (Epoxy Polymer) coated self-drilling self tapping fasteners 12-14 X 55 mm with EPDM seals through crest for roofing and 12-24 X 20 mm through valley (pans) for wall cladding. The sheet shall be supplied in lengths maximum up to 6-12 meter long to suit site dimensions. The scope includes all sealing of joint, curves, edges or other accessories with silicon sealant.	MR	411.80	SQM	1060.00		436,508.00
81	Providing and filling of cinder in sunken portions.	M.R.	31.20	CUM	2240.00		69,888.00
82	2.1 Mt Ht. Boundary Wall	Analysis	27.69	RM	12942.06	358,365.64	
					TOTAL	**30,333,276.22**	**850,516.00**
					Say in lacs	**303.33**	**8.51**

SUMMARY SHEET OF PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)			
0.50 BOY'S DORMITORY WITH 2 NOS. WARDEN RESIDENCE (G+3) Plus 2 Nos. of Type III)			
Sl.No.	**Name of Work**	**TOTAL AMOUNT (IN RS.)**	
		DSR-2022	**MR**
I	**SUB HEAD - I: CIRCUIT CUM POINT WIRING**	**2,237,939.00**	**205,592.74**
II	**SUBHEAD -II - FITTINGS & FIXTURES**	**174,720.00**	**369,757.52**
III	**SUBHEAD - III - DISTRIBUTION BOARDS**	**316,934.00**	**-**
IV	**SUB HEAD-IV , LIGHTNING CONDUCTOR**	**150,661.00**	**-**
	TOTAL	**2,880,254.00**	**575,350.27**
	Say in Lacs	**28.80**	**5.75**

PROJECT :- PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)								
Detailed Estimate for ELECTRICAL Works 0.50 BOYS DORMITORY WITH 2 NOS. WARDEN RESIDENCE (G+3) Plus 2 Nos. of Type III								
S.No.	DSR-2022/NSI	Description	Unit	Qty	Rate		Amount	
					DSR-2022	NSI	DSR-2022	NSI
		SUB HEAD - I: CIRCUIT CUM POINT WIRING						
		SWITCH CONTROL LIGHT POINTS						
1	**DSR 1.10**	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	**DSR 1.10.3**	Group C	Point	294	1,467.00		431,298	
2	**DSR-1.55**	**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 **PVC conduit, and earthing the point with 1.5 sq. mm** FRLS PVC insulated **copper conductor single core cable** etc as required. **(Switch Control Secondary Points)**	Point	24	858.00		20,592	
2.1	**DSR-1.55.3**	Group C						
3	**DSR-1.3**	**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 **steel 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. **(Switch Control Primary Points)**						
3.1	**DSR-1.3.3**	Group C	Point	0	1,845.00		-	
4	**DSR-1.54**	**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. **(Switch Control Secondary Points)**						
4.1	**DSR-1.54.3**	Group C	Point	0	1,094.00		-	
		MCB CONTROL LIGHT POINTS						
5	**NSI-1**	**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 **steel 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. **(Switch Control Primary Points)**						
5.1	**NSI-1.1**	**Primary point controlled by one MCB.**	Point	12		1,523.13		18,278
5.2	**NSI-1.2**	Same as item above but **Secondary point**. i.e. Points to be looped with Primary point with 2.5 sqmm wire and Point wiring	Point	12		1,354.89		16,259
6	**DSR 1.5**	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	550	433.00		238,150	

7	**DSR 1.7**	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.						
7.1	**DSR 1.7.1**	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Metre	20	327.00		6,540	
7.2	**DSR 1.7.2**	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	1550	369.00		571,950	
7.3	**DSR 1.7.4**	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	450	589.00		265,050	
7.4	**DSR 1.7.5**	2 x 10 sq. mm + 1 x 10 sq.mm earth wire	Metre	0	710.00		-	
7.5	**DSR 1.7.10**	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	160	1,166.00		186,560	
7.6	**DSR 1.7.11**	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	280	1,645.00		460,600	
8	**DSR 1.31**	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 Amp modular socket outlet and 5/6 A modular switch, connection etc. as required.	Each	24	477.00		11,448	
9	**NSI-2**	Supply and Wiring for 250 volts single phase and neutral 2 Nos 6 amps socket outlate with control by 1 No switched with 2.5 sq.mm PVC insulated copper conductor 1100 volts grade stranded flexible FRLS wires in concealed or surface mounted 25 mm dia 2mm thick PVC conduit including providing and fixing of 6 amps 3 pin switch socket outlet of aprpoved make and design in 2 mm thick GI box with grid plate and earthing of third pin of the socket with 2.5 Sq. mm PVC insulated copper conductor stranded flexible FRLS wire.(maximum four no. of switches socket shall be connected on one circuit)	Each	96		1,782		171,057
10	**DSR 1.32**	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 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	Each	40	586.00		23,440.00	
11	**NSI-3**	Supplying and fixing 63 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 63 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		11,284.98		-
12	**NSI-4**	Supplying and fixing 80 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 80 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		17,343.23		-
13	**DSR-1.33**	Supplying and fixing **3 pin, 5 A ceiling rose** on the existing junction box/ wooden block including connections etc. as required.	Each	25	87		2,175.00	
14	**DSR-1.57**	Supplying & fixing suitable size GI box wih modular plate and cover in front on surface or in recess i/c providing and fixing 25 amp modular socket outlet and 25 Amps modular SP MCB, "C" curve including connection, painting etc. as required. (AC's & Gysers)	Each	20	727		14,540.00	
15	**DSR 1.24**	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.						
15.1	**DSR 1.24.6**	Telephone socket outlet	Nos	12	148.00		1,776.00	
16	**DSR 1.27**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
16.1	**DSR 1.27.1**	1 or 2 Module (75mmX75mm)	Nos	0	298.00		-	
16.2	**DSR 1.27.4**	6 module (78mm X 205 mm X 50 mm)	Nos	0	402.00		-	

17	**DSR 1.24**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
17.1	**DSR 1.24.4**	3 pin , 5/6 amps socket outlet	Each	0	122.00		-	
17.1	**DSR 1.24.1**	5/6 amps switch	Each	0	103.00		-	
18	**DSR 1.21**	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.						
18.1	**DSR 1.21.2**	25 mm	Mtr	20	145.00		2,900.00	
18.2	**DSR 1.21.3**	32 mm	Mtr	5	184.00		920.00	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - I					**2,237,939.00**	**205,592.74**
		SUBHEAD -II - FITTINGS & FIXTURES						
1	**NSI-1**	Supply, Installation, Testing and Commissioning of 10 W Bulk head Light.	Each	0		1,158.20		-
2	**NSI-2**	Supply, Installation, Testing and Commissioning of 5W Mirror Light.	Each	0		445.46		-
3	**NSI-3**	Supply, Installation, Testing and Commissioning of 18W Surface/Recessed Mounted LED circular Downlighter.	Each	120		1,470.02		176,402.04
4	**NSI-4**	Supply, Installation, Testing and Commissioning of 18/20W Wall/Surface mouted 4 ft. LED	Each	16		1,336.38		21,382.06
5	**NSI-5**	Supply, Installation, Testing and Commissioning of 15W Surface mounted LED Square Downlighter.	Each	48		1,380.93		66,284.40
6	**NSI-6**	Supply, Installation, Testing and Commissioning of 150 W CHANDELIER	Each	0		89,091.94		-
7	**NSI-7**	Supply, Installation, Testing and Commissioning of 12/9W Recessed mounted LED circular Downlighter.	Each	41		1,069.10		43,833.23
8	**NSI-8**	Supply, Installation, Testing and Commissioning of 9W (Nominal) Wall Bracket Light	Each	24		222.73		5,345.52
9	**DSR 1.21**	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019),THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	Each	64	2,730.00		174,720.00	-
10	**NSI-9**	Supply Installation, Testing and Commissioning of 250 mm dia Domestic Exhaust Fan	Each	25		2,260.41		56,510.27
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - II					**174,720.00**	**369,757.52**
		SUBHEAD - III - DISTRIBUTION BOARDS						
1	**DSR 2.3**	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)						

1.1	**DSR 2.3.1**	6 way, Double door	Each	0	2206		-	
1.2	**DSR 2.3.2**	8 way, Double door	Each	0	2573		-	
1.3	**DSR 2.3.3**	12 way, Double door	Each	0	2315		-	
2	**DSR 2.4**	Supplying and fixing following way, three pole and neutral, sheet steel, MCB distribution board, 415 volts, on surface/ recess complete with tinned copper busbar, neutral busbar, earth bar, din bar, detachable gland plate, interconnections, phosphatized and powder painted including earthing etc. as required. (But without MCB/ RCCB/ Isolator)						
2.1	**DSR 2.4.1**	4 way (4 + 12), Double door	Each	0	4,091.00		-	
2.2	**DSR 2.4.2**	6 way (4 + 18), Double door	Each	0	4,974.00		-	
2.3	**DSR 2.4.3**	8 way (4 + 24), Double door	Each	4	5,967.00		23,868.00	
3	**DSR 2.5**	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note :Vertical type MCB TPDB is normally used where 3 phase outlets are required.)						
3.1	**DSR 2.5.3**	12 way (4 + 36), Double door	Each	8	12833		102,664.00	
4	**DSR 2.10**	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "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.						
4.1	**2.10.1**	Single Pole	Each	312	256		79,872.00	
4.2	**2.10.2**	Single Pole Neutral	Each	0	599		-	
5	**DSR 2.12**	Supplying and fixing following rating, double pole, 240 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
5.1	**DSR 2.12.1**	40 A	Each	0	435		-	
5.2	**DSR 2.12.2**	63 A	Each	0	527		-	
6	**DSR 2.13**	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
6.1	**DSR 2.13.1**	25 A	Each	0	970		-	
6.1	**DSR 2.13.1**	40 A	Each	0	970		-	
6.2	**DSR 2.13.2**	63 A	Each	12	1034		12,408.00	
7	**DSR 2.14**	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
7.1	**DSR 2.14.1**	25 A	Each	0	2028		-	
7.2	**DSR 2.14.2**	40 A	Each	0	2642		-	
7.3	**DSR 2.14.3**	63 A	Each	36	2722		97,992.00	
8	**DSR 2.11**	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	10	13		130.00	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - III					**316,934.00**	**-**
VI		**SUB HEAD-IV , LIGHTNING CONDUCTOR**						
		LIGHTNING CONDUCTOR						
1	6.2	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required.	Each	6.0	518.00		3,108.00	

2	6.3	Fixing of lightning conductor finial (single prong) with base plate including holes etc. complete as required.	Each	6.0	360.00		2,160.00	
3	6.4	Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required.	Metre	15.0	113.00		1,695.00	
4	6.7	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)	Metre	250.0	126.00		31,500.00	
5	6.8	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	60.0	197.00		11,820.00	
6	6.10	Fixing of copper/ G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	30.0	162.00		4,860.00	
7	6.12	Providing and fixing testing joint, made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 nos. of G.I. bolts, nuts, chuck nuts and spring washers etc. complete as required.	Each	62.0	121.00		7,502.00	
8	5.4	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 metre long etc. with charcoal/ coke and salt as required. Details of cost for one Set	Each	8.0	7,472.00		59,776.00	
9	5.11	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.	Metre	40.0	706.00		28,240.00	
		TOTAL SUB HEAD (VI)					**150,661.00**	

Cost for Bunk Bed 48 Nos.

S.NO.	DSR-2021	DESCRIPTION OF ITEM	QTY	UNIT	Rate	Amount
1	analysis	18 mm thick block board with commercial ply veneering on both side	77.76	sqm	1036.91	80,630.12
2	13.62.1	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	77.76	sqm	191.40	14,883.26
3	10.16.1	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete. Hot finished seamless type tubes MS Frame	3145.92	KG	168.95	531,503.18
4	13.52.1	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.On steel work	110.400	SQM	201.7	22,267.68
					Total	649,284.25
					Say in lacs	**6.49**

PROPOSED CONSTRUCTION OF PHASE-A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT COOCHBEHAR (W.B.)
ABSTRACT OF COST
[1.0 GIRL'S DORMITORY HALL WITH 4NOS. WARDEN RESIDENCE] (G+3)

S.N.	DESCRIPTION OF ITEM	DSR-2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
A	**Earth Work**						
1	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	2.8.1	368.88	CUM	286.85	105,813.23	
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 upto 50 m and lift upto 1.5 m.	2.25	258.22	CUM	253.95	65,574.97	
3	Supplying and filling in plinth with sand under floors, including watering, ramming,consolidating and dressing complete.	2.27	46.61	CUM	2161.20	100,733.53	
4	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.	2.25a	126.20	CUM	368.65	46,523.63	
B	**Concrete Work**						
5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:5:10 (1 cement : 5 coarse sand (zoneIII)derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	4.1.10	86.19	CUM	6050.65	521,505.52	
6	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 12.5mm nominal size derived from natural sources)	4.10	55.48	SQM	370.85	20,574.76	
7	Providing & applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	4.13	55.48	SQM	113.85	6,316.40	
8	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand,including necessary excavation,levelling & dressing & finishing the top smooth.	4.17	107.290	SQM	681.65	73,134.23	
9	Brick edging in full brick width and half brick depth including excavation, refilling and disposal of surplus earth lead upto 50 metres. With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	16.7.1	178.82	RM	179.50	32,098.19	
C	**Reinforced Cement Concrete**						
10	Centering and shuttering including strutting, propping etc. and removal of form for all heights :						
(a)	Foundations, footings, bases of columns, etc. for mass concrete.	5.9.1	381.97	SQM	307.95	117,627.66	
(b)	Suspended floors, roofs, landings, balconies and access platform.	5.9.3	2320.38	SQM	766.55	1,778,687.29	

(c)	Lintels, beams, plinth beams, girders, bressumers	5.9.5	1454.26	SQM	608.35	884,699.07	
(d)	Columns,Pillars, Piers, Abutments, Posts and Struts.	5.9.6	1101.60	SQM	804.25	885,961.80	
(e)	Edges of slabs and breaks in floors and walls Under 20 cm wide.	5.9.16.1	1799.58	RM	181.90	327,343.60	
11	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.	5.22.6	591.91	QTL.	8965.00	5,306,473.15	
12	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete a**bove plinth level.** Thermo-Mechanically Treated bars of grade Fe-500 D or more.	5.22.A.6	570.01	QTL.	8965.00	5,110,139.65	
	PILES						
13	Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by percussion drilling using Direct mud circulation (DMC) or Bailer and chisel technique by tripod and mechanical Winch Machine all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap). Note: Truck Mounted rotary/TMR/Tubewell boring machine shall not be used **. 450 mm dia piles**	20.2.1	2997.00	RM	1916.40	5,743,450.80	
	Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform by Kentledge/Anchor piles method and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer in-charge. Note: 1. Initial and Routine Load Test shall not be carried out by Dynamic method of testing. Note: 2. Testing agency shall submit the design of loading platform for the approval of Engineer-in-charge.	20.6					
	Group of two or more piles upto 50 tonne Safe capacity	20.6.3				-	
14	Initial test (Test Load 2.5 times the Safe capacity)	20.6.3.1	4.00	per test	66227.90	264,911.60	
15	Routine test (Test Load 1.5 times the Safe capacity)	20.6.3.2	12.00	per test	38131.20	457,574.40	
16	Add for plaster drip course/ groove in plastered surface or moulding to R.C.C. projections.	5.30	1282.48	RM	64.70	82,976.46	

17	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. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.	5.33					
(I)	**All works upto plinth level**	5.33.1					
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.1.1					
	(i) R.C.C. work in Footing	5.33.1.1	204.68	CUM	8683.80	1,777,400.18	
	(ii) R.C.C. work in Beam	5.33.1.1	30.67	CUM	8683.80	266,332.15	
	(iii) R.C.C. work in Columns	5.33.1.1	4.64	CUM	8683.80	40,292.83	
(II)	**All works above plinth level upto floor V level**	5.33.2					
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.2.1					
	(i) R.C.C. work in Lintel	5.33.2.1	5.26	CUM	10306.20	54,210.61	
	(ii) R.C.C. work in Beam	5.33.2.1	91.95	CUM	10306.20	947,655.09	
	(iii) R.C.C. work in Columns	5.33.2.1	91.26	CUM	10306.20	940,543.81	
	(iv) R.C.C. work in Slab	5.33.2.1	308.81	CUM	10306.20	3,182,657.62	
	Expansion Joint Treatment						
18	Providing and fixing of expansion joint system related with floor location as per drawings and direction of Engineer-In-Charge. The joints system will be of extruded aluminum base members, self aligning / self centering arrangement and support plates etc. as per ASTM B221-02. The system shall be such that it provides floor to floor /floor to wall expansion control system for various vertical localtion in load application areas that commodates multi directional seismic movement without stress to it's components. System shall consist of metal profiles with a universal aluminum base member designed to accommodate various project conditions and finish floor treatments. The cover plate shall be designed of width and thickness required to satisfy projects movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self- centering arrangement that freely rotates / moves in all directions. The Self - centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement. Provision of Moisture Barrier Membrane in the Joint System to have watertight joint is mandatory requirement all as per the manufactures design and as approved by Engineer -in- Charge. (Material shall confirm to ASTM 6063).	5.44				-	
	Floor Joint of 100 mm gap	5.44.1	4.80	RM	5800.15	27,840.72	

19	Providing and fixing of expansion joint system related with wall joint (internal/ external) location as per drawings and direction of Engineer-In- Charge. The joints shall be of extruded aluminum base members, self aligning / centering arrangement and support plates as per ASTM B221- 02. The material shall be such that it provides an Expansion Joints System suitable for vertical wall to wall/ wall to corner application, both new and existing construction in office Buildings & complexes with no slipping down tendency amongst the components of the Joint System. The Joint System shall utilize light weight aluminum profiles exhibiting minimal exposed aluminum surfaces mechanically snap locking the multicellular to facilitate movement. (Material shall confirm to ASTM 6063).	5.45					
	Wall Joint of 100 mm gap	5.45.1	25.47	RM	4835.50	123,160.19	
20	Providing and fixing of expansion joint system of approved make and manufacture for various roof locations as per approved drawings and direction of Engineer-In-Charge. The joints shall be of extruded aluminum base members with, self aligning and self centering arragement support plates as per ASTM B221-02. The system shall be such that it provides water tight roof to roof /roof to corner joint cover expansion control system that is capable of accommodating multidirectional seismic movement without stress to its components. System shall consist of metal profile that incorporates a universal aluminum base member designed to						
	accommodate various project conditions and roof treatments. The cover plate shall be designed of width and thickness required to satisfy movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self-centering arrangement that freely rotates / moves in all directions. The Self centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement. The Joint System shall resists damage or deterioration from the impact of falling ice, exposure to UV, airborne contaminants and occasional foot traffic from maintenance personnel. Provision of Moisture Barrier Membrane in the Joint System to have water tight joint is mandatory requirement. (Material shall confirm to ASTM 6063.)					-	
	Roof Joint of 100 mm gap	5.46.1	8.87	RM	5424.20	48,112.65	
D	**Masonry Work**						
21	Half brick masonry 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.**Cement mortar 1:4 (1 cement :4 coarse sand)**	6.13.2	531.56	SQM	1018.05	541,154.66	
22	Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.	6.15	531.56	SQM	86.45	45,953.36	
23	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in superstructure above plinth level up to floor V level in : **Cement mortar 1:6 (1 cement : 6 coarse sand)**	6.34.2	402.13	CUM	7676.30	3,086,870.52	
24	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in foundation and plinth in : **Cement mortar 1:6 (1 cement : 6 coarse sand)**	6.1.2	37.90	CUM	6658.25	252,347.68	

E	**Cladding Work**						
	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.	8.2					
	Granite stone slab colour black, Cherry/Ruby red	8.2.2					
25	Area of slab upto 0.50 sqm	8.2.2.1	1.40	SQM	4679.35	6,551.09	
26	Area of slab over 0.50 sqm	8.2.2.2	8.32	SQM	4425.35	36,818.91	
27	Providing edge moulding to 18mm thick marble stone counters, Vanities etc. including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.	8.3					
	Granite work	8.3.2	13.88	RM	418.85	5,813.64	
28	Extra for fixing marble /granite stone over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive including cleaning etc. complete.	8.4	13.88	RM	475.55	6,600.63	
29	Extra for providing opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/Granite/stone work including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	8.5	4.00	NO	808.15	3,232.60	
30	Providing and fixing Ist quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	8.31	924.44	SQM	1063.45	983,095.72	
F	**Wood and PVC Work**						
31	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	9.21.1	218.30	SQM	2015.75	440,038.23	
32	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	9.23	218.30	SQM	401.40	87,625.62	
33	Extra for cutting rebate in flush door shutters (Total area of the shutter to be measured).	9.26	60.38	SQM	93.65	5,654.59	
34	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete. Fixed to steel windows by welding.	9.48.1	7494.83	KG	181.00	1,356,564.23	
35	Providing and fixing oxidised M.S. casement stays (straight peg type) with necessary screws etc. complete.	9.68					
(i)	300 mm weighing not less than 200 gms	9.68.1	254.00	NOS	59.25	15,049.50	
(ii)	250 mm weighing not less than 150 gms	9.68.2	71.00	NOS	51.90	3,684.90	

36	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete. Twin rubber stopper	9.101.2	180.00	NOS	62.25	11,205.00	
37	Providing and fixing factory made door frame (single rebate) made out of single piece extruded solid PVC foam profile with homogenous fine cellular structure having smooth outer integral skin having 62 mm width & 32 mm thickness, frame will be mitred & Jointed with self driven self tapping screws of size 38 mm x 4 mm & PVC solvent cement, including fixing the frame to wall with suitable dia & length anchor fastener as per manufacturer's specification and direction of Engineer-in-charge.	9.123	421.20	RM	481.85	202,955.22	
38	Providing and fixing PVC rigid foam sheet 1 mm thick on existing door shutters (bathroom and W.C. doors) using synthetic rubber based adhesive.	9.125	132.30	SQM	1293.05	171,070.52	
39	Providing and fixing wire gauge shutters using stainless steel grade 304 wire gauge with wire of dia 0.5 mm and average width of aperture 1.4 mm in both directions for doors, windows and clerestory windows with necessary screws : 30 mm thick shutters With ISI marked stainless steel butt hinges of required size Kiln seasoned and chemically treated hollock wood	9.134.2.2.2	53.76	SQM	3124.15	167,954.30	
40	Providing and fixing fly proof stainless steel grade 304 wire gauge, to windows and clerestory windows using wire gauge with average width of aperture 1.4 mm in both directions with wire of dia. 0.50 mm all complete. **With 12 mm mild steel U beading**	9.135.2	215.67	SQM	1051.75	226,830.92	
41	Providing and fixing 6mm thick both sides Pre-laminated cement bonded wood particle board as per IS : 15786:2008 of approved brand and shade with suitable full threaded steel screws etc. on the backing of racks, drawer, cupboard, kitchen cabinet under kitchen counter etc. all complete as per direction of Engineer in-charge.	9.167	28.20	SQM	902.55	25,451.91	
						-	
42	Providing and fixing cupboard shutter with 19mm thick one side decorative and other side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand including 2mm thick PVC edge banding tape with hot glue by edge bending machine etc. with auto closing spring loaded hinges (hydraulic type) etc. complete as per direction of Engineer in-charge.(Payment of providing and fixing auto closing hinges shall be paid separately)	9.168	28.20	SQM	2563.75	72,297.75	
						-	
43	Providing and fixing 19mm thick both side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand boxes,shelves,racks,almirah, cupboard and drawer etc. including necessary nails,screws etc. complete as per direction of Engineer-in-charge.	9.169	77.48	SQM	2339.60	181,272.21	
						-	
44	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge. **200 mm**	9.170.1	32.00	Nos.	153.15	4,900.80	
45	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge. **100 mm for Kitchen Cabinets**	Analysis	16.00	Nos.	80.00	1,280.00	

46	Providing and fixing stainless steel soft closing spring hinges at 0 degree hinges (hydraulic type) of approved make/brand to cupboard shutters with full threaded steel screws including making necessary recess in board and finished etc. complete as per direction of Engineer-in-charge	9.171	96.00	Nos.	226.75	21,768.00	
47	Providing and fixing bright /matt finished Stainless Steel handles of approved quality & make with necessary screws etc all complete. (a) 125 mm.	9.165.1	344.00	NOS	100.45	34,554.80	
48	Providing & fixing Stainless steel sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with nuts and screws etc complete. (a) 250mm x 16mm .	M.R.	139.00	NOS	560.00		77,840.00
49	Providing and fixing stainless steel towerbolts (barrel type) with necessary screws etc. complete.						
(i)	300 x 10mm	M.R.	139.00	NOS	448.00		62,272.00
(ii)	200 x 10mm	M.R.	139.00	NOS	392.00		54,488.00
G	**Steel Work**						
50	Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side /top /centre hung, with beading and all members such as F7D, F4B, K11 B and K12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design, (sectional weight of only steel members shall be measured for payment). Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).	10.11.1	3882.06	KG	175.65	681,883.84	
51	Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size	10.13.1	1253.10	KG	114.65	143,667.92	
52	Providing and fixing M.S. Tubular frames for doors, windows, ventilators and cupboard with rectangular/ L-Type sections, made of 1.60 mm thick M.S. Sheet, joints mitred, welded and grinded finish, with profiles of required size, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer. Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	10.15	6586.72	Kg	146.55	965,283.82	
53	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	10.25.2	5309.49	Kg	142.30	755,540.43	
54	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer. M.S. tube	10.26.1	162.34	KG	157.15	25,511.73	

55	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge.	10.28	270.000	KG	612.25	165,307.50	
56	Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with : 4.0 mm thick glass panes.	10.30.1	340.73	SQM	940.30	320,388.42	
57	Providing and fixing 1mm thick M.S. sheet for cupboard with frame of 40x40x6 mm angle iron and 3 mm M.S. gusset plates at the junctions and corners, all necessary fittings complete, including finishing with epoxy paint (Two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.	As per quotation	57.60	SQM	8400.00		483,840.00
H	**Flooring**						
58	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete. 40 mm thick with 20 mm nominal size stone aggregate	11.3.1	311.040	SQM	545.00	169,516.80	
59	Chequerred precast cement concrete tiles 22 mm thick in footpath & courtyard, jointed with neat cement slurry mixed with pigment to match the shade of tiles, including rubbing and cleaning etc. complete, on 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand). **Medium shade pigment using 50% white cement 50% Grey cement**	11.20.2	21.600	SQM	1160.00	25,056.00	
60	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : **25 mm thick**	11.26.1	1147.20	SQM	1706.60	1,957,811.52	
61	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	11.27	157.46	SQM	2038.55	320,990.08	
62	Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily.Glazed Vitrified tiles **Matt/Antiskid** finish of size **Size of Tile 600 x 600 mm**	11.41A.3.1	301.64	SQM	1311.05	395,465.12	

63	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joints with white cement and matching pigments etc., complete. **Size of Tile 600x600 mm**	11.41.2	169.16	SQM	1416.65	239,640.51	
64	Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joint with white cement & matching pigments etc. complete. **Size of Tile 600x600 mm**	11.46.2	20.88	SQM	1466.50	30,620.52	
65	Providing and laying 60mm thick faciory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with line sand etc. all complete as per the direction of Engineer-in-charge.	16.68	152.62	SQM	951.00	145,141.62	
66	P & laying cement concrete	analysis	20.820	SQM	1188.75	24,749.78	
I	**Finishing**						
67	15 mm cement plaster on the rough side of single or half brick wall of mix : 1:6 (1 cement: 6 coarse sand)	13.5.2	2238.28	SQM	339.10	759,000.75	
68	12mm cement plaster in single coat on fair side of single or half brick wall for exterior plastering up to floor two level including internal rounded angles chamfers, and/or rounded angles not exceeding 80mm in girth and finished even and smooth no extra for mixing any additive. 1:6 (1 cement: 6 coarse sand)	13.4.2	2447.14	SQM	294.35	720,315.66	
69	6 mm cement plaster on celling (a) 1:3(1 cement:3 fine sand)	13.16.1	2392.11	SQM	253.05	605,323.44	
70	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer.	13.41.1	4839.25	SQM	162.55	786,620.09	
71	Finishing walls with textured exterior paint of required shade: New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm	13.45.1	447.656	SQM	245.00	109,675.72	
72	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade. New work (Two or more coats applied @ 1.43 ltr/ 10 sqm. over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm).	13.47.1	1790.62	SQM	162.35	290,707.16	
	Steel Painting: Applying priming coat:						
73	With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	13.50.1	641.95	SQM	61.45	39,447.83	
74	With ready mixed red oxide zink chromate primer of approved brand and manufacture on steel galvanised iron/steel works.	13.50.3	801.07	SQM	55.50	44,459.39	
75	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade: Two or more coats on new work.	13.61.1	1443.02	SQM	131.45	189,684.98	

76	Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade : Two or more coats on new work	13.65.1	77.48	SQM	115.10	8,917.95	
77	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	13.80	2392.11	SQM	123.85	296,262.82	
J	**Water Proofing**						
78	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying : a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm. This layer will be allowed to air cure for 4 hours. b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.	22.5	407.91	SQM	516.60	210726.31	
79	Painting top of roofs with bitumen of approved quality @ 17kg per 10 sqm impregnated with a coat of coarse sand at 60 cudm per 10 sqm, including cleaning the slab surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil complete :With residual type petroleum bitumen of grade VG -10	12.15.1	599.09	SQM	133.15	79,768.83	
80	Supply & Fixing of Prepainted coloured Trapezoidal or approved profiled Sheeting 1000-1020 mm cover width, 28-30 mm high crests with subtle square fluting in the five pan at nominal 190-255 mm (as approved by EIC) centre-to-centre manufactured out of 0.50 mm TCT hi-tensile prepainted Zincalume /Galvalume steel (AZ-150 gsm. Aluminium –Zinc alloy metallic coating of total both sides 550 MPa yield stress as per AS-1397). Colour/ Exterior coat of RMP 20 micron top coat applied over 5 micron primer and a 5 micron polyester back coat applied over 5 microns primer OR equivalent coating/painting. The sheet shall have wide pans with stiffening ribs for effective water shedding and special male/female ends with full return legs on side laps for purlin support. The male end of the sheet shall have anti-capillary flute at side laps to prevent leakages. The sheet shall be fixed by means of anti corrosive approved make "Rust Shield" (Epoxy Polymer) coated self-drilling self tapping fasteners 12-14 X 55 mm with EPDM seals through crest for roofing and 12-24 X 20 mm through valley (pans) for wall cladding. The sheet shall be supplied in lengths maximum up to 6-12 meter long to suit site dimensions. The scope includes all sealing of joint, curves, edges or other accessories with silicon sealant.	MR	599.09	SQM	1060.00		635,035.40
81	Providing and filling of cinder in sunken portions.	M.R.	59.88	CUM	2240.00		134,131.20
82	2.1 Mt high Boundary wall with concertina coil	Analysis	29.38	RM	13644.85	400,885.69	
83	2.1 Mt high Boundary wall	Analysis	17.60	RM	12942.06	227,780.26	
					TOTAL	**48,475,075.58**	**1,447,606.60**
					Say Rs. In Lacs	**484.75**	**14.48**

SUMMARY SHEET OF PROPOSED CONSTRUCTION OF PHASE - A & B WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)			
Girls Dormitory Electrical work			
Sl.No.	Name of Work	TOTAL AMOUNT (IN RS.)	
		DSR-2022	MR
I	SUB HEAD - I: CIRCUIT CUM POINT WIRING	3,253,109.00	388,161.34
II	SUBHEAD -II - FITTINGS & FIXTURES	305,760.00	645,718.61
III	SUBHEAD - III - DISTRIBUTION BOARDS	554,638.00	-
IV	SUB HEAD-IV , LIGHTNING CONDUCTOR	79,327.00	
	TOTAL	4,192,834.00	1,033,879.95
	Say in Lacs	41.93	10.34

PROJECT :- PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)								
Detailed Estimate for ELECTRICAL Works 1.00 GIRLS DORMITORY WITH 4 NOS. WARDEN RESIDENCE								
S.No.	DSR-2022/NSI	Description	Unit	Qty	Rate		Amount	
					DSR-2022	NSI	DSR-2022	NSI
		SUB HEAD - I: CIRCUIT CUM POINT WIRING						
		SWITCH CONTROL LIGHT POINTS						
1	**DSR 1.10**	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	**DSR 1.10.3**	Group C	Point	484	1,467.00		710,028	
2	**DSR-1.55**	**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 **PVC conduit**, **and earthing the point with 1.5 sq. mm** FRLS PVC insulated **copper conductor single core cable** etc as required. **(Switch Control Secondary Points)**	Point	78	858.00		66,924	
2.1	**DSR-1.55.3**	Group C						
3	**DSR-1.3**	**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 **steel 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. **(Switch Control Primary Points)**						
3.1	**DSR-1.3.3**	Group C	Point	0	1,845.00		-	
4	**DSR-1.54**	**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. **(Switch Control Secondary Points)**						
4.1	**DSR-1.54.3**	Group C	Point	0	1,094.00		-	
		MCB CONTROL LIGHT POINTS						
5	**NSI-1**	**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 **steel 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. **(Switch Control Primary Points)**						
5.1	**NSI-1.1**	**Primary point controlled by one MCB.**	Point	16		1,523.13		24,370
5.2	**NSI-1.2**	Same as item above but **Secondary point**. i.e. Points to be looped with Primary point with 2.5 sqmm wire and Point wiring	Point	16		1,354.89		21,678

6	**DSR 1.5**	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	850	433.00		368,050	
7	**DSR 1.7**	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.						
7.1	**DSR 1.7.1**	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Metre	20	327.00		6,540	
7.2	**DSR 1.7.2**	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	2250	369.00		830,250	
7.3	**DSR 1.7.4**	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	500	589.00		294,500	
7.4	**DSR 1.7.5**	2 x 10 sq. mm + 1 x 10 sq.mm earth wire	Metre	0	710.00		-	
7.5	**DSR 1.7.10**	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	160	1,166.00		186,560	
7.6	**DSR 1.7.11**	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	440	1,645.00		723,800	
8	**DSR 1.31**	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 Amp modular socket outlet and 5/6 A modular switch, connection etc. as required.	Each	32	477.00		15,264	
9	**NSI-2**	Supply and Wiring for 250 volts single phase and neutral 2 Nos 6 amps socket outlate with control by 1 No switched with 2.5 sq.mm PVC insulated copper conductor 1100 volts grade stranded flexible FRLS wires in concealed or surface mounted 25 mm dia 2mm thick PVC conduit including providing and fixing of 6 amps 3 pin switch socket outlet of aprpoved make and design in 2 mm thick GI box with grid plate and earthing of third pin of the socket with 2.5 Sq. mm PVC insulated copper conductor stranded flexible FRLS wire.(maximum four no. of switches socket shall be connected on one circuit)	Each	192		1,782		342,113
10	**DSR 1.32**	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 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	Each	52	586.00		30,472.00	
11	**NSI-3**	Supplying and fixing 63 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 63 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		11,284.98		-
12	**NSI-4**	Supplying and fixing 80 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 80 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		17,343.23		-
13	**DSR-1.33**	Supplying and fixing **3 pin, 5 A ceiling rose** on the existing junction box/ wooden block including connections etc. as required.	Each	37	87		3,219.00	
14	**DSR-1.57**	Supplying & fixing suitable size GI box wih modular plate and cover in front on surface or in recess i/c providing and fixing 25 amp modular socket outlet and 25 Amps modular SP MCB, “C” curve including connection, painting etc. as required. (AC's & Gysers)	Each	20	727		14,540.00	

15	**DSR 1.24**	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.						
15.1	**DSR 1.24.6**	Telephone socket outlet	Nos	4	148.00		592.00	
16	**DSR 1.27**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
16.1	**DSR 1.27.1**	1 or 2 Module (75mmX75mm)	Nos	0	298.00		-	
16.2	**DSR 1.27.4**	6 module (78mm X 205 mm X 50 mm)	Nos	0	402.00		-	
17	**DSR 1.24**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
17.1	**DSR 1.24.4**	3 pin , 5/6 amps socket outlet	Each	0	122.00		-	
17.1	**DSR 1.24.1**	5/6 amps switch	Each	0	103.00		-	
18	**DSR 1.21**	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.						
18.1	**DSR 1.21.2**	25 mm	Mtr	10	145.00		1,450.00	
18.2	**DSR 1.21.3**	32 mm	Mtr	5	184.00		920.00	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - I					**3,253,109.00**	**388,161.34**
		SUBHEAD -II - FITTINGS & FIXTURES						
1	**NSI-1**	Supply, Installation, Testing and Commissioning of 10 W Bulk head Light.	Each	0		1,158.20		-
2	**NSI-2**	Supply, Installation, Testing and Commissioning of 5W Mirror Light.	Each	0		445.46		-
3	**NSI-3**	Supply, Installation, Testing and Commissioning of 18W Surface/Recessed Mounted LED circular Downlighter.	Each	240		1,470.02		352,804.07
4	**NSI-4**	Supply, Installation, Testing and Commissioning of 18/20W Wall/Surface mouted 4 ft. LED	Each	16		1,336.38		21,382.06
5	**NSI-5**	Supply, Installation, Testing and Commissioning of 15W Surface mounted LED Square Downlighter.	Each	64		1,380.93		88,379.20
6	**NSI-6**	Supply, Installation, Testing and Commissioning of 150 W CHANDELIER	Each	0		89,091.94		-
7	**NSI-7**	Supply, Installation, Testing and Commissioning of 12/9W Recessed mounted LED circular Downlighter.	Each	105		1,069.10		112,255.84
8	**NSI-8**	Supply, Installation, Testing and Commissioning of 9W (Nominal) Wall Bracket Light	Each	24		222.73		5,345.52

9	**DSR 1.21**	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019),THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	Each	112	2,730.00		305,760.00	-
10	**NSI-9**	Supply Installation, Testing and Commissioning of 250 mm dia Domestic Exhaust Fan	Each	29		2,260.41		65,551.92
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - II					**305,760.00**	**645,718.61**
		SUBHEAD - III - DISTRIBUTION BOARDS						
1	**DSR 2.3**	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)						
1.1	**DSR 2.3.1**	6 way, Double door	Each	0	2206		-	
1.2	**DSR 2.3.2**	8 way, Double door	Each	0	2573		-	
1.3	**DSR 2.3.3**	12 way, Double door	Each	0	2315		-	
2	**DSR 2.4**	Supplying and fixing following way, three pole and neutral, sheet steel, MCB distribution board, 415 volts, on surface/ recess complete with tinned copper busbar, neutral busbar, earth bar, din bar, detachable gland plate, interconnections, phosphatized and powder painted including earthing etc. as required. (But without MCB/ RCCB/ Isolator)						
2.1	**DSR 2.4.1**	4 way (4 + 12), Double door	Each	0	4,091.00		-	
2.2	**DSR 2.4.2**	6 way (4 + 18), Double door	Each	0	4,974.00		-	
2.3	**DSR 2.4.3**	8 way (4 + 24), Double door	Each	4	5,967.00		23,868.00	
3	**DSR 2.5**	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note :Vertical type MCB TPDB is normally used where 3 phase outlets are required.)						
3.1	**DSR 2.5.3**	12 way (4 + 36), Double door	Each	16	12833		205,328.00	
4	**DSR 2.10**	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "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.						
4.1	**2.10.1**	Single Pole	Each	552	256		141,312.00	
4.2	**2.10.2**	Single Pole Neutral	Each	0	599		-	

5	**DSR 2.12**	Supplying and fixing following rating, double pole, 240 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
5.1	**DSR 2.12.1**	40 A	Each	0	435		-	
5.2	**DSR 2.12.2**	63 A	Each	0	527		-	
6	**DSR 2.13**	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
6.1	**DSR 2.13.1**	25 A	Each	0	970		-	
6.1	**DSR 2.13.1**	40 A	Each	0	970		-	
6.2	**DSR 2.13.2**	63 A	Each	20	1034		20,680.00	
7	**DSR 2.14**	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
7.1	**DSR 2.14.1**	25 A	Each	0	2028		-	
7.2	**DSR 2.14.2**	40 A	Each	0	2642		-	
7.3	**DSR 2.14.3**	63 A	Each	60	2722		163,320.00	
8	**DSR 2.11**	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	10	13		130.00	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - III					**554,638.00**	**-**
VI		**SUB HEAD-IV , LIGHTNING CONDUCTOR**						
		LIGHTNING CONDUCTOR						
1	6.2	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required.	Each	4.0	518.00		2,072.00	
2	6.3	Fixing of lightning conductor finial (single prong) with base plate including holes etc. complete as required.	Each	4.0	360.00		1,440.00	
3	6.4	Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required.	Metre	15.0	113.00		1,695.00	
4	6.7	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)	Metre	120.0	126.00		15,120.00	
5	6.8	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	40.0	197.00		7,880.00	
6	6.10	Fixing of copper/ G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	20.0	162.00		3,240.00	
7	6.12	Providing and fixing testing joint, made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 nos. of G.I. bolts, nuts, chuck nuts and spring washers etc. complete as required.	Each	32.0	121.00		3,872.00	

8	5.4	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 metre long etc. with charcoal/ coke and salt as required. Details of cost for one Set	Each	4.0	7,472.00		29,888.00	
9	5.11	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.	Metre	20.0	706.00		14,120.00	
		TOTAL SUB HEAD (VI)					**79,327.00**	

Cost for Bunk Bed 48 Nos.

S.NO.	DSR-2021	DESCRIPTION OF ITEM	QTY	UNIT	Rate	Amount
1	analysis	18 mm thick block board with commercial ply veneering on both side	77.76	sqm	1036.91	80,630.12
2	13.62.1	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	77.76	sqm	191.40	14,883.26
3	10.16.1	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete. Hot finished seamless type tubes MS Frame	3145.92	KG	168.95	531,503.18
4	13.52.1	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.On steel work	110.400	SQM	201.7	22,267.68
					Total	649,284.25
					Say in lacs	**6.49**

Detailed Estimate of Construction of Phase-A works at JNV Cooch Behar(WB)

ABSTRACT OF COST

[TYPE-5 PRINCIPAL RESIDENCE]

S.N.	DESCRIPTION OF ITEM	DSR 2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
A	**Earth Work**						
1	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.						
a.)	All kinds of soil	2.8.1	26.59	CUM	286.85	7,627.34	
						-	
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 upto 50 m and lift upto 1.5 m.	2.25	18.61	CUM	253.95	4,726.77	
						-	
3	Supplying and filling in plinth with sand under floors, including watering, ramming,consolidating and dressing complete.	2.27	7.01	CUM	2161.20	15,150.01	
						-	
4	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.	2.25a	27.14	CUM	368.65	10,005.16	
B	**Concrete Work**						
5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:5:10 (1 cement : 5 coarse sand (zoneIII)derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	4.1.10	12.84	CUM	6050.65	77,690.35	
						-	
6	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 12.5mm nominal size derived from natural sources)	4.10	11.84	SQM	370.85	4,390.86	
						-	
7	Providing & applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	4.13	11.84	SQM	113.85	1,347.98	
						-	
8	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand,including necessary excavation,levelling & dressing & finishing the top smooth.	4.17	34.545	SQM	681.65	23,547.60	
						-	
9	Brick edging in full brick width and half brick depth including excavation refilling and disposal of surplus earth lead upto 50 metres. With common burnt clay F.P.S.(non modulur) bricks of class designation 75	16.7.1	46.06	RM	179.50	8,267.77	
						-	
C	**Reinforced Cement Concrete**						
10	Centering and shuttering including strutting, propping etc. and removal of form for all heights :						
(a)	Foundations, footings, bases of columns, etc. for mass concrete.	5.9.1	39.95	SQM	307.95	12,302.60	
(b)	Suspended floors, roofs, landings, balconies and access platform.	5.9.3	132.87	SQM	766.55	101,851.50	
(c)	Lintels, beams, plinth beams, girders, bressumers	5.9.5	146.35	SQM	608.35	89,032.02	
(d)	Columns,Pillars, Piers, Abutments, Posts and Struts.	5.9.6	101.27	SQM	804.25	81,446.40	
(e)	Edges of slabs and breaks in floors and walls Under 20 cm wide.	5.9.16.1	48.58	RM	181.90	8,836.70	
11	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.	5.22.6	41.63	QTL.	8965.00	373,212.95	
12	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete a**bove plinth level.** Thermo-Mechanically Treated bars of grade Fe-500 D or more.	5.22.A.6	32.09	QTL.	8965.00	287,686.85	
	PILE WORK						
13	Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by percussion drilling using Direct mud circulation (DMC) or Bailer and chisel technique by tripod and mechanical Winch Machine all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap). Note: Truck Mounted rotary/TMR/Tubewell boring machine shall not be used . **450 mm dia piles**	**20.2.1**	189.000	metre	1916.40	362,199.60	

14	Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform by Kentledge/Anchor piles method and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer in-charge. Note: 1. Initial and Routine Load Test shall not be carried out by Dynamic method of testing. Note: 2. Testing agency shall submit the design of loading platform for the approval of Engineer-in-charge.	20.6					
	Single pile upto 50 tonne Safe capacity						
(i)	Initial test (Test Load 2.5 times the Safe capacity)	20.6.1.1	1.000	per test	51510.60	51,510.60	
(ii)	Routine test (Test Load 1.5 times the Safe capacity)	20.6.1.2	3.000	per test	18463.55	55,390.65	
15	**Group of two or more piles upto 50 tonne Safe capacity**						
(i)	Initial test (Test Load 2.5 times the Safe capacity)	20.6.3.1	1.000	per test	66227.90	66,227.90	
(ii)	Routine test (Test Load 1.5 times the Safe capacity)	20.6.3.2	1.000	per test	38131.20	38,131.20	
16	Add for plaster drip course/ groove in plastered surface or moulding to R.C.C. projections.	5.30	164.18	RM	64.70	10,622.45	
17	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. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.	5.33					
(I)	**All works upto plinth level**	5.33.1					
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.1.1					
	(i) R.C.C. work in Footing	5.33.1.1	7.73	CUM	8683.80	67,125.77	
	(ii) R.C.C. work in Beam	5.33.1.1	6.52	CUM	8683.80	56,618.38	
	(iii) R.C.C. work in Columns	5.33.1.1	0.86	CUM	8683.80	7,468.07	
(II)	**All works above plinth level upto floor V level**	5.33.2					
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.2.1					
	(i) R.C.C. work in Lintel	5.33.2.1	1.12	CUM	10306.20	11,542.94	
	(ii) R.C.C. work in Beam	5.33.2.1	5.97	CUM	10306.20	61,528.01	
	(iii) R.C.C. work in Columns	5.33.2.1	4.32	CUM	10306.20	44,522.78	
	(iv) R.C.C. work in Slab	5.33.2.1	17.02	CUM	10306.20	175,411.52	
D	**Masonry Work**					-	
18	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundations and plinth in : cement mortar 1:4 (1 cement : 4 coarse sand)	6.13.2	78.39	Sqm	1018.05	79,804.94	
19	Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.	6.15	78.39	SQM	86.45	6,776.82	
20	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in superstructure above plinth level up to floor V level in :	6.34					
	Cement mortar 1:6 (1 cement : 6 coarse sand)	6.34.2	21.71	CUM	7676.30	166,652.47	
21	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:Cement mortar 1:6 (1 cement : 6 coarse sand	6.1.2	8.69	CUM	6658.25	57,860.19	
E	**Cladding Work**						
	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.	8.2					
	Granite stone slab colour black, Cherry/Ruby red	8.2.2					
22	Area of slab upto 0.50 sqm	8.2.2.1	0.47	SQM	4679.35	2,178.24	
23	Area of slab over 0.50 sqm	8.2.2.2	2.71	SQM	4425.35	11,992.70	
24	Providing edge moulding to 18mm thick marble stone counters, Vanities etc. including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.	8.3					
	Granite work	8.3.2	4.66	RM	418.85	1,949.75	

25	Extra for fixing marble /granite stone over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive including cleaning etc. complete.	8.4	4.66	RM	475.55	2,213.69	
26	Extra for providing opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/Granite/stone work including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	8.5	1.00	NO	808.15	808.15	
27	Providing and fixing Ist quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	8.31	50.99	SQM	1063.45	54,225.32	
F	**Wood and PVC Work**						
28	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	9.21.1	16.92	SQM	2015.75	34,106.49	
29	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	9.23	16.92	SQM	401.40	6,791.69	
30	Extra for cutting rebate in flush door shutters (Total area of the shutter to be measured).	9.26	2.52	SQM	93.65	236.00	
31	P/F curtain rods of 1.25mm thick chromium plated brass plate, with two chromium plated brass brackets fixed with C.P. brass screws and wooden plugs etc. wherever necessary complete (a) 25 mm dia.	9.46.3	18.60	RM	482.30	8,970.78	
32	Providing and fixing oxidised M.S. casement stays (straight peg type) with necessary screws etc. complete.	9.68					
(i)	300 mm weighing not less than 200 gms	9.68.1	14.00	NOS	58.80	823.20	
(ii)	250 mm weighing not less than 150 gms	9.68.2	4.00	NOS	51.40	205.60	
33	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete. Twin rubber stopper	9.101.2	11.00	NOS	62.25	684.75	
						-	
34	Providing and fixing factory made door frame (single rebate) made out of single piece extruded solid PVC foam profile with homogenous fine cellular structure having smooth outer integral skin having 62 mm width & 32 mm thickness, frame will be mitred & Jointed with self driven self tapping screws of size 38 mm x 4 mm & PVC solvent cement, including fixing the frame to wall with suitable dia & length anchor fastener as per manufacturer's specification and direction of Engineer-in-charge.	9.123	14.85	RM	481.85	7,155.47	
35	Providing and fixing PVC rigid foam sheet 1 mm thick on existing door shutters (bathroom and W.C. doors) using synthetic rubber based adhesive.	9.125	4.73	SQM	1293.05	6,116.13	
36	Providing & Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt/ suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality. 1.0 mm thick	9.127.2	29.09	SQM	764.00	22,224.76	
37	Providing and fixing wire gauge shutters using stainless steel grade 304 wire gauge with wire of dia 0.5 mm and average width of aperture 1.4 mm in both directions for doors, windows and clerestory windows with necessary screws : **30 mm thick shutters With ISI marked stainless steel butt hinges of required size,** Kiln seasoned and chemically treated hollock wood	9.134.2.2.2	1.89	SQM	3124.15	5,904.64	
38	Providing and fixing fly proof stainless steel grade 304 wire gauge, to windows and clerestory windows using wire gauge with average width of aperture 1.4 mm in both directions with wire of dia. 0.50 mm all complete**.With 12 mm mild steel U beading**	9.135.2	12.93	SQM	1051.75	13,599.13	
39	Providing and fixing bright /matt finished Stainless Steel handles of approved quality & make with necessary screws etc all complete. (a) 125 mm.	9.165.1	22.00	NOS	100.45	2,209.90	
40	Providing & fixing Stainless steel sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with nuts and screws etc complete. (a) 250mm x 16mm .	M.R.	10.00	NOS	560.00		5,600.00
41	Providing and fixing stainless steel towerbolts (barrel type) with necessary screws etc. complete.						

	300 x 10mm	M.R.	10.00	NOS	448.00		4,480.00
	150 x 10mm	M.R.	10.00	NOS	392.00		3,920.00
42	Providing and fixing 6mm thick both sides Pre-laminated cement bonded wood particle board as per IS : 15786:2008 of approved brand and shade with suitable full threaded steel screws etc. on the backing of racks, drawer, cupboard, kitchen cabinet under kitchen counter etc. all complete as per direction of Engineer in-charge.	9.167	6.20	SQM	902.55	5595.81	
43	Providing and fixing cupboard shutter with 19mm thick one side decorative and other side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand including 2mm thick PVC edge banding tape with hot glue by edge bending machine etc. with auto closing spring loaded hinges (hydraulic type) etc. complete as per direction of Engineer in-charge.(Payment of providing and fixing auto closing hinges shall be paid separately)	9.168	6.20	SQM	2563.75	15895.25	
44	Providing and fixing 19mm thick both side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand boxes,shelves,racks,almirah, cupboard and drawer etc. including necessary nails,screws etc. complete as per direction of Engineer-in-charge.	9.169	23.74	SQM	2339.60	55542.10	
45	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge. 200 mm	9.170.1	8.00	Nos.	153.15	1225.20	
46	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge. **100 mm for Kitchen Cabinets**	Analysis	6.00	Nos.	80.00	480.00	
47	Providing and fixing stainless steel soft closing spring hinges at 0 degree hinges (hydraulic type) of approved make/brand to cupboard shutters with full threaded steel screws including making necessary recess in board and finished etc. complete as per direction of Engineer-in-charge	9.170.2	3.00	Nos.	226.75	680.25	
48	Providing and fixing stainless steel soft closing heavy type telescopic drawer channels of approved make 500 mm long with screws etc. complete as per directions of Engineer- in-charge	9.170.3	3.00	one set	749.70	2249.10	
	SS Hanging Rod for CB						
49	Providing and fixing **25 mm dia. SS pipe** Hanging rods with SS brackets :	Analysis	2.19	RM	348.00	762.12	
G	**Steel Work**						
50	Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side /top /centre hung, with beading and all members such as F7D, F4B, K11 B and K12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design, (sectional weight of only steel members shall be measured for payment). Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).	10.11.1	311.58	KG	175.65	54,729.03	
51	Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size	10.13.1	124.50	KG	114.65	14,273.93	
52	Providing and fixing M.S. Tubular frames for doors, windows, ventilators and cupboard with rectangular/ L-Type sections, made of 1.60 mm thick M.S. Sheet, joints mitred, welded and grinded finish, with profiles of required size, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer. Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	10.15.1	371.82	Kg	146.55	54,490.22	
53	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	10.25.2	75.60	Kg	142.30	10,757.88	
54	Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with : 4.0 mm thick glass panes.	10.30.1	18.15	SQM	940.30	17,066.45	
H	**Flooring**						

55	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : 25 mm thick	11.26.1	6.52	SQM	1706.60	11,127.03	
56	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	11.27	4.81	SQM	2038.55	9,805.43	
57	Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily.Glazed Vitrified tiles **Matt/Antiskid** finish of size **Size of Tile 600 x 600 mm**	11.41A.3	11.47	SQM	1311.05	15,037.74	
58	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joints with white cement and matching pigments etc., complete. Size of Tile 600x600 mm.	11.41.2	78.01	SQM	1416.65	110,512.87	
59	Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joint with white cement & matching pigments etc. complete. Size of Tile 600x600 mm	11.46.2	13.37	SQM	1466.50	19,601.24	
J	**Finishing**						
60	12mm cement plaster in single coat on fair side of single or half brick wall for exterior plastering up to floor two level including internal rounded angles chamfers, and/or rounded angles not exceeding 80mm in girth and finished even and smooth no extra for mixing any additive. 1:6 (1 cement: 6 coarse sand)	13.4.2	178.20	SQM	294.35	52,453.17	
61	15 mm cement plaster on the rough side of single or half brick wall of mix : 1:6 (1 cement: 6 coarse sand)	13.5.2	311.64	SQM	339.10	105,677.12	
62	6 mm cement plaster on celling (a) 1:3(1 cement:3 fine sand)	13.16.1	132.49	SQM	253.05	33,526.59	
63	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer.	13.41.1	444.13	SQM	162.55	72,193.33	
64	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade. New work (Two or more coats applied @ 1.43 ltr/ 10 sqm. over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm).	13.47.1	178.20	SQM	162.35	28,930.77	
	Applying priming coat:	13.50					
65	With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	13.50.1	58.03	SQM	61.45	3,565.94	
66	With ready mixed red oxide zink chromate primer of approved brand and manufacture on steel galvanised iron/steel works.	13.50.3	13.47	SQM	55.50	747.59	
67	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade:						
	Two or more coats on new work.	13.61.1	71.50	SQM	131.45	9,398.68	
68	Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade : Two or more coats on new work	13.65.1	18.96	SQM	115.10	2182.30	
69	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	13.80	622.33	SQM	123.85	77,075.57	
J	**Water Proofing**						
70	Painting top of roofs with bitumen of approved quality @ 17kg per 10 sqm impregnated with a coat of coarse sand at 60 cudm per 10 sqm, including cleaning the slab surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil complete :	12.15					
	With residual type petroleum bitumen of grade VG -10	12.15.1	128.60	SQM	133.15	17,123.09	
71	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.	10.16.1	1028.80	KG	154.90	159,361.12	

72	Supply & Fixing of Prepainted coloured Trapezoidal or approved profiled Sheeting 1000-1020 mm cover width, 28-30 mm high crests with subtle square fluting in the five pan at nominal 190-255 mm (as approved by EIC) centre-to-centre manufactured out of 0.50 mm TCT hi-tensile prepainted Zincalume /Galvalume steel (AZ-150 gsm. Aluminium –Zinc alloy metallic coating of total both sides 550 MPa yield stress as per AS-1397). Colour/ Exterior coat of RMP 20 micron top coat applied over 5 micron primer and a 5 micron polyester back coat applied over 5 microns primer OR equivalent coating/painting. The sheet shall have wide pans with stiffening ribs for effective water shedding and special male/female ends with full return legs on side laps for purlin support. The male end of the sheet shall have anti-capillary flute at side laps to prevent leakages. The sheet shall be fixed by means of anti corrosive approved make "Rust Shield" (Epoxy Polymer) coated self-drilling self tapping fasteners 12-14 X 55 mm with EPDM seals through crest for roofing and 12-24 X 20 mm through valley (pans) for wall cladding. The sheet shall be supplied in lengths maximum up to 6-12 meter long to suit site dimensions. The scope includes all sealing of joint, curves, edges or other accessories with silicon sealant.	M.R.	128.60	SQM	1,060.00		136,316.00
					TOTAL	**3,570,980.47**	**150,316.00**
					Say Rs. In Lacs	**35.71**	**1.50**

SUMMARY SHEET OF PROPOSED CONSTRUCTION OF PHASE - A & B WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)			
Principal Residence .Electrical work			
Sl.No.	Name of Work	TOTAL AMOUNT (IN RS.)	
		DSR-2022	MR
I	SUB HEAD - I: CIRCUIT CUM POINT WIRING	363,481.00	-
II	SUBHEAD -II - FITTINGS & FIXTURES	13,650.00	23,162.72
III	SUBHEAD - III - DISTRIBUTION BOARDS	19,801.00	-
	SUB HEAD-IV , LIGHTNING CONDUCTOR	23,257.00	
	TOTAL	420,189.00	23,162.72
	Say in lacs	4.20	0.23

PROJECT :- PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)								
Detailed Estimate for ELECTRICAL Works TYPE -5 RESIDENCE (PRINCIPAL RESIDENCE)								
S.No.	DSR-2022/NSI	Description	Unit	Qty	Rate		Amount	
					DSR-2022	NSI	DSR-2022	NSI
		SUB HEAD - I: CIRCUIT CUM POINT WIRING						
		SWITCH CONTROL LIGHT POINTS						
1	**DSR 1.10**	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	**DSR 1.10.3**	Group C	Point	30	1,467.00		44,010	
2	**DSR-1.55**	**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 **PVC conduit**, **and earthing the point with 1.5 sq. mm** FRLS PVC insulated **copper conductor single core cable** etc as required. **(Switch Control Secondary Points)**	Point		858.00		-	
2.1	**DSR-1.55.3**	Group C						
3	**DSR-1.3**	**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 **steel 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. **(Switch Control Primary Points)**						
3.1	**DSR-1.3.3**	Group C	Point	0	1,845.00		-	
4	**DSR-1.54**	**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. **(Switch Control Secondary Points)**						
4.1	**DSR-1.54.3**	Group C	Point	0	1,094.00		-	
		MCB CONTROL LIGHT POINTS						
5	**NSI-1**	**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 **steel 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. **(Switch Control Primary Points)**						
5.1	**NSI-1.1**	**Primary point controlled by one MCB.**	Point	0		1,523.13		-
5.2	**NSI-1.2**	Same as item above but **Secondary point**. i.e. Points to be looped with Primary point with 2.5 sqmm wire and Point wiring	Point	0		1,354.89		-

6	**DSR 1.5**	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	180	433.00		77,940	
7	**DSR 1.7**	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.						
7.1	**DSR 1.7.1**	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Metre	0	327.00		-	
7.2	**DSR 1.7.2**	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	225	369.00		83,025	
7.3	**DSR 1.7.4**	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	140	589.00		82,460	
7.4	**DSR 1.7.5**	2 x 10 sq. mm + 1 x 10 sq.mm earth wire	Metre	0	710.00		-	
7.5	**DSR 1.7.10**	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	50	1,166.00		58,300	
7.6	**DSR 1.7.11**	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	0	1,645.00		-	
8	**DSR 1.31**	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 Amp modular socket outlet and 5/6 A modular switch, connection etc. as required.	Each	8	477.00		3,816	
9	**NSI-2**	Supply and Wiring for 250 volts single phase and neutral 2 Nos 6 amps socket outlate with control by 1 No switched with 2.5 sq.mm PVC insulated copper conductor 1100 volts grade stranded flexible FRLS wires in concealed or surface mounted 25 mm dia 2mm thick PVC conduit including providing and fixing of 6 amps 3 pin switch socket outlet of aprpoved make and design in 2 mm thick GI box with grid plate and earthing of third pin of the socket with 2.5 Sq. mm PVC insulated copper conductor stranded flexible FRLS wire.(maximum four no. of switches socket shall be connected on one circuit)	Each	0		1,782		-
10	**DSR 1.32**	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 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	Each	13	586.00		7,618.00	
11	**NSI-3**	Supplying and fixing 63 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 63 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		11,284.98		-
12	**NSI-4**	Supplying and fixing 80 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 80 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		17,343.23		-
13	**DSR-1.33**	Supplying and fixing **3 pin, 5 A ceiling rose** on the existing junction box/ wooden block including connections etc. as required.	Each	4	87		348.00	
14	**DSR-1.57**	Supplying & fixing suitable size GI box wih modular plate and cover in front on surface or in recess i/c providing and fixing 25 amp modular socket outlet and 25 Amps modular SP MCB, “C” curve including connection, painting etc. as required. (AC's & Gysers)	Each	8	727		5,816.00	
15	**DSR 1.24**	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.						
15.1	**DSR 1.24.6**	Telephone socket outlet	Nos	1	148.00		148.00	

16	**DSR 1.27**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
16.1	**DSR 1.27.1**	1 or 2 Module (75mmX75mm)	Nos	0	298.00		-	
16.2	**DSR 1.27.4**	6 module (78mm X 205 mm X 50 mm)	Nos	0	402.00		-	
17	**DSR 1.24**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
17.1	**DSR 1.24.4**	3 pin , 5/6 amps socket outlet	Each	0	122.00		-	
17.1	**DSR 1.24.1**	5/6 amps switch	Each	0	103.00		-	
18	**DSR 1.21**	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.						
18.1	**DSR 1.21.2**	25 mm	Mtr	0	145.00		-	
18.2	**DSR 1.21.3**	32 mm	Mtr	0	184.00		-	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - I					**363,481.00**	**-**
		SUBHEAD -II - FITTINGS & FIXTURES						
1	**NSI-1**	Supply, Installation, Testing and Commissioning of 10 W Bulk head Light.	Each	0		1,158.20		-
2	**NSI-2**	Supply, Installation, Testing and Commissioning of 5W Mirror Light.	Each	0		445.46		-
3	**NSI-3**	Supply, Installation, Testing and Commissioning of 18W Surface/Recessed Mounted LED circular Downlighter.	Each	0		1,470.02		-
4	**NSI-4**	Supply, Installation, Testing and Commissioning of 18/20W Wall/Surface mouted 4 ft. LED	Each	7		1,336.38		9,354.65
5	**NSI-5**	Supply, Installation, Testing and Commissioning of 15W Surface mounted LED Square Downlighter.	Each	2		1,380.93		2,761.85
6	**NSI-6**	Supply, Installation, Testing and Commissioning of 150 W CHANDELIER	Each	0		89,091.94		-
7	**NSI-7**	Supply, Installation, Testing and Commissioning of 12/9W Recessed mounted LED circular Downlighter.	Each	0		1,069.10		-
8	**NSI-8**	Supply, Installation, Testing and Commissioning of 9W (Nominal) Wall Bracket Light	Each	9		222.73		2,004.57
9	**DSR 19.1**	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019),THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	Each	5	2,730.00		13,650.00	-
10	**NSI-9**	Supply Installation, Testing and Commissioning of 250 mm dia Domestic Exhaust Fan	Each	4		2,260.41		9,041.64

		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - II					**13,650.00**	**23,162.72**
		SUBHEAD - III - DISTRIBUTION BOARDS						
1	**DSR 2.3**	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)						
1.1	**DSR 2.3.1**	6 way, Double door	Each	0	2206		-	
1.2	**DSR 2.3.2**	8 way, Double door	Each	0	2573		-	
1.3	**DSR 2.3.3**	12 way, Double door	Each	0	2315		-	
2	**DSR 2.4**	Supplying and fixing following way, three pole and neutral, sheet steel, MCB distribution board, 415 volts, on surface/ recess complete with tinned copper busbar, neutral busbar, earth bar, din bar, detachable gland plate, interconnections, phosphatized and powder painted including earthing etc. as required. (But without MCB/ RCCB/ Isolator)						
2.1	**DSR 2.4.1**	4 way (4 + 12), Double door	Each	0	4,091.00		-	
2.2	**DSR 2.4.2**	6 way (4 + 18), Double door	Each	0	4,974.00		-	
2.3	**DSR 2.4.3**	8 way (4 + 24), Double door	Each	1	5,967.00		5,967.00	
3	**DSR 2.5**	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note :Vertical type MCB TPDB is normally used where 3 phase outlets are required.)						
3.1	**DSR 2.5.3**	12 way (4 + 36), Double door	Each	0	12833		-	
4	**DSR 2.10**	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "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.						
4.1	**2.10.1**	Single Pole	Each	18	256		4,608.00	
4.2	**2.10.2**	Single Pole Neutral	Each	0	599		-	
5	**DSR 2.12**	Supplying and fixing following rating, double pole, 240 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
5.1	**DSR 2.12.1**	40 A	Each	0	435		-	
5.2	**DSR 2.12.2**	63 A	Each	0	527		-	
6	**DSR 2.13**	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
6.1	**DSR 2.13.1**	25 A	Each	0	970		-	
6.1	**DSR 2.13.1**	40 A	Each	0	970		-	
6.2	**DSR 2.13.2**	63 A	Each	1	1034		1,034.00	

7	**DSR 2.14**	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
7.1	**DSR 2.14.1**	25 A	Each	0	2028		-	
7.2	**DSR 2.14.2**	40 A	Each	0	2642		-	
7.3	**DSR 2.14.3**	63 A	Each	3	2722		8,166.00	
8	**DSR 2.11**	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	2	13		26.00	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - III					**19,801.00**	**-**
VI		**SUB HEAD-IV , LIGHTNING CONDUCTOR**						
		LIGHTNING CONDUCTOR						
1	6.2	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required.	Each	2.0	518.00		1,036.00	
2	6.3	Fixing of lightning conductor finial (single prong) with base plate including holes etc. complete as required.	Each	2.0	360.00		720.00	
3	6.4	Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required.	Metre	5.0	113.00		565.00	
4	6.7	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)	Metre	40.0	126.00		5,040.00	
5	6.8	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	20.0	197.00		3,940.00	
6	6.10	Fixing of copper/ G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	10.0	162.00		1,620.00	
7	6.12	Providing and fixing testing joint, made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 nos. of G.I. bolts, nuts, chuck nuts and spring washers etc. complete as required.	Each	12.0	121.00		1,452.00	
8	5.4	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 metre long etc. with charcoal/ coke and salt as required. Details of cost for one Set	Each	1.0	7,472.00		7,472.00	
9	5.11	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.	Metre	2.0	706.00		1,412.00	
		TOTAL SUB HEAD (VI)					**23,257.00**	

Detailed Estimate of Construction of Phase-A works at JNV Cooch Behar(WB)

ABSTRACT OF COST

DETAILS OF MEASUREMENT [VICE PRINCIPAL RESIDENCE] (TYPE-4)

S.N.	DESCRIPTION OF ITEM	DSR 2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
A	**Earth Work**						
1	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						
	All kinds of soil	2.8.1	17.22	CUM	286.85	4,939.56	
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 upto 50 m and lift upto 1.5 m.	2.25	17.22	CUM	253.95	4,373.02	
3	Supplying and filling in plinth with sand under floors, including watering, ramming,consolidating and dressing complete.	2.27	5.87	CUM	2161.20	12,686.24	
4	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.	2.25a	26.61	CUM	368.65	9,809.78	
B	**Concrete Work**						
5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:5:10 (1 cement : 5 coarse sand (zoneIII)derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	4.1.10	8.56	CUM	6050.65	51,793.56	
6	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 12.5mm nominal size derived from natural sources)	4.10	9.60	SQM	370.85	3,560.16	
7	Providing & applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	4.13	9.60	SQM	113.85	1,092.96	
8	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand,including necessary excavation,levelling & dressing & finishing the top smooth.	4.17	24.780	SQM	681.65	16,891.29	
9	Brick edging in full brick width and half brick depth including excavation refilling and disposal of surplus earth lead upto 50 metres. With common burnt clay F.P.S.(non modulur) bricks of class designation 75	16.7.1	41.30	RM	179.50	7,413.35	
C	**Reinforced Cement Concrete**					-	
10	Centering and shuttering including strutting, propping etc. and removal of form for all heights :						
(a)	Foundations, footings, bases of columns, etc. for mass concrete.	5.9.1	37.76	SQM	307.95	11,628.19	
(b)	Suspended floors, roofs, landings, balconies and access platform.	5.9.3	113.91	SQM	766.55	87,317.71	
(c)	Lintels, beams, plinth beams, girders, bressumers	5.9.5	123.56	SQM	608.35	75,167.73	
(d)	Columns,Pillars, Piers, Abutments, Posts and Struts.	5.9.6	62.40	SQM	804.25	50,185.20	
(e)	Edges of slabs and breaks in floors and walls Under 20 cm wide.	5.9.16.1	47.85	RM	181.90	8,703.92	
11	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.	5.22.6	43.01	QTL.	8965.00	385,584.65	
12	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete a**bove plinth level.** Thermo-Mechanically Treated bars of grade Fe-500 D or more.	5.22.A.6	28.30	QTL.	8965.00	253,709.50	

	PILE WORK						
13	Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by percussion drilling using Direct mud circulation (DMC) or Bailer and chisel technique by tripod and mechanical Winch Machine all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap). Note: Truck Mounted rotary/TMR/Tubewell boring machine shall not be used . **450 mm dia piles**	**20.2.1**	216.000	metre	1916.40	413,942.40	
14	Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform by Kentledge/Anchor piles method and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer in-charge. Note: 1. Initial and Routine Load Test shall not be carried out by Dynamic method of testing. Note: 2. Testing agency shall submit the design of loading platform for the approval of Engineer-in-charge.	20.6					
	Single pile upto 50 tonne Safe capacity						
(i)	Initial test (Test Load 2.5 times the Safe capacity)	20.6.1.1	2.000	per test	51510.60	103,021.20	
(ii)	Routine test (Test Load 1.5 times the Safe capacity)	20.6.1.2	4.000	per test	18463.55	73,854.20	
15	Add for plaster drip course/ groove in plastered surface or moulding to R.C.C. projections.	5.30	153.42	RM	64.70	9,926.27	
16	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. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.	5.33					
(I)	**All works upto plinth level**	5.33.1					
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.1.1					
	(i) R.C.C. work in Footing	5.33.1.1	6.97	CUM	8683.80	60,526.09	
	(ii) R.C.C. work in Beam	5.33.1.1	5.19	CUM	8683.80	45,068.92	
	(iii) R.C.C. work in Columns	5.33.1.1	1.22	CUM	8683.80	10,594.24	
(II)	**All works above plinth level upto floor V level**	5.33.2					
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.2.1					
	(i) R.C.C. work in Lintel	5.33.2.1	0.55	CUM	10306.20	5,668.41	
	(ii) R.C.C. work in Beam	5.33.2.1	4.73	CUM	10306.20	48,748.33	
	(iii) R.C.C. work in Columns	5.33.2.1	4.32	CUM	10306.20	44,522.78	
	(iv) R.C.C. work in Slab	5.33.2.1	15.23	CUM	10306.20	156,963.43	
D	**Masonry Work**						
17	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundations and plinth in : cement mortar 1:4 (1 cement : 4 coarse sand)	6.13.2	97.62	Sqm	1018.05	99,382.04	
18	Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.	6.15	97.62	SQM	86.45	8,439.25	
19	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in superstructure above plinth level up to floor V level in :	6.34					
	Cement mortar 1:6 (1 cement : 6 coarse sand)	6.34.2	14.85	CUM	7676.30	113,993.06	

20	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:Cement mortar 1:6 (1 cement : 6 coarse sand)	6.1.2	1.98	CUM	6658.25	13,183.34	
E	**Cladding Work**					**-**	
	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.						
21	Area of slab upto 0.50 sqm	8.2.2.1	0.56	SQM	4679.35	2,597.04	
22	Area of slab over 0.50 sqm	8.2.2.2	3.33	SQM	4425.35	14,736.42	
23	Providing edge moulding to 18mm thick marble stone counters, Vanities etc. including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.						
	Granite work	8.3.2	4.35	RM	418.85	1,822.00	
24	Extra for fixing marble /granite stone over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive including cleaning etc. complete.	8.4	4.35	RM	475.55	2,068.64	
25	Extra for providing opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/Granite/stone work including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	8.5	1.00	NO	808.15	808.15	
26	Providing and fixing Ist quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	8.31	28.38	SQM	1063.45	30,180.71	
F	**Wood and PVC Work**						
27	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	9.21.1	13.55	SQM	2015.75	27,313.41	
28	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	9.23	13.55	SQM	401.40	5,438.97	
29	Extra for cutting rebate in flush door shutters (Total area of the shutter to be measured).	9.26	2.52	SQM	93.65	236.00	
30	P/F curtain rods of 1.25mm thick chromium plated brass plate, with two chromium plated brass brackets fixed with C.P. brass screws and wooden plugs etc. wherever necessary complete (a) 25 mm dia.	9.46.3	17.70	RM	482.30	8,536.71	
31		9.68					
(i)	300 mm weighing not less than 200 gms	9.68.1	14.00	NOS	58.80	823.20	
(ii)	250 mm weighing not less than 150 gms	9.68.2	2.00	NOS	51.40	102.80	
32	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete. Twin rubber stopper	9.101.2	17.00	NOS	62.25	1,058.25	
33	Providing and fixing factory made door frame (single rebate) made out of single piece extruded solid PVC foam profile with homogenous fine cellular structure having smooth outer integral skin having 62 mm width & 32 mm thickness, frame will be mitred & Jointed with self driven self tapping screws of size 38 mm x 4 mm & PVC solvent cement, including fixing the frame to wall with suitable dia & length anchor fastener as per manufacturer's specification and direction of Engineer-in-charge.	9.123	9.90	RM	481.85	4,770.32	

34	Providing and fixing PVC rigid foam sheet 1 mm thick on existing door shutters (bathroom and W.C. doors) using synthetic rubber based adhesive.	9.125	3.15	SQM	1293.05	4,073.11	
35	Providing & Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt/ suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality. 1.0 mm thick	9.127.2	23.94	SQM	764.00	18,290.16	
36	Providing and fixing wire gauge shutters using stainless steel grade 304 wire gauge with wire of dia 0.5 mm and average width of aperture 1.4 mm in both directions for doors, windows and clerestory windows with necessary screws : **30 mm thick shutters With ISI marked stainless steel butt hinges of required size,** Kiln seasoned and chemically treated hollock wood	9.134.2.2.2	1.89	SQM	3124.15	5,904.64	
37	Providing and fixing fly proof stainless steel grade 304 wire gauge, to windows and clerestory windows using wire gauge with average width of aperture 1.4 mm in both directions with wire of dia. 0.50 mm all complete**.With 12 mm mild steel U beading**	9.135.2	16.07	SQM	1051.75	16,901.62	
38	Providing and fixing bright /matt finished Stainless Steel handles of approved quality & make with necessary screws etc all complete. (a) 125 mm.	9.165.1	34.00	NOS	100.45	3,415.30	
39	Providing & fixing Stainless steel sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with nuts and screws etc complete. (a) 250mm x 16mm .	M.R.	17.00	NOS	560.00		9,520.00
40	Providing and fixing stainless steel towerbolts (barrel type) with necessary screws etc. complete.						
	300 x 10mm	M.R.	17.00	NOS	448.00		7,616.00
	150 x 10mm	M.R.	17.00	NOS	392.00		6,664.00
41	Providing and fixing 6mm thick both sides Pre-laminated cement bonded wood particle board as per IS : 15786:2008 of approved brand and shade with suitable full threaded steel screws etc. on the backing of racks, drawer, cupboard, kitchen cabinet under kitchen counter etc. all complete as per direction of Engineer in-charge.	9.167	13.07	SQM	902.55	11,796.33	
						-	
42	Providing and fixing cupboard shutter with 19mm thick one side decorative and other side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand including 2mm thick PVC edge banding tape with hot glue by edge bending machine etc. with auto closing spring loaded hinges (hydraulic type) etc. complete as per direction of Engineer in-charge.(Payment of providing and fixing auto closing hinges shall be paid separately)	9.168	13.07	SQM	2563.75	33,508.21	
						-	
43	Providing and fixing 19mm thick both side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand boxes,shelves,racks,almirah, cupboard and drawer etc. including necessary nails,screws etc. complete as per direction of Engineer-in-charge.	9.169	27.86	SQM	2339.60	65,181.26	
						-	
44	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge. 200 mm for CB	9.170.1	8.00	Nos.	153.15	1,225.20	
45	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge. **100 mm for Kitchen Cabinets**	Analysis	28.00	Nos.	80.00	2,240.00	
46	Providing and fixing stainless steel soft closing spring hinges at 0 degree hinges (hydraulic type) of approved make/brand to cupboard shutters with full threaded steel screws including making necessary recess in board and finished etc. complete as per direction of Engineer-in-charge	9.170.2	48.00	Nos.	226.75	10,884.00	

47	Providing and fixing stainless steel soft closing heavy type telescopic drawer channels of approved make 500 mm long with screws etc. complete as per directions of Engineer- in-charge	9.170.3	2.00	one set	749.70	1,499.40	
	SS Hanging Rod for CB					-	
48	Providing and fixing **25 mm dia. SS pipe** Hanging rods with SS brackets :	Analysis	2.20	RM	348.00	765.60	
G	**Steel Work**						
49	Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side /top /centre hung, with beading and all members such as F7D, F4B, K11 B and K12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design, (sectional weight of only steel members shall be measured for payment). Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).	10.11.1	272.70	KG	175.65	47,899.76	
50	Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size	10.13.1	109.35	KG	114.65	12,536.98	
51	Providing and fixing M.S. Tubular frames for doors, windows, ventilators and cupboard with rectangular/ L-Type sections, made of 1.60 mm thick M.S. Sheet, joints mitred, welded and grinded finish, with profiles of required size, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer. Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	10.15.1	327.51	Kg	146.55	47,996.59	
52	Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with : 4.0 mm thick glass panes.	10.30.1	10.26	SQM	940.30	9,647.48	
H	**Flooring**						
53	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : 25 mm thick	11.26.1	9.15	SQM	1706.60	15,615.39	
54	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	11.27	4.93	SQM	2038.55	10,039.86	
55	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 @ 3.3kg/sqm including pointing the joints with white cement and matching pigment etc., complete.	11.37	8.41	SQM	935.60	7,868.40	
56	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joints with white cement and matching pigments etc., complete. Size of Tile 600x600 mm.	11.41.2	64.68	SQM	1416.65	91,628.92	

57	Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joint with white cement & matching pigments etc. complete. Size of Tile 600x600 mm	11.46.2	7.45	SQM	1466.50	10,925.43	
I	**Finishing**						
58	12mm cement plaster in single coat on fair side of single or half brick wall for exterior plastering up to floor two level including internal rounded angles chamfers, and/or rounded angles not exceeding 80mm in girth and finished even and smooth no extra for mixing any additive. 1:6 (1 cement: 6 coarse sand)	13.4.2	137.88	SQM	294.35	40,584.98	
59	15 mm cement plaster on the rough side of single or half brick wall of mix : 1:6 (1 cement: 6 coarse sand)	13.5.2	184.74	SQM	339.10	62,645.33	
60	6 mm cement plaster on celling (a) 1:3(1 cement:3 fine sand)	13.16.1	119.86	SQM	253.05	30,330.57	
61	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer.	13.41.1	304.60	SQM	162.55	49,512.73	
62	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade. New work (Two or more coats applied @ 1.43 ltr/ 10 sqm. over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm).	13.47.1	137.88	SQM	162.35	22,384.82	
	Applying priming coat:	13.50					
63	With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	13.50.1	98.36	SQM	61.45	6,044.16	
64	With ready mixed red oxide zink chromate primer of approved brand and manufacture on steel galvanised iron/steel works.	13.50.3	17.43	SQM	55.50	967.37	
65	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade:	13.16					
	Two or more coats on new work.	13.61.1	115.79	SQM	131.45	15,220.46	
66	Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade : Two or more coats on new work	13.65.1	22.96	SQM	115.10	2642.70	
67	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	13.80	119.86	SQM	123.85	14,844.66	
J	**Water Proofing**						
68	Painting top of roofs with bitumen of approved quality @ 17kg per 10 sqm impregnated with a coat of coarse sand at 60 cudm per 10 sqm, including cleaning the slab surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil complete :	12.15					
	With residual type petroleum bitumen of grade VG -10	12.15.1	122.50	SQM	133.15	16,310.88	
69	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.	10.16.1	980.00	KG	154.90	151,802.00	

70	Supply & Fixing of Prepainted coloured Trapezoidal or approved profiled Sheeting 1000-1020 mm cover width, 28-30 mm high crests with subtle square fluting in the five pan at nominal 190-255 mm (as approved by EIC) centre-to-centre manufactured out of 0.50 mm TCT hi-tensile prepainted Zincalume /Galvalume steel (AZ-150 gsm. Aluminium –Zinc alloy metallic coating of total both sides 550 MPa yield stress as per AS-1397). Colour/ Exterior coat of RMP 20 micron top coat applied over 5 micron primer and a 5 micron polyester back coat applied over 5 microns primer OR equivalent coating/painting. The sheet shall have wide pans with stiffening ribs for effective water shedding and special male/female ends with full return legs on side laps for purlin support. The male end of the sheet shall have anti-capillary flute at side laps to prevent leakages. The sheet shall be fixed by means of anti corrosive approved make "Rust Shield" (Epoxy Polymer) coated self-drilling self tapping fasteners 12-14 X 55 mm with EPDM seals through crest for roofing and 12-24 X 20 mm through valley (pans) for wall cladding. The sheet shall be supplied in lengths maximum up to 6-12 meter long to suit site dimensions. The scope includes all sealing of joint, curves, edges or other accessories with silicon sealant.	M.R.	122.50	SQM	1060.00		129,850.00
					TOTAL	**3,136,317.66**	**153,650.00**
					Say Rs. In Lacs	**31.36**	**1.54**

SUMMARY SHEET OF PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)			
Vice Principal Residence (Electrcical Work)			
Sl.No.	Name of Work	TOTAL AMOUNT (IN RS.)	
		DSR-2022	MR
I	SUB HEAD - I: CIRCUIT CUM POINT WIRING	325,899.00	-
II	SUBHEAD -II - FITTINGS & FIXTURES	13,650.00	20,011.39
III	SUBHEAD - III - DISTRIBUTION BOARDS	19,801.00	-
	SUB HEAD-IV , LIGHTNING CONDUCTOR	23,257.00	
	TOTAL	382,607.00	20,011.39
	Say in Lacs	3.83	0.20

CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)								
Detailed Estimate for ELECTRICAL Works TYPE - 4 RESIDENCE (VICE PRINCIPAL RESIDENCE)								
S.No.	**DSR-2022/NSI**	**Description**	**Unit**	**Qty**	**Rate**		**Amount**	
					DSR-2022	**NSI**	**DSR-2022**	**NSI**
		SUB HEAD - I: CIRCUIT CUM POINT WIRING						
		SWITCH CONTROL LIGHT POINTS						
1	**DSR 1.10**	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	**DSR 1.10.3**	Group C	Point	27	1,467.00		39,609	
2	**DSR-1.55**	**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 **PVC conduit**, **and earthing the point with 1.5 sq. mm** FRLS PVC insulated **copper conductor single core cable** etc as required. **(Switch Control Secondary Points)**	Point	0	858.00		-	
2.1	**DSR-1.55.3**	Group C						
3	**DSR-1.3**	**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 **steel 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. **(Switch Control Primary Points)**						
3.1	**DSR-1.3.3**	Group C	Point	0	1,845.00		-	
4	**DSR-1.54**	**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. **(Switch Control Secondary Points)**						
4.1	**DSR-1.54.3**	Group C	Point	0	1,094.00		-	
		MCB CONTROL LIGHT POINTS						
5	**NSI-1**	**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 **steel 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. **(Switch Control Primary Points)**						
5.1	**NSI-1.1**	**Primary point controlled by one MCB.**	Point	0		1,523.13		-
5.2	**NSI-1.2**	Same as item above but **Secondary point**. i.e. Points to be looped with Primary point with 2.5 sqmm wire and Point wiring	Point	0		1,354.89		-

6	**DSR 1.5**	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	140	433.00		60,620	
7	**DSR 1.7**	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.						
7.1	**DSR 1.7.1**	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Metre	0	327.00		-	
7.2	**DSR 1.7.2**	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	220	369.00		81,180	
7.3	**DSR 1.7.4**	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	120	589.00		70,680	
7.4	**DSR 1.7.5**	2 x 10 sq. mm + 1 x 10 sq.mm earth wire	Metre	0	710.00		-	
7.5	**DSR 1.7.10**	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	50	1,166.00		58,300	
7.6	**DSR 1.7.11**	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	0	1,645.00		-	
8	**DSR 1.31**	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 Amp modular socket outlet and 5/6 A modular switch, connection etc. as required.	Each	9	477.00		4,293	
9	**NSI-2**	Supply and Wiring for 250 volts single phase and neutral 2 Nos 6 amps socket outlate with control by 1 No switched with 2.5 sq.mm PVC insulated copper conductor 1100 volts grade stranded flexible FRLS wires in concealed or surface mounted 25 mm dia 2mm thick PVC conduit including providing and fixing of 6 amps 3 pin switch socket outlet of aprpoved make and design in 2 mm thick GI box with grid plate and earthing of third pin of the socket with 2.5 Sq. mm PVC insulated copper conductor stranded flexible FRLS wire.(maximum four no. of switches socket shall be connected on one circuit)	Each	0		1,782		-
10	**DSR 1.32**	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 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	Each	11	586.00		6,446.00	
11	**NSI-3**	Supplying and fixing 63 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 63 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		11,284.98		-
12	**NSI-4**	Supplying and fixing 80 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 80 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		17,343.23		-
13	**DSR-1.33**	Supplying and fixing **3 pin, 5 A ceiling rose** on the existing junction box/ wooden block including connections etc. as required.	Each	3	87		261.00	
14	**DSR-1.57**	Supplying & fixing suitable size GI box wih modular plate and cover in front on surface or in recess i/c providing and fixing 25 amp modular socket outlet and 25 Amps modular SP MCB, "C" curve including connection, painting etc. as required. (AC's & Gysers)	Each	6	727		4,362.00	
15	**DSR 1.24**	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.						
15.1	**DSR 1.24.6**	Telephone socket outlet	Nos	1	148.00		148.00	

16	**DSR 1.27**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
16.1	**DSR 1.27.1**	1 or 2 Module (75mmX75mm)	Nos	0	298.00		-	
16.2	**DSR 1.27.4**	6 module (78mm X 205 mm X 50 mm)	Nos	0	402.00		-	
17	**DSR 1.24**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
17.1	**DSR 1.24.4**	3 pin , 5/6 amps socket outlet	Each	0	122.00		-	
17.1	**DSR 1.24.1**	5/6 amps switch	Each	0	103.00		-	
18	**DSR 1.21**	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.						
18.1	**DSR 1.21.2**	25 mm	Mtr	0	145.00		-	
18.2	**DSR 1.21.3**	32 mm	Mtr	0	184.00		-	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - I					**325,899.00**	**-**
		SUBHEAD -II - FITTINGS & FIXTURES						
1	**NSI-1**	Supply, Installation, Testing and Commissioning of 10 W Bulk head Light.	Each	0		1,158.20		-
2	**NSI-2**	Supply, Installation, Testing and Commissioning of 5W Mirror Light.	Each	2		445.46		890.92
3	**NSI-3**	Supply, Installation, Testing and Commissioning of 18W Surface/Recessed Mounted LED circular Downlighter.	Each	0		1,470.02		-
4	**NSI-4**	Supply, Installation, Testing and Commissioning of 18/20W Wall/Surface mouted 4 ft. LED	Each	6		1,336.38		8,018.27
5	**NSI-5**	Supply, Installation, Testing and Commissioning of 15W Surface mounted LED Square Downlighter.	Each	2		1,380.93		2,761.85
6	**NSI-6**	Supply, Installation, Testing and Commissioning of 150 W CHANDELIER	Each	0		89,091.94		-
7	**NSI-7**	Supply, Installation, Testing and Commissioning of 12/9W Recessed mounted LED circular Downlighter.	Each	0		1,069.10		-
8	**NSI-8**	Supply, Installation, Testing and Commissioning of 9W (Nominal) Wall Bracket Light	Each	7		222.73		1,559.11
9	**DSR 1.21**	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019),THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	Each	5	2,730.00		13,650.00	-
10	**NSI-9**	Supply Installation, Testing and Commissioning of 250 mm dia Domestic Exhaust Fan	Each	3		2,260.41		6,781.23

		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - II					**13,650.00**	**20,011.39**
		SUBHEAD - III - DISTRIBUTION BOARDS						
1	**DSR 2.3**	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)						
1.1	**DSR 2.3.1**	6 way, Double door	Each	0	2206		-	
1.2	**DSR 2.3.2**	8 way, Double door	Each	0	2573		-	
1.3	**DSR 2.3.3**	12 way, Double door	Each	0	2315		-	
2	**DSR 2.4**	Supplying and fixing following way, three pole and neutral, sheet steel, MCB distribution board, 415 volts, on surface/ recess complete with tinned copper busbar, neutral busbar, earth bar, din bar, detachable gland plate, interconnections, phosphatized and powder painted including earthing etc. as required. (But without MCB/ RCCB/ Isolator)						
2.1	**DSR 2.4.1**	4 way (4 + 12), Double door	Each	0	4,091.00		-	
2.2	**DSR 2.4.2**	6 way (4 + 18), Double door	Each	0	4,974.00		-	
2.3	**DSR 2.4.3**	8 way (4 + 24), Double door	Each	1	5,967.00		5,967.00	
3	**DSR 2.5**	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note :Vertical type MCB TPDB is normally used where 3 phase outlets are required.)						
3.1	**DSR 2.5.3**	12 way (4 + 36), Double door	Each	0	12833		-	
4	**DSR 2.10**	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "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.						
4.1	**2.10.1**	Single Pole	Each	18	256		4,608.00	
4.2	**2.10.2**	Single Pole Neutral	Each	0	599		-	
5	**DSR 2.12**	Supplying and fixing following rating, double pole, 240 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
5.1	**DSR 2.12.1**	40 A	Each	0	435		-	
5.2	**DSR 2.12.2**	63 A	Each	0	527		-	
6	**DSR 2.13**	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
6.1	**DSR 2.13.1**	25 A	Each	0	970		-	
6.1	**DSR 2.13.1**	40 A	Each	0	970		-	
6.2	**DSR 2.13.2**	63 A	Each	1	1034		1,034.00	

7	**DSR 2.14**	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
7.1	**DSR 2.14.1**	25 A	Each	0	2028		-	
7.2	**DSR 2.14.2**	40 A	Each	0	2642		-	
7.3	**DSR 2.14.3**	63 A	Each	3	2722		8,166.00	
8	**DSR 2.11**	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	2	13		26.00	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - III					**19,801.00**	**-**
VI		**SUB HEAD-IV , LIGHTNING CONDUCTOR**						
		LIGHTNING CONDUCTOR						
1	6.2	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required.	Each	2.0	518.00		1,036.00	
2	6.3	Fixing of lightning conductor finial (single prong) with base plate including holes etc. complete as required.	Each	2.0	360.00		720.00	
3	6.4	Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required.	Metre	5.0	113.00		565.00	
4	6.7	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)	Metre	40.0	126.00		5,040.00	
5	6.8	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	20.0	197.00		3,940.00	
6	6.10	Fixing of copper/ G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	10.0	162.00		1,620.00	
7	6.12	Providing and fixing testing joint, made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 nos. of G.I. bolts, nuts, chuck nuts and spring washers etc. complete as required.	Each	12.0	121.00		1,452.00	
8	5.4	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 metre long etc. with charcoal/ coke and salt as required. Details of cost for one Set	Each	1.0	7,472.00		7,472.00	
9	5.11	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.	Metre	2.0	706.00		1,412.00	
		TOTAL SUB HEAD (VI)					**23,257.00**	

Detailed Estimate of Construction of Phase-A works at JNV Cooch Behar(WB)

ABSTRACT OF COST

[TYPE-III RESIDENCES G+2, 18 UNITS.]

S.N.	DESCRIPTION OF ITEM	DSR 2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
A	**Earth Work**						
1	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	2.8.1	250.53	CUM	286.85	71,864.53	
						-	
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 upto 50 m and lift upto 1.5 m.	2.25	250.53	CUM	253.95	63,622.09	
						-	
3	Supplying and filling in plinth with sand under floors, including watering, ramming ,consolidating and dressing complete.	2.27	24.24	CUM	2161.20	52,387.49	
						-	
4	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.	2.25a	70.14	CUM	368.65	25,857.11	
						-	
B	**Concrete Work**					**-**	
5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:5:10 (1 cement : 5 coarse sand (zoneIII)derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	4.1.10	55.17	CUM	6050.65	333,814.36	
6	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 12.5mm nominal size derived from natural sources)	4.10	52.23	SQM	370.85	19,369.50	
						-	
7	Providing & applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	4.13	52.23	SQM	113.85	5,946.39	
8	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand,including necessary excavation,levelling & dressing & finishing the top smooth.	4.17	117.06	SQM	681.65	79,793.95	
9	Brick edging in full brick width and half brick depth including excavation refilling and disposal of surplus earth lead upto 50 metres. With common burnt clay F.P.S.(non modulur) bricks of class designation 75	16.7.1	195.09	RM	179.50	35,018.66	
C	**Reinforced Cement Concrete**					**-**	
10	Centering and shuttering including strutting, propping etc. and removal of form for all heights					-	
(a)	Foundations, footings, bases of columns, etc. for mass concrete.	5.9.1	318.48	SQM	307.95	98,075.92	
(b)	Suspended floors, roofs, landings, balconies and access platform.	5.9.3	1315.80	SQM	766.55	1,008,626.49	
(c)	Lintels, beams, plinth beams, girders, bressumers	5.9.5	1054.68	SQM	608.35	641,614.58	
(d)	Columns,Pillars, Piers, Abutments, Posts and Struts.	5.9.6	748.44	SQM	804.25	601,932.87	

(e)	Edges of slabs and breaks in floors and walls Under 20 cm wide.	5.9.16.1	895.50	RM	181.90	162,891.45	
						-	
11	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.	5.22.6	427.95	QTL.	8965.00	3,836,571.75	
12	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete a**bove plinth level.** Thermo-Mechanically Treated bars of grade Fe-500 D or more.	5.22.A.6	346.71	QTL.	8965.00	3,108,255.15	
	PILE WORK						
13	Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by percussion drilling using Direct mud circulation (DMC) or Bailer and chisel technique by tripod and mechanical Winch Machine all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap). Note: Truck Mounted rotary/TMR/Tubewell boring machine shall not be used . **450 mm dia piles**	**20.2.1**	2268.000	metre	1916.40	4,346,395.20	
14	**Group of two or more piles upto 50 tonne Safe capacity**						
(i)	Initial test (Test Load 2.5 times the Safe capacity)	20.6.3.1	18.000	per test	66227.90	1,192,102.20	
(ii)	Routine test (Test Load 1.5 times the Safe capacity)	20.6.3.2	42.000	per test	38131.20	1,601,510.40	
15	Add for plaster drip course/ groove in plastered surface or moulding to R.C.C. projections.	5.30	1442.43	RM	64.70	93,325.22	
16	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. Note: Extra cement up to 10% of theminimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.	5.33				-	
(I)	**All works upto plinth level**	5.33.1				-	
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.1.1					
	(i) R.C.C. work in Footing	5.33.1.1	130.65	CUM	8683.80	1,134,538.47	
	(ii) R.C.C. work in Beam	5.33.1.1	23.64	CUM	8683.80	205,285.03	
	(iii) R.C.C. work in Columns	5.33.1.1	2.67	CUM	8683.80	23,185.75	
						-	
(II)	**All works above plinth level upto floor V level**	5.33.2				-	
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.2.1				-	
	(i) R.C.C. work in Lintel	5.33.2.1	1.53	CUM	10306.20	15,768.49	
	(ii) R.C.C. work in Beam	5.33.2.1	67.80	CUM	10306.20	698,760.36	
	(iii) R.C.C. work in Columns	5.33.2.1	53.46	CUM	10306.20	550,969.45	
	(iv) R.C.C. work in Slab	5.33.2.1	170.91	CUM	10306.20	1,761,432.64	
D	**Masonry Work**					**-**	

17	Half brick masonry 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. : cement mortar 1:4 (1 cement : 4 coarse sand)	6.13.2	420.12	Sqm	1018.05	427,703.17	
18	Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.	6.15	420.12	SQM	86.45	36,319.37	
19	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in super structure above plinth level up to floor V level in : Cement mortar 1:6 (1 cement : 6 Coarse sand)	6.34.2	332.67	CUM	7676.30	2,553,674.72	
20	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in: Cement mortar 1:6 (1 cement : 6 coarse sand)	6.1.2	27.78	CUM	6658.25	184,966.19	
E	**Cladding Work**					**-**	
	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.	8.2					
	Granite stone slab colour black, Cherry/Ruby red	8.2.2					
21	Area of slab upto 0.50 sqm	8.2.2.1	6.21	SQM	4679.35	29,058.76	
22	Area of slab over 0.50 sqm	8.2.2.2	43.74	SQM	4425.35	193,564.81	
23	Providing edge moulding to 18mm thick marble stone counters, Vanities etc. including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.	8.3				-	
	Granite work	8.3.2	62.10	RM	418.85	26,010.59	
24	Extra for fixing marble /granite stone over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive including cleaning etc. complete.	8.4	62.10	RM	475.55	29,531.66	
						-	
25	Extra for providing opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/Granite/stone work including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	8.5	18.00	NO	808.15	14,546.70	
						-	
26	Providing and fixing Ist quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	8.31	335.16	SQM	1063.45	356,425.90	
						-	
F	**Wood and PVC Work**					**-**	
27	Providing and fixing ISI marked flush door shutters conforming to IS :2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters: 35 mm thick including ISI markedStainless Steel butt hinges with necessary screws	9.21.1	196.56	SQM	2015.75	396,215.82	
						-	

28	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	9.23	196.56	SQM	401.40	78,899.18	
29	P/F curtain rods of 1.25mm thick chromium plated brass plate, with two chromium plated brass brackets fixed with C.P. brass screws and wooden plugs etc. wherever necessary complete (a) 25 mm dia.	9.46.3	117.90	RM	482.30	56,863.17	
30	Providing and fixing oxidised M.S. casement stays (straight peg type) with necessary screws etc. complete.	9.68					
(i)	300 mm weighing not less than 200 gms	9.68.1	156.00	NOS	58.80	9,172.80	
(ii)	250 mm weighing not less than 150 gms	9.68.2	36.00	NOS	51.40	1,850.40	
31	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete. Twin rubber stopper	9.101.2	126.00	NOS	62.25	7,843.50	
32	Providing and fixing factory made door frame (single rebate) made out of single piece extruded solid PVC foam profile with homogenous fine cellular structure having smooth outer integral skin having 62 mm width & 32 mm thickness, frame will be mitred & Jointed with self driven self tapping screws of size 38 mm x 4 mm & PVC solvent cement, including fixing the frame to wall with suitable dia & length anchor fastener as per manufacturer's specification and direction of Engineer-in-charge.	9.123	178.20	RM	481.85	85,865.67	
33	Providing and fixing PVC rigid foam sheet 1 mm thick on existing door shutters (bathroom and W.C. doors) using synthetic rubber based adhesive.	9.125	56.70	SQM	1293.05	73,315.94	
34	Providing and fixing wire gauge shutters using stainless steel grade 304 wire gauge with wire of dia 0.5 mm and average width of aperture 1.4 mm in both directions for doors, windows and clerestory windows with necessary screws : 30 mm thick shutters With ISI marked stainless steel butt hinges of required size						
	Kiln seasoned and chemically treated hollock wood	9.134.2.2.2	34.02	SQM	3124.15	106,283.58	
35	Providing and fixing fly proof stainless steel grade 304 wire gauge, to windows and clerestory windows using wire gauge with average width of aperture 1.4 mm in both directions with wire of dia. 0.50 mm all complete**.With 12 mm mild steel U beading**	9.135.2	223.47	SQM	1051.75	235,034.57	
36	Providing and fixing bright /matt finished Stainless Steel handles of approved quality & make with necessary screws etc all complete. (a) 125 mm.	9.165.1	252.00	NOS	100.45	25,313.40	
37	Providing & fixing Stainless steel sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with nuts and screws etc complete. (a) 250mm x 16mm .	M.R.	126.00	NOS	560.00		70,560.00
38	Providing and fixing stainless steel towerbolts (barrel type) with necessary screws etc. complete.						
	300 x 10mm	M.R.	126.00	NOS	448.00		56,448.00
	150 x 10mm	M.R.	126.00	NOS	392.00		49,392.00
39	Providing and fixing 6mm thick both sides Pre-laminated cement bonded wood particle board as per IS : 15786:2008 of approved brand and shade with suitable full threaded steel screws etc. on the backing of racks, drawer, cupboard, kitchen cabinet under kitchen counter etc. all complete as per direction of Engineer in-charge.	9.167	134.64	SQM	902.55	121,519.33	
						-	

40	Providing and fixing cupboard shutter with 19mm thick one side decorative and other side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand including 2mm thick PVC edge banding tape with hot glue by edge bending machine etc. with auto closing spring loaded hinges (hydraulic type) etc. complete as per direction of Engineer in-charge.(Payment of providing and fixing auto closing hinges shall be paid separately)	9.168	134.64	SQM	2563.75	345,183.30	
						-	
41	Providing and fixing 19mm thick both side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand boxes,shelves,racks,almirah, cupboard and drawer etc. including necessary nails,screws etc. complete as per direction of Engineer-in-charge.	9.169	493.56	SQM	2339.60	1,154,732.98	
						-	
42	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge. 200 mm for CB	9.170.1	144.00	Nos.	153.15	22,053.60	
43	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge. **100 mm for Kitchen Cabinets**	Analysis	216.00	Nos.	80.00	17,280.00	
44	Providing and fixing stainless steel soft closing spring hinges at 0 degree hinges (hydraulic type) of approved make/brand to cupboard shutters with full threaded steel screws including making necessary recess in board and finished etc. complete as per direction of Engineer-in-charge	9.170.2	720.00	Nos.	226.75	163,260.00	
45	Providing and fixing stainless steel soft closing heavy type telescopic drawer channels of approved make 500 mm long with screws etc. complete as per directions of Engineer- in-charge	9.170.3	36.00	one set	749.70	26,989.20	
	SS Hanging Rod for CB					-	
46	Providing and fixing **25 mm dia. SS pipe** Hanging rods with SS brackets :	Analysis	34.20	RM	348.00	11,901.60	
G	**Steel Work**					**-**	
47	Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side /top /centre hung, with beading and all members such as F7D, F4B, K11 B and K12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design, (sectional weight of only steel members shall be measured for payment). Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).	10.11.1	3155.76	KG	175.65	554,309.24	
48	Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size	10.13.1	1663.20	KG	114.65	190,685.88	

49	Providing and fixing M.S. Tubular frames for doors, windows, ventilators and cupboard with rectangular/ L-Type sections, made of 1.60 mm thick M.S. Sheet, joints mitred, welded and grinded finish, with profiles of required size, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer. Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	10.15.1	3832.20	Kg	146.55	561,608.91	
	SS RALING						
50	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge.	10.28.1	342.36	KG	612.25	209,609.91	
						-	
51	Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with : 4.0 mm thick glass panes.	10.30.1	189.00	SQM	940.30	177,716.70	
						-	
H	**Flooring**					**-**	
52	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : 25 mm thick	11.26.1	158.28	SQM	1706.60	270,120.65	
						-	
53	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	11.27	64.02	SQM	2038.55	130,507.97	
						-	
54	Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily.Glazed Vitrified tiles **Matt/Antiskid** finish of size **Size of Tile 600 x 600 mm**	11.41A.3	96.48	SQM	1311.05	126,490.10	
						-	
55	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joints with white cement and matching pigments etc., complete.**size of tile 600x600 mm**	11.41.2	732.06	SQM	1416.65	1,037,072.80	
56	Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joint with white cement & matching pigments etc. complete.**size of tile 600x600 mm**	11.46.2	90.54	SQM	1466.50	132,776.91	

57	Providing and laying factory made chamfered edge Cement Concrete paver blocks in footpath, parks, lawns, drive ways or light traffic parking etc, of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand. complete all as per direction of Engineer-in-Charge.**60mm thick cement concrete paver block of M-35 grade with approved colour, design & pattern.**	16.91.1	39.06	SQM	932.35	36,417.59	
I	**Finishing**					**-**	
58	15 mm cement plaster on the rough side of single or half brick wall of mix : **1:6 (1 cement: 6 coarse sand)**	13.5.2	1989.69	SQM	339.10	674,703.88	
59	12mm cement plaster in single coat on fair side of single or half brick wall for exterior plastering up to floor two level including internal rounded angles chamfers, and/or rounded angles not exceeding 80mm in girth and finished even and smooth no extra for mixing any additive. **1:6 (1 cement: 6 coarse sand)**	13.4.2	2882.25	SQM	294.35	848,390.29	
60	6 mm cement plaster on celling (a) **1:3(1 cement:3 fine sand)**	13.16.1	1281.81	SQM	253.05	324,362.02	
61	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer.	13.41.1	4164.06	SQM	162.55	676,867.95	
						-	
62	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade. New work (Two or more coats applied @ 1.43 ltr/ 10 sqm. over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm).	13.47.1	1989.69	SQM	162.35	323,026.17	
						-	
	Steel Painting: Applying priming coat	13.50				-	
63	With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	13.50.1	1526.46	SQM	61.45	93,800.97	
64	With ready mixed red oxide zink chromate primer of approved brand and manufacture on steel galvanised iron/steel works.	13.50.3	743.40	SQM	55.50	41,258.70	
65	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade:	13.61					
	Two or more coats on new work.	13.61.1	2269.86	SQM	131.45	298,373.10	
						-	
66	Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade : Two or more coats on new work	13.65.1	402.93	SQM	115.10	46,377.24	
67	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	13.80	1281.81	SQM	123.85	158,752.17	
						-	
J	**Water Proofing**					**-**	

68	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying : a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm. This layer will be allowed to air cure for 4 hours. b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.	22.5	145.80	SQM	516.60	75,320.28	
69	Painting top of roofs with bitumen of approved quality @ 17kg per 10 sqm impregnated with a coat of coarse sand at 60 cudm per 10 sqm, including cleaning the slab surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil complete :	12.15					
	With residual type petroleum bitumen of grade VG -10	12.15.1	534.30	SQM	133.15	71,142.05	
70	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.	10.16.1	4000.25	KG	154.90	619,638.73	
71	Supply & Fixing of Prepainted coloured Trapezoidal or approved profiled Sheeting 1000-1020 mm cover width, 28-30 mm high crests with subtle square fluting in the five pan at nominal 190-255 mm (as approved by EIC) centre-to-centre manufactured out of 0.50 mm TCT hi-tensile prepainted Zincalume /Galvalume steel (AZ-150 gsm. Aluminium –Zinc alloy metallic coating of total both sides 550 MPa yield stress as per AS-1397). Colour/ Exterior coat of RMP 20 micron top coat applied over 5 micron primer and a 5 micron polyester back coat applied over 5 microns primer OR equivalent coating/painting. The sheet shall have wide pans with stiffening ribs for effective water shedding and special male/female ends with full return legs on side laps for purlin support. The male end of the sheet shall have anti-capillary flute at side laps to prevent leakages. The sheet shall be fixed by means of anti corrosive approved make "Rust Shield" (Epoxy Polymer) coated self-drilling self tapping fasteners 12-14 X 55 mm with EPDM seals through crest for roofing and 12-24 X 20 mm through valley (pans) for wall cladding. The sheet shall be supplied in lengths maximum up to 6-12 meter long to suit site dimensions. The scope includes all sealing of joint, curves, edges or other accessories with silicon sealant.	M.R.	533.20	SQM	1060.00		565,192.00
72	Providing and filling of cinder in sunken portions.	M.R.	18.48	CUM	2240.00		41,395.20
					Amount (in Rs.)	**36,239,625.62**	**782,987.20**
					Say Rs. In Lacs	**362.40**	**7.83**

SUMMARY SHEET OF CONSTRUCTION OF PHASE - A WORKS JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)			
TYPE III RESIDENCE (G+2, 18 Units, 3 Blcok 6 Unit Each) ELECTRICAL WORK			
Sl.No.	Name of Work	TOTAL AMOUNT (IN RS.)	
		DSR-2022	MR
I	SUB HEAD - I: CIRCUIT CUM POINT WIRING	3,217,195.00	38,096.21
II	SUBHEAD -II - FITTINGS & FIXTURES	147,420.00	300,468.79
III	SUBHEAD - III - DISTRIBUTION BOARDS	310,506.00	-
III	SUB HEAD-IV , LIGHTNING CONDUCTOR	129,118.00	
	TOTAL	3,804,239.00	338,565.00
	Say in lacs	38.04	3.39

CONSTRUCTION OF PHASE - A WORKS JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)								
Detailed Estimate for ELECTRICAL Works TYPE-3 (G+2) RESIDENCE								
S.No.	**DSR-2022/NSI**	**Description**	**Unit**	**Qty**	**Rate**		**Amount**	
					DSR-2022	**NSI**	**DSR-2022**	**NSI**
		SUB HEAD - I: CIRCUIT CUM POINT WIRING						
		SWITCH CONTROL LIGHT POINTS						
1	**DSR 1.10**	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	**DSR 1.10.3**	Group C	Point	324	1,467.00		475,308	
2	**DSR-1.55**	**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 **PVC conduit**, **and earthing the point with 1.5 sq. mm** FRLS PVC insulated **copper conductor single core cable** etc as required. **(Switch Control Secondary Points)**	Point		858.00		-	
2.1	**DSR-1.55.3**	Group C						
3	**DSR-1.3**	**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 **steel 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. **(Switch Control Primary Points)**						
3.1	**DSR-1.3.3**	Group C	Point		1,845.00		-	
4	**DSR-1.54**	**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. **(Switch Control Secondary Points)**						
4.1	**DSR-1.54.3**	Group C	Point		1,094.00		-	
		MCB CONTROL LIGHT POINTS						
5	**NSI-1**	**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 **steel 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. **(Switch Control Primary Points)**						
5.1	**NSI-1.1**	**Primary point controlled by one MCB.**	Point	9		1,523.13		13,708
5.2	**NSI-1.2**	Same as item above but **Secondary point**. i.e. Points to be looped with Primary point with 2.5 sqmm wire and Point wiring	Point	18		1,354.89		24,388

6	**DSR 1.5**	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	1150	433.00		497,950	
7	**DSR 1.7**	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.						
7.1	**DSR 1.7.1**	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Metre		327.00		-	
7.2	**DSR 1.7.2**	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	1538	369.00		567,522	
7.3	**DSR 1.7.4**	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	1545	589.00		910,005	
7.4	**DSR 1.7.5**	2 x 10 sq. mm + 1 x 10 sq.mm earth wire	Metre		710.00		-	
7.5	**DSR 1.7.10**	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	480	1,166.00		559,680	
7.6	**DSR 1.7.11**	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre		1,645.00		-	
8	**DSR 1.31**	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 Amp modular socket outlet and 5/6 A modular switch, connection etc. as required.	Each	126	477.00		60,102	
9	**NSI-2**	Supply and Wiring for 250 volts single phase and neutral 2 Nos 6 amps socket outlate with control by 1 No switched with 2.5 sq.mm PVC insulated copper conductor 1100 volts grade stranded flexible FRLS wires in concealed or surface mounted 25 mm dia 2mm thick PVC conduit including providing and fixing of 6 amps 3 pin switch socket outlet of aprpoved make and design in 2 mm thick GI box with grid plate and earthing of third pin of the socket with 2.5 Sq. mm PVC insulated copper conductor stranded flexible FRLS wire.(maximum four no. of switches socket shall be connected on one circuit)	Each			1,782		-
10	**DSR 1.32**	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 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	Each	126	586.00		73,836.00	
11	**NSI-3**	Supplying and fixing 63 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 63 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each			11,284.98		-
12	**NSI-4**	Supplying and fixing 80 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 80 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each			17,343.23		-
13	**DSR-1.33**	Supplying and fixing **3 pin, 5 A ceiling rose** on the existing junction box/ wooden block including connections etc. as required.	Each	54	87		4,698.00	
14	**DSR-1.57**	Supplying & fixing suitable size GI box wih modular plate and cover in front on surface or in recess i/c providing and fixing 25 amp modular socket outlet and 25 Amps modular SP MCB, "C" curve including connection, painting etc. as required. (AC's & Gysers)	Each	90	727		65,430.00	
15	**DSR 1.24**	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.						
15.1	**DSR 1.24.6**	Telephone socket outlet	Nos	18	148.00		2,664.00	

16	**DSR 1.27**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
16.1	**DSR 1.27.1**	1 or 2 Module (75mmX75mm)	Nos		298.00		-	
16.2	**DSR 1.27.4**	6 module (78mm X 205 mm X 50 mm)	Nos		402.00		-	
17	**DSR 1.24**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
17.1	**DSR 1.24.4**	3 pin , 5/6 amps socket outlet	Each		122.00		-	
17.1	**DSR 1.24.1**	5/6 amps switch	Each		103.00		-	
18	**DSR 1.21**	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.						
18.1	**DSR 1.21.2**	25 mm	Mtr		145.00		-	
18.2	**DSR 1.21.3**	32 mm	Mtr		184.00		-	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - I					**3,217,195.00**	**38,096.21**
		SUBHEAD -II - FITTINGS & FIXTURES						
1	**NSI-1**	Supply, Installation, Testing and Commissioning of 10 W Bulk head Light.	Each			1,158.20		-
2	**NSI-2**	Supply, Installation, Testing and Commissioning of 5W Mirror Light.	Each			445.46		-
3	**NSI-3**	Supply, Installation, Testing and Commissioning of 18W Surface/Recessed Mounted LED circular Downlighter.	Each			1,470.02		-
4	**NSI-4**	Supply, Installation, Testing and Commissioning of 18/20W Wall/Surface mouted 4 ft. LED	Each	72		1,336.38		96,219.29
5	**NSI-5**	Supply, Installation, Testing and Commissioning of 15W Surface mounted LED Square Downlighter.	Each	45		1,380.93		62,141.63
6	**NSI-6**	Supply, Installation, Testing and Commissioning of 150 W CHANDELIER	Each			89,091.94		-
7	**NSI-7**	Supply, Installation, Testing and Commissioning of 12/9W Recessed mounted LED circular Downlighter.	Each			1,069.10		-
8	**NSI-8**	Supply, Installation, Testing and Commissioning of 9W (Nominal) Wall Bracket Light	Each	90		222.73		20,045.69
9	**DSR 19.1**	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019),THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	Each	54	2,730.00		147,420.00	-
10	**NSI-9**	Supply Installation, Testing and Commissioning of 250 mm dia Domestic Exhaust Fan	Each	54		2,260.41		122,062.19

		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - II					**147,420.00**	**300,468.79**
		SUBHEAD - III - DISTRIBUTION BOARDS						
1	**DSR 2.3**	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)						
1.1	**DSR 2.3.1**	6 way, Double door	Each		2206		-	
1.2	**DSR 2.3.2**	8 way, Double door	Each		2573		-	
1.3	**DSR 2.3.3**	12 way, Double door	Each		2315		-	
2	**DSR 2.4**	Supplying and fixing following way, three pole and neutral, sheet steel, MCB distribution board, 415 volts, on surface/ recess complete with tinned copper busbar, neutral busbar, earth bar, din bar, detachable gland plate, interconnections, phosphatized and powder painted including earthing etc. as required. (But without MCB/ RCCB/ Isolator)						
2.1	**DSR 2.4.1**	4 way (4 + 12), Double door	Each		4,091.00		-	
2.2	**DSR 2.4.2**	6 way (4 + 18), Double door	Each	18	4,974.00		89,532.00	
2.3	**DSR 2.4.3**	8 way (4 + 24), Double door	Each		5,967.00		-	
3	**DSR 2.5**	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note :Vertical type MCB TPDB is normally used where 3 phase outlets are required.)						
3.1	**DSR 2.5.3**	12 way (4 + 36), Double door	Each		12833		-	
4	**DSR 2.10**	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "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.						
4.1	**2.10.1**	Single Pole	Each	216	256		55,296.00	
4.2	**2.10.2**	Single Pole Neutral	Each		599		-	
5	**DSR 2.12**	Supplying and fixing following rating, double pole, 240 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
5.1	**DSR 2.12.1**	40 A	Each		435		-	
5.2	**DSR 2.12.2**	63 A	Each		527		-	
6	**DSR 2.13**	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
6.1	**DSR 2.13.1**	25 A	Each		970		-	
6.1	**DSR 2.13.1**	40 A	Each		970		-	
6.2	**DSR 2.13.2**	63 A	Each	18	1034		18,612.00	

7	**DSR 2.14**	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
7.1	**DSR 2.14.1**	25 A	Each		2028		-	
7.2	**DSR 2.14.2**	40 A	Each		2642		-	
7.3	**DSR 2.14.3**	63 A	Each	54	2722		146,988.00	
8	**DSR 2.11**	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	6	13		78.00	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - III					**310,506.00**	**-**
VI		**SUB HEAD-IV , LIGHTNING CONDUCTOR**						
		LIGHTNING CONDUCTOR						
1	6.2	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required.	Each	12.0	518.00		6,216.00	
2	6.3	Fixing of lightning conductor finial (single prong) with base plate including holes etc. complete as required.	Each	12.0	360.00		4,320.00	
3	6.4	Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required.	Metre	30.0	113.00		3,390.00	
4	6.7	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)	Metre	180.0	126.00		22,680.00	
5	6.8	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	120.0	197.00		23,640.00	
6	6.10	Fixing of copper/ G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	60.0	162.00		9,720.00	
7	6.12	Providing and fixing testing joint, made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 nos. of G.I. bolts, nuts, chuck nuts and spring washers etc. complete as required.	Each	60.0	121.00		7,260.00	
8	5.4	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 metre long etc. with charcoal/ coke and salt as required. Details of cost for one Set	Each	6.0	7,472.00		44,832.00	
9	5.11	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.	Metre	10.0	706.00		7,060.00	
		TOTAL SUB HEAD (VI)					**129,118.00**	

Detailed Estimate of Construction of Phase-A works at JNV Cooch Behar(WB)

ABSTRACT OF COST

[TYPE-II RESIDENCES G+2, 6UNITS.]

S.N.	DESCRIPTION OF ITEM	DSR 2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
A	**Earth Work**						
1	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	2.8.1	76.72	CUM	286.85	22,007.13	
						-	
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 upto 50 m and lift upto 1.5 m.	2.25	76.72	CUM	253.95	19,483.04	
						-	
3	Supplying and filling in plinth with sand under floors, including watering, ramming ,consolidating and dressing complete.	2.27	6.62	CUM	2161.20	14,307.14	
						-	
4	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.	2.25a	24.36	CUM	368.65	8,980.31	
						-	
B	**Concrete Work**					**-**	
5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:5:10 (1 cement : 5 coarse sand (zoneIII)derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	4.1.10	16.14	CUM	6050.65	97,657.49	
6	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 12.5mm nominal size derived from natural sources)	4.10	16.30	SQM	370.85	6,044.86	
						-	
7	Providing & applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	4.13	16.30	SQM	113.85	1,855.76	
8	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand,including necessary excavation,levelling & dressing & finishing the top smooth.	4.17	37.87	SQM	681.65	25,814.09	
9	Brick edging in full brick width and half brick depth including excavation refilling and disposal of surplus earth lead upto 50 metres. With common burnt clay F.P.S.(non modulur) bricks of class designation 75	16.7.1	63.12	RM	179.50	11,330.04	
C	**Reinforced Cement Concrete**					**-**	
10	Centering and shuttering including strutting, propping etc. and removal of form for all heights					-	
(a)	Foundations, footings, bases of columns, etc. for mass concrete.	5.9.1	108.01	SQM	307.95	33,261.68	
(b)	Suspended floors, roofs, landings, balconies and access platform.	5.9.3	329.00	SQM	766.55	252,194.95	
(c)	Lintels, beams, plinth beams, girders, bressumers	5.9.5	322.78	SQM	608.35	196,363.21	
(d)	Columns,Pillars, Piers, Abutments, Posts and Struts.	5.9.6	241.56	SQM	804.25	194,274.63	
(e)	Edges of slabs and breaks in floors and walls Under 20 cm wide.	5.9.16.1	264.00	RM	181.90	48,021.60	
						-	
11	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.	5.22.6	141.91	QTL.	8965.00	1,272,223.15	
12	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete a**bove plinth level.** Thermo-Mechanically Treated bars of grade Fe-500 D or more.	5.22.A.6	100.36	QTL.	8965.00	899,727.40	
	PILE WORK						

13	Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by percussion drilling using Direct mud circulation (DMC) or Bailer and chisel technique by tripod and mechanical Winch Machine all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap). Note: Truck Mounted rotary/TMR/Tubewell boring machine shall not be used . **450 mm dia piles**	**20.2.1**	783.000	metre	1916.40	1,500,541.20	
14	Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform by Kentledge/Anchor piles method and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer in-charge. Note: 1. Initial and Routine Load Test shall not be carried out by Dynamic method of testing. Note: 2. Testing agency shall submit the design of loading platform for the approval of Engineer-in-charge.	20.6					
	Group of two or more piles upto 50 tonne Safe capacity						
(i)	Initial test (Test Load 2.5 times the Safe capacity)	20.6.3.1	2.000	per tes	66227.90	132,455.80	
(ii)	Routine test (Test Load 1.5 times the Safe capacity)	20.6.3.2	7.000	per tes	38131.20	266,918.40	
15	Add for plaster drip course/ groove in plastered surface or moulding to R.C.C. projections.	5.30	418.86	RM	64.70	27,100.24	
16	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. Note: Extra cement up to 10% of theminimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.	5.33				-	
(I)	**All works upto plinth level**	5.33.1				-	
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.1.1					
	(i) R.C.C. work in Footing	5.33.1.1	40.02	CUM	8683.80	347,525.68	
	(ii) R.C.C. work in Beam	5.33.1.1	7.75	CUM	8683.80	67,299.45	
	(iii) R.C.C. work in Columns	5.33.1.1	0.31	CUM	8683.80	2,691.98	
						-	
(II)	**All works above plinth level upto floor V level**	5.33.2				-	
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.2.1				-	
	(i) R.C.C. work in Lintel	5.33.2.1	0.66	CUM	10306.20	6,802.09	
	(ii) R.C.C. work in Beam	5.33.2.1	20.16	CUM	10306.20	207,772.99	
	(iii) R.C.C. work in Columns	5.33.2.1	17.82	CUM	10306.20	183,656.48	
	(iv) R.C.C. work in Slab	5.33.2.1	42.32	CUM	10306.20	436,158.38	
D	**Masonry Work**					**-**	
17	Half brick masonry 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. : cement mortar 1:4 (1 cement : 4 coarse sand)	6.13.2	145.38	Sqm	1018.05	148,004.11	
18	Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.	6.15	145.38	SQM	86.45	12,568.10	
19	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in super structure above plinth level up to floor V level in : Cement mortar 1:6 (1 cement : 6 Coarse sand)	6.34.2	102.28	CUM	7676.30	785,131.96	
20	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:Cement mortar 1:6 (1 cement : 6 coarse sand)	6.1.2	8.92	CUM	6658.25	59,391.59	
E	**Cladding Work**					**-**	

	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.	8.2					
	Granite stone slab colour black, Cherry/Ruby red	8.2.2					
21	Area of slab upto 0.50 sqm	8.2.2.1	1.38	SQM	4679.35	6,457.50	
22	Area of slab over 0.50 sqm	8.2.2.2	10.44	SQM	4425.35	46,200.65	
23	Providing edge moulding to 18mm thick marble stone counters, Vanities etc. including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.	8.3				-	
	Granite work	8.3.2	13.80	RM	418.85	5,780.13	
24	Extra for fixing marble /granite stone over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive including cleaning etc. complete.	8.4	13.80	RM	475.55	6,562.59	
						-	
25	Extra for providing opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/Granite/stone work including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	8.5	6.00	NO	808.15	4,848.90	
						-	
26	Providing and fixing Ist quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	8.31	114.75	SQM	1063.45	122,030.89	
						-	
F	**Wood and PVC Work**					**-**	
27	Providing and fixing ISI marked flush door shutters conforming to IS :2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters: 35 mm thick including ISI markedStainless Steel butt hinges with necessary screws	9.21.1	65.52	SQM	2015.75	132,071.94	
						-	
28	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	9.23	65.52	SQM	401.40	26,299.73	
29	P/F curtain rods of 1.25mm thick chromium plated brass plate, with two chromium plated brass brackets fixed with C.P. brass screws and wooden plugs etc. wherever necessary complete (a) 25 mm dia.	9.46.3	39.30	RM	482.30	18,954.39	
30	Providing and fixing oxidised M.S. casement stays (straight peg type) with necessary screws etc. complete.	9.68					
(i)	300 mm weighing not less than 200 gms	9.68.1	52.00	NOS	58.80	3057.60	
(ii)	250 mm weighing not less than 150 gms	9.68.2	12.00	NOS	51.40	616.80	
31	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete. Twin rubber stopper	9.101.2	42.00	NOS	62.25	2,614.50	
32	Providing and fixing factory made door frame (single rebate) made out of single piece extruded solid PVC foam profile with homogenous fine cellular structure having smooth outer integral skin having 62 mm width & 32 mm thickness, frame will be mitred & Jointed with self driven self tapping screws of size 38 mm x 4 mm & PVC solvent cement, including fixing the frame to wall with suitable dia & length anchor fastener as per manufacturer's specification and direction of Engineer-in-charge.	9.123	59.40	RM	481.85	28,621.89	
33	Providing and fixing PVC rigid foam sheet 1 mm thick on existing door shutters (bathroom and W.C. doors) using synthetic rubber based adhesive.	9.125	18.90	SQM	1293.05	24,438.65	
34	Providing and fixing wire gauge shutters using stainless steel grade 304 wire gauge with wire of dia 0.5 mm and average width of aperture 1.4 mm in both directions for doors, windows and clerestory windows with necessary screws : 30 mm thick shutters With ISI marked stainless steel butt hinges of required size						
	Kiln seasoned and chemically treated hollock wood	9.134.2.2.2	11.34	SQM	3124.15	35,427.86	
35	Providing and fixing fly proof stainless steel grade 304 wire gauge, to windows and clerestory windows using wire gauge with average width of aperture 1.4 mm in both directions with wire of dia. 0.50 mm all complete.**With 12 mm mild steel U beading**	9.135.2	74.49	SQM	1051.75	78,344.86	

36	Providing and fixing bright /matt finished Stainless Steel handles of approved quality & make with necessary screws etc all complete. (a) 125 mm.	9.165.1	84.00	NOS	100.45	8,437.80	
37	Providing & fixing Stainless steel sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with nuts and screws etc complete. (a) 250mm x 16mm .	M.R.	42.00	NOS	560.00		23,520.00
38	Providing and fixing stainless steel towerbolts (barrel type) with necessary screws etc. complete.						
	300 x 10mm	M.R.	42.00	NOS	448.00		18,816.00
	150 x 10mm	M.R.	42.00	NOS	392.00		16,464.00
39	Providing and fixing 6mm thick both sides Pre-laminated cement bonded wood particle board as per IS : 15786:2008 of approved brand and shade with suitable full threaded steel screws etc. on the backing of racks, drawer, cupboard, kitchen cabinet under kitchen counter etc. all complete as per direction of Engineer in-charge.	9.167	35.88	SQM	902.55	32,383.49	
						-	
40	Providing and fixing cupboard shutter with 19mm thick one side decorative and other side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand including 2mm thick PVC edge banding tape with hot glue by edge bending machine etc. with auto closing spring loaded hinges (hydraulic type) etc. complete as per direction of Engineer in-charge.(Payment of providing and fixing auto closing hinges shall be paid separately)	9.168	35.88	SQM	2563.75	91,987.35	
						-	
41	Providing and fixing 19mm thick both side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand boxes,shelves,racks,almirah, cupboard and drawer etc. including necessary nails,screws etc. complete as per direction of Engineer-in-charge.	9.169	132.06	SQM	2339.60	308,967.58	
						-	
42	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge. 200 mm	9.170.1	24.00	Nos.	153.15	3,675.60	
43	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge. **100 mm for Kitchen Cabinets**	Analysis	48.00	Nos.	80.00	3,840.00	
44	Providing and fixing stainless steel soft closing spring hinges at 0 degree hinges (hydraulic type) of approved make/brand to cupboard shutters with full threaded steel screws including making necessary recess in board and finished etc. complete as per direction of Engineer-in-charge	9.170.2	192.00	Nos.	226.75	43,536.00	
45	Providing and fixing stainless steel soft closing heavy type telescopic drawer channels of approved make 500 mm long with screws etc. complete as per directions of Engineer- in-charge	9.170.3	12.00	one se	749.70	8,996.40	
	SS Hanging Rod for CB					-	
46	Providing and fixing **25 mm dia. SS pipe** Hanging rods with SS brackets :	Analysis	11.40	RM	348.00	3,967.20	
G	**Steel Work**					**-**	
47	Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side /top /centre hung, with beading and all members such as F7D, F4B, K11 B and K12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design, (sectional weight of only steel members shall be measured for payment). Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).	10.11.1	1051.92	KG	175.65	184,769.75	
48	Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size	10.13.1	554.40	KG	114.65	63,561.96	

49	Providing and fixing M.S. Tubular frames for doors, windows, ventilators and cupboard with rectangular/ L-Type sections, made of 1.60 mm thick M.S. Sheet, joints mitred, welded and grinded finish, with profiles of required size, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer. Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	10.15.1	1277.40	Kg	146.55	187,202.97	
50	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	10.25.2	171.18	Kg	142.30	24,358.91	
						-	
51	Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with : 4.0 mm thick glass panes.	10.30.1	63.00	SQM	940.30	59,238.90	
						-	
H	**Flooring**					**-**	
52	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : 25 mm thick	11.26.1	52.03	SQM	1706.60	88,794.40	
						-	
53	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	11.27	21.07	SQM	2038.55	42,952.25	
						-	
54	Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily.Glazed Vitrified tiles **Matt/Antiskid** finish of size **Size of Tile 600 x 600 mm**	11.41A.3	28.68	SQM	1311.05	37,600.91	
						-	
55	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joints with white cement and matching pigments etc., complete.**size of tile 600x600 mm**	11.41.2	190.62	SQM	1416.65	270,041.82	
56	Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joint with white cement & matching pigments etc. complete.**size of tile 600x600 mm**	11.46.2	27.51	SQM	1466.50	40,343.42	
57	Providing and laying factory made chamfered edge Cement Concrete paver blocks in footpath, parks, lawns, drive ways or light traffic parking etc, of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand. complete all as per direction of Engineer-in-Charge.**60mm thick cement concrete paver block of M-35 grade with approved colour, design & pattern.**	16.91.1	10.70	SQM	932.35	9,976.15	
I	**Finishing**					**-**	

58	15 mm cement plaster on the rough side of single or half brick wall of mix : **1:6 (1 cement: 6 coarse sand)**	13.5.2	611.32	SQM	339.10	207,298.61	
59	12mm cement plaster in single coat on fair side of single or half brick wall for exterior plastering up to floor two level including internal rounded angles chamfers, and/or rounded angles not exceeding 80mm in girth and finished even and smooth no extra for mixing any additive. **1:6 (1 cement: 6 coarse sand)**	13.4.2	882.53	SQM	294.35	259,772.71	
60	6 mm cement plaster on celling (a) **1:3(1 cement:3 fine sand)**	13.16.1	338.84	SQM	253.05	85,743.46	
61	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer.	13.41.1	1221.37	SQM	162.55	198,533.69	
						-	
62	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade. New work (Two or more coats applied @ 1.43 ltr/ 10 sqm. over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm).	13.47.1	611.32	SQM	162.35	99,247.80	
						-	
	Steel Painting: Applying priming coat	13.50				-	
63	With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	13.50.1	430.58	SQM	61.45	26,459.14	
64	With ready mixed red oxide zink chromate primer of approved brand and manufacture on steel galvanised iron/steel works.	13.50.3	186.60	SQM	55.50	10,356.30	
65	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade:	13.61					
	Two or more coats on new work.	13.61.1	617.18	SQM	131.45	81,128.31	
66	Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade : Two or more coats on new work	13.65.1	111.63	SQM	115.10	12,848.61	
67	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	13.80	338.84	SQM	123.85	41,965.33	
						-	
J	**Water Proofing**					**-**	
68	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying : a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm. This layer will be allowed to air cure for 4 hours. b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.	22.5	41.36	SQM	516.60	21,366.58	
69	Painting top of roofs with bitumen of approved quality @ 17kg per 10 sqm impregnated with a coat of coarse sand at 60 cudm per 10 sqm, including cleaning the slab surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil complete :	12.15					
	With residual type petroleum bitumen of grade VG -10	12.15.1	159.45	SQM	133.15	21,230.77	
70	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.	10.16.1	1195.88	KG	154.90	185,241.04	
71	Supply & Fixing of Prepainted coloured Trapezoidal or approved profiled Sheeting 1000-1020 mm cover width, 28-30 mm high crests with subtle square fluting in the five pan at nominal 190-255 mm (as approved by EIC) centre-to-centre manufactured out of 0.50 mm TCT hi-tensile prepainted Zincalume /Galvalume steel (AZ-150 gsm. Aluminium –Zinc alloy metallic coating of total both sides 550 MPa yield stress as per AS-1397). Colour/ Exterior coat of RMP 20 micron top coat applied over 5 micron primer and a 5 micron polyester back coat applied over 5 microns primer OR equivalent coating/painting. The sheet shall have wide pans with stiffening ribs for effective water shedding and special male/female ends with full return legs on side laps for purlin support. The male end of the sheet shall have anti-capillary flute at side laps to prevent leakages. The sheet shall be fixed by means of anti corrosive approved make "Rust Shield" (Epoxy Polymer) coated self-drilling self tapping fasteners 12-14 X 55 mm with EPDM seals through crest for roofing and 12-24 X 20 mm through valley (pans) for wall cladding. The sheet shall be supplied in lengths maximum up to 6-12 meter long to suit site dimensions. The scope includes all sealing of joint, curves, edges or other accessories with silicon sealant.	M.R.	159.45	SQM	1,060.00		169,017.00
72	Providing and filling of cinder in sunken portions.	M.R.	5.38	CUM	2240.00		12,051.20
					Total	**10,595,719.02**	**239,868.20**
				Say	**Rs. In Lacs**	**105.96**	**2.40**

SUMMARY SHEET OF PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)			
TYPE II RESIDENCE ,G+2 (6 Nos)			
Sl.No.	Name of Work	TOTAL AMOUNT (IN RS.)	
		DSR-2022	MR
I	SUB HEAD - I: CIRCUIT CUM POINT WIRING	837,741.00	12,698.74
II	SUBHEAD -II - FITTINGS & FIXTURES	49,140.00	100,156.26
III	SUBHEAD - III - DISTRIBUTION BOARDS	103,502.00	-
IV	SUB HEAD-IV , LIGHTNING CONDUCTOR	43,510.00	
	TOTAL	1,033,893.00	112,855.00
	Say in lacs	10.34	1.13

PROJECT :- PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)								
Detailed Estimate for ELECTRICAL Works TYPE-2 (G+2) RESIDENCE 6 Nos								
S.No.	DSR-2022/NSI	Description	Unit	Qty	Rate		Amount	
					DSR-2022	NSI	DSR-2022	NSI
		SUB HEAD - I: CIRCUIT CUM POINT WIRING						
		SWITCH CONTROL LIGHT POINTS						
1	**DSR 1.10**	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	**DSR 1.10.3**	Group C	Point	108	1,467.00		158,436	
2	**DSR-1.55**	**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 **PVC conduit**, **and earthing the point with 1.5 sq. mm** FRLS PVC insulated **copper conductor single core cable** etc as required. **(Switch Control Secondary Points)**	Point		858.00		-	
2.1	**DSR-1.55.3**	Group C						
3	**DSR-1.3**	**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 **steel 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. **(Switch Control Primary Points)**						
3.1	**DSR-1.3.3**	Group C	Point	0	1,845.00		-	
4	**DSR-1.54**	**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. **(Switch Control Secondary Points)**						
4.1	**DSR-1.54.3**	Group C	Point	0	1,094.00		-	
		MCB CONTROL LIGHT POINTS						
5	**NSI-1**	**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 **steel 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. **(Switch Control Primary Points)**						
5.1	**NSI-1.1**	**Primary point controlled by one MCB.**	Point	3		1,523.13		4,569
5.2	**NSI-1.2**	Same as item above but **Secondary point**. i.e. Points to be looped with Primary point with 2.5 sqmm wire and Point wiring	Point	6		1,354.89		8,129
6	**DSR 1.5**	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	375	433.00		162,375	
7	**DSR 1.7**	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.						
7.1	**DSR 1.7.1**	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Metre	0	327.00		-	
7.2	**DSR 1.7.2**	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	475	369.00		175,275	
7.3	**DSR 1.7.4**	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	275	589.00		161,975	

7.4	**DSR 1.7.5**	2 x 10 sq. mm + 1 x 10 sq.mm earth wire	Metre	0	710.00		-	
7.5	**DSR 1.7.10**	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	95	1,166.00		110,770	
7.6	**DSR 1.7.11**	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	0	1,645.00		-	
8	**DSR 1.31**	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 Amp modular socket outlet and 5/6 A modular switch, connection etc. as required.	Each	42	477.00		20,034	
9	**NSI-2**	Supply and Wiring for 250 volts single phase and neutral 2 Nos 6 amps socket outlate with control by 1 No switched with 2.5 sq.mm PVC insulated copper conductor 1100 volts grade stranded flexible FRLS wires in concealed or surface mounted 25 mm dia 2mm thick PVC conduit including providing and fixing of 6 amps 3 pin switch socket outlet of aprpoved make and design in 2 mm thick GI box with grid plate and earthing of third pin of the socket with 2.5 Sq. mm PVC insulated copper conductor stranded flexible FRLS wire.(maximum four no. of switches socket shall be connected on one circuit)	Each	0		1,782		-
10	**DSR 1.32**	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 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	Each	42	586.00		24,612.00	
11	**NSI-3**	Supplying and fixing 63 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 63 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		11,284.98		-
12	**NSI-4**	Supplying and fixing 80 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 80 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		17,343.23		-
13	**DSR-1.33**	Supplying and fixing **3 pin, 5 A ceiling rose** on the existing junction box/ wooden block including connections etc. as required.	Each	18	87		1,566.00	
14	**DSR-1.57**	Supplying & fixing suitable size GI box wih modular plate and cover in front on surface or in recess i/c providing and fixing 25 amp modular socket outlet and 25 Amps modular SP MCB, "C" curve including connection, painting etc. as required. (AC's & Gysers)	Each	30	727		21,810.00	
15	**DSR 1.24**	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.						
15.1	**DSR 1.24.6**	Telephone socket outlet	Nos	6	148.00		888.00	
16	**DSR 1.27**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
16.1	**DSR 1.27.1**	1 or 2 Module (75mmX75mm)	Nos	0	298.00		-	
16.2	**DSR 1.27.4**	6 module (78mm X 205 mm X 50 mm)	Nos	0	402.00		-	
17	**DSR 1.24**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
17.1	**DSR 1.24.4**	3 pin , 5/6 amps socket outlet	Each	0	122.00		-	
17.1	**DSR 1.24.1**	5/6 amps switch	Each	0	103.00		-	
18	**DSR 1.21**	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.						
18.1	**DSR 1.21.2**	25 mm	Mtr	0	145.00		-	
18.2	**DSR 1.21.3**	32 mm	Mtr	0	184.00		-	

		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - I					**837,741.00**	**12,698.74**
		SUBHEAD -II - FITTINGS & FIXTURES						
1	**NSI-1**	Supply, Installation, Testing and Commissioning of 10 W Bulk head Light.	Each	0		1,158.20		-
2	**NSI-2**	Supply, Installation, Testing and Commissioning of 5W Mirror Light.	Each	0		445.46		-
3	**NSI-3**	Supply, Installation, Testing and Commissioning of 18W Surface/Recessed Mounted LED circular Downlighter.	Each	0		1,470.02		-
4	**NSI-4**	Supply, Installation, Testing and Commissioning of 18/20W Wall/Surface mouted 4 ft. LED	Each	24		1,336.38		32,073.10
5	**NSI-5**	Supply, Installation, Testing and Commissioning of 15W Surface mounted LED Square Downlighter.	Each	15		1,380.93		20,713.88
6	**NSI-6**	Supply, Installation, Testing and Commissioning of 150 W CHANDELIER	Each	0		89,091.94		-
7	**NSI-7**	Supply, Installation, Testing and Commissioning of 12/9W Recessed mounted LED circular Downlighter.	Each	0		1,069.10		-
8	**NSI-8**	Supply, Installation, Testing and Commissioning of 9W (Nominal) Wall Bracket Light	Each	30		222.73		6,681.90
9	**DSR 19.1**	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019),THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	Each	18	2,730.00		49,140.00	-
10	**NSI-9**	Supply Installation, Testing and Commissioning of 250 mm dia Domestic Exhaust Fan	Each	18		2,260.41		40,687.40
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - II					**49,140.00**	**100,156.26**
		SUBHEAD - III - DISTRIBUTION BOARDS						
1	**DSR 2.3**	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)						
1.1	**DSR 2.3.1**	6 way, Double door	Each	0	2206		-	
1.2	**DSR 2.3.2**	8 way, Double door	Each	0	2573		-	
1.3	**DSR 2.3.3**	12 way, Double door	Each	0	2315		-	
2	**DSR 2.4**	Supplying and fixing following way, three pole and neutral, sheet steel, MCB distribution board, 415 volts, on surface/ recess complete with tinned copper busbar, neutral busbar, earth bar, din bar, detachable gland plate, interconnections, phosphatized and powder painted including earthing etc. as required. (But without MCB/ RCCB/ Isolator)						
2.1	**DSR 2.4.1**	4 way (4 + 12), Double door	Each	0	4,091.00		-	
2.2	**DSR 2.4.2**	6 way (4 + 18), Double door	Each	6	4,974.00		29,844.00	
2.3	**DSR 2.4.3**	8 way (4 + 24), Double door	Each	0	5,967.00		-	

3	**DSR 2.5**	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note :Vertical type MCB TPDB is normally used where 3 phase outlets are required.)						
3.1	**DSR 2.5.3**	12 way (4 + 36), Double door	Each	0	12833		-	
4	**DSR 2.10**	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "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.						
4.1	**2.10.1**	Single Pole	Each	72	256		18,432.00	
4.2	**2.10.2**	Single Pole Neutral	Each	0	599		-	
5	**DSR 2.12**	Supplying and fixing following rating, double pole, 240 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
5.1	**DSR 2.12.1**	40 A	Each	0	435		-	
5.2	**DSR 2.12.2**	63 A	Each	0	527		-	
6	**DSR 2.13**	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
6.1	**DSR 2.13.1**	25 A	Each	0	970		-	
6.1	**DSR 2.13.1**	40 A	Each	0	970		-	
6.2	**DSR 2.13.2**	63 A	Each	6	1034		6,204.00	
7	**DSR 2.14**	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
7.1	**DSR 2.14.1**	25 A	Each	0	2028		-	
7.2	**DSR 2.14.2**	40 A	Each	0	2642		-	
7.3	**DSR 2.14.3**	63 A	Each	18	2722		48,996.00	
8	**DSR 2.11**	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	2	13		26.00	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - III					**103,502.00**	**-**
VI		**SUB HEAD-IV , LIGHTNING CONDUCTOR**						
		LIGHTNING CONDUCTOR						
1	6.2	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required.	Each	4.0	518.00		2,072.00	
2	6.3	Fixing of lightning conductor finial (single prong) with base plate including holes etc. complete as required.	Each	4.0	360.00		1,440.00	
3	6.4	Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required.	Metre	10.0	113.00		1,130.00	
4	6.7	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)	Metre	60.0	126.00		7,560.00	
5	6.8	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	40.0	197.00		7,880.00	
6	6.10	Fixing of copper/ G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	20.0	162.00		3,240.00	
7	6.12	Providing and fixing testing joint, made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 nos. of G.I. bolts, nuts, chuck nuts and spring washers etc. complete as required.	Each	20.0	121.00		2,420.00	

8	5.4	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 metre long etc. with charcoal/ coke and salt as required. Details of cost for one Set	Each	2.0	7,472.00		14,944.00	
9	5.11	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.	Metre	4.0	706.00		2,824.00	
		TOTAL SUB HEAD (VI)					**43,510.00**	

Detailed Estimate of Construction of Phase-A works at JNV Cooch Behar(WB)

ABSTRACT OF COST

[TYPE-II RESIDENCES G+3, 7UNITS.]

S.N.	DESCRIPTION OF ITEM	DSR 2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
A	**Earth Work**						
1	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	2.8.1	76.72	CUM	286.85	22,007.13	
						-	
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 upto 50 m and lift upto 1.5 m.	2.25	76.72	CUM	253.95	19,483.04	
						-	
3	Supplying and filling in plinth with sand under floors, including watering, ramming ,consolidating and dressing complete.	2.27	6.62	CUM	2161.20	14,307.14	
						-	
4	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.	2.25a	24.36	CUM	368.65	8,980.31	
						-	
B	**Concrete Work**					**-**	
5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:5:10 (1 cement : 5 coarse sand (zoneIII)derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	4.1.10	16.14	CUM	6050.65	97,657.49	
6	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 12.5mm nominal size derived from natural sources)	4.10	16.30	SQM	370.85	6,044.86	
						-	
7	Providing & applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	4.13	16.30	SQM	113.85	1,855.76	
8	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand,including necessary excavation,levelling & dressing & finishing the top smooth.	4.17	37.87	SQM	681.65	25,814.09	
9	Brick edging in full brick width and half brick depth including excavation refilling and disposal of surplus earth lead upto 50 metres. With common burnt clay F.P.S.(non modulur) bricks of class designation 75	16.7.1	63.12	RM	179.50	11,330.04	
C	**Reinforced Cement Concrete**					**-**	
10	Centering and shuttering including strutting, propping etc. and removal of form for all heights					-	
(a)	Foundations, footings, bases of columns, etc. for mass concrete.	5.9.1	108.01	SQM	307.95	33,261.68	
(b)	Suspended floors, roofs, landings, balconies and access platform.	5.9.3	370.89	SQM	766.55	284,305.73	
(c)	Lintels, beams, plinth beams, girders, bressumers	5.9.5	364.28	SQM	608.35	221,609.74	
(d)	Columns,Pillars, Piers, Abutments, Posts and Struts.	5.9.6	293.64	SQM	804.25	236,159.97	
(e)	Edges of slabs and breaks in floors and walls Under 20 cm wide.	5.9.16.1	312.10	RM	181.90	56,770.08	
						-	
11	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.	5.22.6	142.67	QTL.	8965.00	1,279,036.55	
12	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete a**bove plinth level.** Thermo-Mechanically Treated bars of grade Fe-500 D or more.	5.22.A.6	118.36	QTL.	8965.00	1,061,097.40	

	PILE WORK						
13	Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by percussion drilling using Direct mud circulation (DMC) or Bailer and chisel technique by tripod and mechanical Winch Machine all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap). Note: Truck Mounted rotary/TMR/Tubewell boring machine shall not be used . **450 mm dia piles**	**20.2.1**	783.000	metre	1916.40	1,500,541.20	
14	Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform by Kentledge/Anchor piles method and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer in-charge. Note: 1. Initial and Routine Load Test shall not be carried out by Dynamic method of testing. Note: 2. Testing agency shall submit the design of loading platform for the approval of Engineer-in-charge.	20.6					
	Group of two or more piles upto 50 tonne Safe capacity						
(i)	Initial test (Test Load 2.5 times the Safe capacity)	20.6.3.1	2.000	per test	66227.90	132,455.80	
(ii)	Routine test (Test Load 1.5 times the Safe capacity)	20.6.3.2	7.000	per test	38131.20	266,918.40	
15	Add for plaster drip course/ groove in plastered surface or moulding to R.C.C. projections.	5.30	495.32	RM	64.70	32,047.20	
16	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. Note: Extra cement up to 10% of theminimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.	5.33				-	
(I)	**All works upto plinth level**	5.33.1				-	
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.1.1					
	(i) R.C.C. work in Footing	5.33.1.1	40.02	CUM	8683.80	347,525.68	
	(ii) R.C.C. work in Beam	5.33.1.1	7.75	CUM	8683.80	67,299.45	
	(iii) R.C.C. work in Columns	5.33.1.1	0.70	CUM	8683.80	6,078.66	
						-	
(II)	**All works above plinth level upto floor V level**	5.33.2				-	
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.2.1				-	
	(i) R.C.C. work in Lintel	5.33.2.1	0.80	CUM	10306.20	8,244.96	
	(ii) R.C.C. work in Beam	5.33.2.1	23.71	CUM	10306.20	244,360.00	
	(iii) R.C.C. work in Columns	5.33.2.1	21.33	CUM	10306.20	219,831.25	
	(iv) R.C.C. work in Slab	5.33.2.1	49.23	CUM	10306.20	507,374.23	
D	**Masonry Work**					**-**	
17	Half brick masonry 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. : cement mortar 1:4 (1 cement : 4 coarse sand)	6.13.2	169.63	Sqm	1018.05	172,691.82	
18	Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.	6.15	169.63	SQM	86.45	14,664.51	
19	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in super structure above plinth level up to floor V level in : Cement mortar 1:6 (1 cement : 6 Coarse sand)	6.34.2	119.72	CUM	7676.30	919,006.64	
20	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:Cement mortar 1:6 (1 cement : 6 coarse sand)	6.1.2	8.92	CUM	6658.25	59,391.59	

E	**Cladding Work**					**-**	
	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.	8.2					
	Granite stone slab colour black, Cherry/Ruby red	8.2.2					
21	Area of slab upto 0.50 sqm	8.2.2.1	1.61	SQM	4679.35	7,533.75	
22	Area of slab over 0.50 sqm	8.2.2.2	12.18	SQM	4425.35	53,900.76	
23	Providing edge moulding to 18mm thick marble stone counters, Vanities etc. including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.	8.3				-	
	Granite work	8.3.2	16.10	RM	418.85	6,743.49	
24	Extra for fixing marble /granite stone over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive including cleaning etc. complete.	8.4	16.10	RM	475.55	7,656.36	
						-	
25	Extra for providing opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/Granite/stone work including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	8.5	7.00	NO	808.15	5,657.05	
						-	
26	Providing and fixing Ist quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	8.31	111.05	SQM	1063.45	118,096.12	
						-	
F	**Wood and PVC Work**					**-**	
27	Providing and fixing ISI marked flush door shutters conforming to IS :2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters: 35 mm thick including ISI markedStainless Steel butt hinges with necessary screws	9.21.1	76.44	SQM	2015.75	154,083.93	
						-	
28	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	9.23	76.44	SQM	401.40	30,683.02	
29	P/F curtain rods of 1.25mm thick chromium plated brass plate, with two chromium plated brass brackets fixed with C.P. brass screws and wooden plugs etc. wherever necessary complete (a) 25 mm dia.	9.46.3	34.30	RM	482.30	16,542.89	
30	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete. Twin rubber stopper	9.101.2	49.00	NOS	62.25	3,050.25	
31	Providing and fixing factory made door frame (single rebate) made out of single piece extruded solid PVC foam profile with homogenous fine cellular structure having smooth outer integral skin having 62 mm width & 32 mm thickness, frame will be mitred & Jointed with self driven self tapping screws of size 38 mm x 4 mm & PVC solvent cement, including fixing the frame to wall with suitable dia & length anchor fastener as per manufacturer's specification and direction of Engineer-in-charge.	9.123	69.30	RM	481.85	33,392.21	
32	Providing and fixing PVC rigid foam sheet 1 mm thick on existing door shutters (bathroom and W.C. doors) using synthetic rubber based adhesive.	9.125	22.05	SQM	1293.05	28,511.75	
33	Providing and fixing wire gauge shutters using stainless steel grade 304 wire gauge with wire of dia 0.5 mm and average width of aperture 1.4 mm in both directions for doors, windows and clerestory windows with necessary screws : 30 mm thick shutters With ISI marked stainless steel butt hinges of required size						
	Kiln seasoned and chemically treated hollock wood	9.134.2.2.2	13.23	SQM	3124.15	41,332.50	

34	Providing and fixing fly proof stainless steel grade 304 wire gauge, to windows and clerestory windows using wire gauge with average width of aperture 1.4 mm in both directions with wire of dia. 0.50 mm all complete**.With 12 mm mild steel U beading**	9.135.2	75.30	SQM	1051.75	79,196.78	
35	Providing and fixing bright /matt finished Stainless Steel handles of approved quality & make with necessary screws etc all complete. (a) 125 mm.	9.165.1	102.00	NOS	100.45	10,245.90	
36	Providing & fixing Stainless steel sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with nuts and screws etc complete. (a) 250mm x 16mm .	M.R.	51.00	NOS	560.00		28,560.00
37	Providing and fixing stainless steel towerbolts (barrel type) with necessary screws etc. complete.						
	300 x 10mm	M.R.	51.00	NOS	448.00		22,848.00
	150 x 10mm	M.R.	51.00	NOS	392.00		19,992.00
38	Providing and fixing 6mm thick both sides Pre-laminated cement bonded wood particle board as per IS : 15786:2008 of approved brand and shade with suitable full threaded steel screws etc. on the backing of racks, drawer, cupboard, kitchen cabinet under kitchen counter etc. all complete as per direction of Engineer in-charge.	9.167	41.86	SQM	902.55	37,780.74	
						-	
39	Providing and fixing cupboard shutter with 19mm thick one side decorative and other side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand including 2mm thick PVC edge banding tape with hot glue by edge bending machine etc. with auto closing spring loaded hinges (hydraulic type) etc. complete as per direction of Engineer in-charge.(Payment of providing and fixing auto closing hinges shall be paid separately)	9.168	41.86	SQM	2563.75	107,318.58	
						-	
40	Providing and fixing 19mm thick both side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand boxes,shelves,racks,almirah, cupboard and drawer etc. including necessary nails,screws etc. complete as per direction of Engineer-in-charge.	9.169	154.08	SQM	2339.60	360,485.57	
						-	
41	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge. 200 mm	9.170.1	52.00	Nos.	153.15	7,963.80	
42	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge. **100 mm for Kitchen Cabinets**	Analysis	52.00	Nos.	80.00	4,160.00	
43	Providing and fixing stainless steel soft closing spring hinges at 0 degree hinges (hydraulic type) of approved make/brand to cupboard shutters with full threaded steel screws including making necessary recess in board and finished etc. complete as per direction of Engineer-in-charge	9.170.2	224.00	Nos.	226.75	50,792.00	
44	Providing and fixing stainless steel soft closing heavy type telescopic drawer channels of approved make 500 mm long with screws etc. complete as per directions of Engineer- in-charge	9.170.3	14.00	one se	749.70	10,495.80	
	SS Hanging Rod for CB					-	
45	Providing and fixing **25 mm dia. SS pipe** Hanging rods with SS brackets :	Analysis	13.30	RM	348.00	4,628.40	
G	**Steel Work**					**-**	
46	Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side /top /centre hung, with beading and all members such as F7D, F4B, K11 B and K12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design, (sectional weight of only steel members shall be measured for payment). Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).	10.11.1	1250.28	KG	175.65	219,611.68	

47	Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size	10.13.1	646.80	KG	114.65	74,155.62	
48	Providing and fixing M.S. Tubular frames for doors, windows, ventilators and cupboard with rectangular/ L-Type sections, made of 1.60 mm thick M.S. Sheet, joints mitred, welded and grinded finish, with profiles of required size, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer. Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	10.15.1	1516.27	Kg	146.55	222,209.37	
49	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	10.25.2	166.68	Kg	142.30	23,718.56	
50	Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with : 4.0 mm thick glass panes.	10.30.1	78.18	SQM	940.30	73,512.65	
						-	
H	**Flooring**					**-**	
51	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : 25 mm thick	11.26.1	65.48	SQM	1706.60	111,748.17	
						-	
52	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	11.27	26.72	SQM	2038.55	54,470.06	
						-	
53	Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily.Glazed Vitrified tiles **Matt/Antiskid** finish of size **Size of Tile 600 x 600 mm**	11.41A.3	33.46	SQM	1311.05	43,867.73	
						-	
54	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joints with white cement and matching pigments etc., complete.**size of tile 600x600 mm**	11.41.2	222.39	SQM	1416.65	315,048.79	
55	Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joint with white cement & matching pigments etc. complete.**size of tile 600x600 mm**	11.46.2	32.09	SQM	1466.50	47,059.99	
56	Providing and laying factory made chamfered edge Cement Concrete paver blocks in footpath, parks, lawns, drive ways or light traffic parking etc, of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand. complete all as per direction of Engineer-in-Charge.**60mm thick cement concrete paver block of M-35 grade with approved colour, design & pattern.**	16.91.1	10.70	SQM	932.35	9,976.15	
I	**Finishing**					**-**	
57	15 mm cement plaster on the rough side of single or half brick wall of mix : **1:6 (1 cement: 6 coarse sand)**	13.5.2	707.21	SQM	339.10	239,814.91	

58	12mm cement plaster in single coat on fair side of single or half brick wall for exterior plastering up to floor two level including internal rounded angles chamfers, and/or rounded angles not exceeding 80mm in girth and finished even and smooth no extra for mixing any additive. **1:6 (1 cement: 6 coarse sand)**	13.4.2	1056.18	SQM	294.35	310,886.58	
59	6 mm cement plaster on celling (a) **1:3(1 cement:3 fine sand)**	13.16.1	399.78	SQM	253.05	101,164.33	
60	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer.	13.41.1	1455.96	SQM	162.55	236,666.30	
						-	
61	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade. New work (Two or more coats applied @ 1.43 ltr/ 10 sqm. over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm).	13.47.1	707.21	SQM	162.35	114,815.54	
						-	
	Steel Painting: Applying priming coat	13.50				-	
62	With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	13.50.1	512.44	SQM	61.45	31,489.44	
63	With ready mixed red oxide zink chromate primer of approved brand and manufacture on steel galvanised iron/steel works.	13.50.3	78.18	SQM	55.50	4,338.99	
64	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade:	13.61					
	Two or more coats on new work.	13.61.1	590.62	SQM	131.45	77,637.00	
65	Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade : Two or more coats on new work	13.65.1	130.23	SQM	115.10	14,989.47	
66	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	13.80	399.78	SQM	123.85	49,512.75	
						-	
J	**Water Proofing**					**-**	
67	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying : a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm. This layer will be allowed to air cure for 4 hours. b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.	22.5	51.70	SQM	516.60	26,708.22	
68	Painting top of roofs with bitumen of approved quality @ 17kg per 10 sqm impregnated with a coat of coarse sand at 60 cudm per 10 sqm, including cleaning the slab surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil complete :	12.15					
	With residual type petroleum bitumen of grade VG -10	12.15.1	151.98	SQM	133.15	20,236.14	
69	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.	10.16.1	1139.85	KG	154.90	176,562.77	
70	Supply & Fixing of Prepainted coloured Trapezoidal or approved profiled Sheeting 1000-1020 mm cover width, 28-30 mm high crests with subtle square fluting in the five pan at nominal 190-255 mm (as approved by EIC) centre-to-centre manufactured out of 0.50 mm TCT hi-tensile prepainted Zincalume /Galvalume steel (AZ-150 gsm. Aluminium –Zinc alloy metallic coating of total both sides 550 MPa yield stress as per AS-1397). Colour/ Exterior coat of RMP 20 micron top coat applied over 5 micron primer and a 5 micron polyester back coat applied over 5 microns primer OR equivalent coating/painting. The sheet shall have wide pans with stiffening ribs for effective water shedding and special male/female ends with full return legs on side laps for purlin support. The male end of the sheet shall have anti-capillary flute at side laps to prevent leakages. The sheet shall be fixed by means of anti corrosive approved make "Rust Shield" (Epoxy Polymer) coated self-drilling self tapping fasteners 12-14 X 55 mm with EPDM seals through crest for roofing and 12-24 X 20 mm through valley (pans) for wall cladding. The sheet shall be supplied in lengths maximum up to 6-12 meter long to suit site dimensions. The scope includes all sealing of joint, curves, edges or other accessories with silicon sealant.	M.R.	151.98	SQM	1060.00		161,098.80
71	Providing and filling of cinder in sunken portions.	M.R.	6.73	CUM	2240.00		15,075.20
					Total	**11,658,605.27**	**247,574.00**
				Say	**Rs. In Lacs**	**116.59**	**2.48**

SUMMARY SHEET OF PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)			
TYPE II RESIDENCE, G+3 (7 Nos)			
Sl.No.	Name of Work	TOTAL AMOUNT (IN RS.)	
		DSR-2022	MR
I	SUB HEAD - I: CIRCUIT CUM POINT WIRING	1,009,107.00	16,931.65
II	SUBHEAD -II - FITTINGS & FIXTURES	57,330.00	118,920.36
III	SUBHEAD - III - DISTRIBUTION BOARDS	120,787.00	-
IV	SUB HEAD-IV , LIGHTNING CONDUCTOR	43,510.00	
	TOTAL	1,230,734.00	135,852.01
	Say inn lacs	12.31	1.36

PROJECT :- PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)								
Detailed Estimate for ELECTRICAL Works TYPE-2 (G+3) RESIDENCE 7 Nos								
S.No.	DSR-2022/NSI	Description	Unit	Qty	Rate		Amount	
					DSR-2022	NSI	DSR-2022	NSI
		SUB HEAD - I: CIRCUIT CUM POINT WIRING						
		SWITCH CONTROL LIGHT POINTS						
1	**DSR 1.10**	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	**DSR 1.10.3**	Group C	Point	126	1,467.00		184,842	
2	**DSR-1.55**	**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 **PVC conduit**, **and earthing the point with 1.5 sq. mm** FRLS PVC insulated **copper conductor single core cable** etc as required. **(Switch Control Secondary Points)**	Point		858.00		-	
2.1	**DSR-1.55.3**	Group C						
3	**DSR-1.3**	**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 **steel 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. **(Switch Control Primary Points)**						
3.1	**DSR-1.3.3**	Group C	Point	0	1,845.00		-	
4	**DSR-1.54**	**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. **(Switch Control Secondary Points)**						
4.1	**DSR-1.54.3**	Group C	Point	0	1,094.00		-	
		MCB CONTROL LIGHT POINTS						

5	**NSI-1**	**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 **steel 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. **(Switch Control Primary Points)**						
5.1	**NSI-1.1**	**Primary point controlled by one MCB.**	Point	4		1,523.13		6,093
5.2	**NSI-1.2**	Same as item above but **Secondary point**. i.e. Points to be looped with Primary point with 2.5 sqmm wire and Point wiring	Point	8		1,354.89		10,839
6	**DSR 1.5**	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	450	433.00		194,850	
7	**DSR 1.7**	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.						
7.1	**DSR 1.7.1**	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Metre	0	327.00		-	
7.2	**DSR 1.7.2**	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	550	369.00		202,950	
7.3	**DSR 1.7.4**	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	350	589.00		206,150	
7.4	**DSR 1.7.5**	2 x 10 sq. mm + 1 x 10 sq.mm earth wire	Metre	0	710.00		-	
7.5	**DSR 1.7.10**	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	120	1,166.00		139,920	
7.6	**DSR 1.7.11**	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	0	1,645.00		-	
8	**DSR 1.31**	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 Amp modular socket outlet and 5/6 A modular	Each	49	477.00		23,373	
9	**NSI-2**	Supply and Wiring for 250 volts single phase and neutral 2 Nos 6 amps socket outlate with control by 1 No switched with 2.5 sq.mm PVC insulated copper conductor 1100 volts grade stranded flexible FRLS wires in concealed or surface mounted 25 mm dia 2mm thick PVC conduit including providing and fixing of 6 amps 3 pin switch socket outlet of aprpoved make and design in 2 mm thick GI box with grid plate and earthing of third pin of the socket with 2.5 Sq. mm PVC insulated copper conductor stranded flexible FRLS wire.(maximum four no. of switches socket shall be connected on one circuit)	Each	0		1,782		-
10	**DSR 1.32**	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 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	Each	49	586.00		28,714.00	

11	**NSI-3**	Supplying and fixing 63 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 63 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		11,284.98		-
12	**NSI-4**	Supplying and fixing 80 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 80 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		17,343.23		-
13	**DSR-1.33**	Supplying and fixing **3 pin, 5 A ceiling rose** on the existing junction box/ wooden block including connections etc. as required.	Each	21	87		1,827.00	
14	**DSR-1.57**	Supplying & fixing suitable size GI box wih modular plate and cover in front on surface or in recess i/c providing and fixing 25 amp modular socket outlet and 25 Amps modular SP MCB, “C” curve including connection, painting etc. as required. (AC's & Gysers)	Each	35	727		25,445.00	
15	**DSR 1.24**	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.						
15.1	**DSR 1.24.6**	Telephone socket outlet	Nos	7	148.00		1,036.00	
16	**DSR 1.27**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
16.1	**DSR 1.27.1**	1 or 2 Module (75mmX75mm)	Nos	0	298.00		-	
16.2	**DSR 1.27.4**	6 module (78mm X 205 mm X 50 mm)	Nos	0	402.00		-	
17	**DSR 1.24**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
17.1	**DSR 1.24.4**	3 pin , 5/6 amps socket outlet	Each	0	122.00		-	
17.1	**DSR 1.24.1**	5/6 amps switch	Each	0	103.00		-	
18	**DSR 1.21**	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.						
18.1	**DSR 1.21.2**	25 mm	Mtr	0	145.00		-	
18.2	**DSR 1.21.3**	32 mm	Mtr	0	184.00		-	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - I					**1,009,107.00**	**16,931.65**
		SUBHEAD -II - FITTINGS & FIXTURES						

1	**NSI-1**	Supply, Installation, Testing and Commissioning of 10 W Bulk head Light.	Each	0		1,158.20		-
2	**NSI-2**	Supply, Installation, Testing and Commissioning of 5W Mirror Light.	Each	0		445.46		-
3	**NSI-3**	Supply, Installation, Testing and Commissioning of 18W Surface/Recessed Mounted LED circular Downlighter.	Each	0		1,470.02		-
4	**NSI-4**	Supply, Installation, Testing and Commissioning of 18/20W Wall/Surface mouted 4 ft. LED	Each	28		1,336.38		37,418.61
5	**NSI-5**	Supply, Installation, Testing and Commissioning of 15W Surface mounted LED Square Downlighter.	Each	19		1,380.93		26,237.58
6	**NSI-6**	Supply, Installation, Testing and Commissioning of 150 W CHANDELIER	Each	0		89,091.94		-
7	**NSI-7**	Supply, Installation, Testing and Commissioning of 12/9W Recessed mounted LED circular Downlighter.	Each	0		1,069.10		-
8	**NSI-8**	Supply, Installation, Testing and Commissioning of 9W (Nominal) Wall Bracket Light	Each	35		222.73		7,795.54
9	**DSR 19.1**	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019),THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	Each	21	2,730.00		57,330.00	-
10	**NSI-9**	Supply Installation, Testing and Commissioning of 250 mm dia Domestic Exhaust Fan	Each	21		2,260.41		47,468.63
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - II					**57,330.00**	**118,920.36**
		SUBHEAD - III - DISTRIBUTION BOARDS						
1	**DSR 2.3**	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)						
1.1	**DSR 2.3.1**	6 way, Double door	Each	0	2206		-	

1.2	**DSR 2.3.2**	8 way, Double door	Each	0	2573		-	
1.3	**DSR 2.3.3**	12 way, Double door	Each	0	2315		-	
2	**DSR 2.4**	Supplying and fixing following way, three pole and neutral, sheet steel, MCB distribution board, 415 volts, on surface/ recess complete with tinned copper busbar, neutral busbar, earth bar, din bar, detachable gland plate, interconnections, phosphatized and powder painted including earthing etc. as required. (But without MCB/ RCCB/ Isolator)						
2.1	**DSR 2.4.1**	4 way (4 + 12), Double door	Each	0	4,091.00		-	
2.2	**DSR 2.4.2**	6 way (4 + 18), Double door	Each	7	4,974.00		34,818.00	
2.3	**DSR 2.4.3**	8 way (4 + 24), Double door	Each	0	5,967.00		-	
3	**DSR 2.5**	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note :Vertical type MCB TPDB is normally used where 3 phase outlets are						
3.1	**DSR 2.5.3**	12 way (4 + 36), Double door	Each	0	12833		-	
4	**DSR 2.10**	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "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.						
4.1	**2.10.1**	Single Pole	Each	84	256		21,504.00	
4.2	**2.10.2**	Single Pole Neutral	Each	0	599		-	
5	**DSR 2.12**	Supplying and fixing following rating, double pole, 240 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
5.1	**DSR 2.12.1**	40 A	Each	0	435		-	
5.2	**DSR 2.12.2**	63 A	Each	0	527		-	
6	**DSR 2.13**	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
6.1	**DSR 2.13.1**	25 A	Each	0	970		-	
6.1	**DSR 2.13.1**	40 A	Each	0	970		-	
6.2	**DSR 2.13.2**	63 A	Each	7	1034		7,238.00	
7	**DSR 2.14**	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
7.1	**DSR 2.14.1**	25 A	Each	0	2028		-	
7.2	**DSR 2.14.2**	40 A	Each	0	2642		-	
7.3	**DSR 2.14.3**	63 A	Each	21	2722		57,162.00	

8	**DSR 2.11**	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	5	13		65.00	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - III					**120,787.00**	**-**
VI		**SUB HEAD-IV , LIGHTNING CONDUCTOR**						
		LIGHTNING CONDUCTOR						
1	6.2	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required.	Each	4.0	518.00		2,072.00	
2	6.3	Fixing of lightning conductor finial (single prong) with base plate including holes etc. complete as required.	Each	4.0	360.00		1,440.00	
3	6.4	Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required.	Metre	10.0	113.00		1,130.00	
4	6.7	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)	Metre	60.0	126.00		7,560.00	
5	6.8	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	40.0	197.00		7,880.00	
6	6.10	Fixing of copper/ G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	20.0	162.00		3,240.00	
7	6.12	Providing and fixing testing joint, made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 nos. of G.I. bolts, nuts, chuck nuts and spring washers etc. complete as required.	Each	20.0	121.00		2,420.00	
8	5.4	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 metre long etc. with charcoal/ coke and salt as required. Details of cost for one Set	Each	2.0	7,472.00		14,944.00	
9	5.11	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.	Metre	4.0	706.00		2,824.00	
		TOTAL SUB HEAD (VI)					**43,510.00**	

Construction of Phase-A works at JNV Cooch Behar(WB)

ABSTRACT OF COST

[GUEST HOUSE]

S.N.	DESCRIPTION OF ITEM	DSR 2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
A	**Earth Work**						
1	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						
a.)	All kinds of soil	2.8.1	17.81	CUM	286.85	5,108.80	
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 upto 50 m and lift upto 1.5 m.	2.25	12.47	CUM	253.95	3,165.99	
3	Supplying and filling in plinth with sand under floors, including watering, ramming,consolidating and dressing complete.	2.27	2.94	CUM	2161.20	6,353.93	
4	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.	2.25a	12.25	CUM	368.65	4,515.96	
B	**Concrete Work**						
5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:5:10 (1 cement : 5 coarse sand (zoneIII)derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	4.1.10	5.79	CUM	6050.65	35,033.26	
6	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 12.5mm nominal size derived from natural sources)	4.10	10.93	SQM	370.85	4,053.39	
7	Providing & applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	4.13	10.93	SQM	113.85	1,244.38	
8	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand,including necessary excavation,levelling & dressing & finishing the top smooth.	4.17	26.08	SQM	681.65	17,777.43	
9	Brick edging in full brick width and half brick depth including excavation refilling and disposal of surplus earth lead upto 50 metres. With common burnt clay F.P.S.(non modulur) bricks of class designation 75	16.7.1	34.77	RM	179.50	6,241.22	
C	**Reinforced Cement Concrete**						

10	Centering and shuttering including strutting, propping etc. and removal of form for all heights :						
(a)	Foundations, footings, bases of columns, etc. for mass concrete.	5.9.1	32.30	SQM	307.95	9,946.79	
(b)	Suspended floors, roofs, landings, balconies and access platform.	5.9.3	66.69	SQM	766.55	51,121.22	
(c)	Lintels, beams, plinth beams, girders, bressumers	5.9.5	82.38	SQM	608.35	50,115.87	
(d)	Columns,Pillars, Piers, Abutments, Posts and Struts.	5.9.6	54.60	SQM	804.25	43,912.05	
(e)	Edges of slabs and breaks in floors and walls Under 20 cm wide.	5.9.16.1	34.67	RM	181.90	6,306.47	
11	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.	5.22.6	36.34	QTL.	8965.00	325,788.10	
12	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete a**bove plinth level.** Thermo-Mechanically Treated bars of grade Fe-500 D or more.	5.22.A.6	19.35	QTL.	8965.00	173,472.75	
	PILE WORK						
13	Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by percussion drilling using Direct mud circulation (DMC) or Bailer and chisel technique by tripod and mechanical Winch Machine all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap). Note: Truck Mounted rotary/TMR/Tubewell boring machine shall not be used . **450 mm dia piles**	**20.2.1**	189.000	metre	1916.40	362,199.60	
14	Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform by Kentledge/Anchor piles method and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer in-charge. Note: 1. Initial and Routine Load Test shall not be carried out by Dynamic method of testing. Note: 2. Testing agency shall submit the design of loading platform for the approval of Engineer-in-charge.	20.6					
	Single pile upto 50 tonne Safe capacity						
(i)	Initial test (Test Load 2.5 times the Safe capacity)	20.6.1.1	1.000	per test	51510.60	51,510.60	
(ii)	Routine test (Test Load 1.5 times the Safe capacity)	20.6.1.2	3.000	per test	18463.55	55,390.65	
15	**Group of two or more piles upto 50 tonne Safe capacity**						
(i)	Initial test (Test Load 2.5 times the Safe capacity)	20.6.3.1	1.000	per test	66227.90	66,227.90	
(ii)	Routine test (Test Load 1.5 times the Safe capacity)	20.6.3.2	1.000	per test	38131.20	38,131.20	
16	Add for plaster drip course/ groove in plastered surface or moulding to R.C.C. projections.	5.30	91.77	RM	64.70	5,937.52	

17	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. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.	5.33					
(I)	**All works upto plinth level**	5.33.1					
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.1.1					
	(i) R.C.C. work in Footing	5.33.1.1	6.43	CUM	8683.80	55,836.83	
	(ii) R.C.C. work in Beam	5.33.1.1	4.14	CUM	8683.80	35,950.93	
	(iii) R.C.C. work in Columns	5.33.1.1	0.59	CUM	8683.80	5,123.44	
(II)	**All works above plinth level upto floor V level**	5.33.2					
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.2.1					
	(i) R.C.C. work in Lintel	5.33.2.1	0.34	CUM	10306.20	3,504.11	
	(ii) R.C.C. work in Beam	5.33.2.1	3.42	CUM	10306.20	35,247.20	
	(iii) R.C.C. work in Columns	5.33.2.1	3.51	CUM	10306.20	36,174.76	
	(iv) R.C.C. work in Slab	5.33.2.1	8.69	CUM	10306.20	89,560.88	
D	**Masonry Work**						
18	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundations and plinth in : cement mortar 1:4 (1 cement : 4 coarse sand)	6.13.2	9.11	Sqm	1018.05	9,274.44	
19	Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.	6.15	9.11	SQM	86.45	787.56	
20	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in superstructure above plinth level up to floor V level in :	6.34					
	Cement mortar 1:6 (1 cement : 6 coarse sand)	6.34.2	24.66	CUM	7676.30	189,297.56	
21	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in: Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:	6.1.2	6.07	CUM	6658.25	40,415.58	
E	**Cladding Work**						
	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels						
22	Area of slab upto 0.50 sqm	8.2.2.1	0.15	SQM	4679.35	701.90	
23	Area of slab over 0.50 sqm	8.2.2.2	0.90	SQM	4425.35	3,982.82	

24	Providing edge moulding to 18mm thick marble stone counters, Vanities etc. including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.						
	Granite work	8.3.2	1.50	RM	418.85	628.28	
25	Extra for fixing marble /granite stone over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive including cleaning etc. complete.	8.4	1.50	RM	475.55	713.33	
26	Extra for providing opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/Granite/stone work including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete	8.5	2.00	NO	808.15	1,616.30	
27	Providing and fixing Ist quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	8.31	23.92	SQM	1063.45	25,437.72	
F	**Wood and PVC Work**						
28	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	9.21.1	9.03	SQM	2015.75	18,202.22	
29	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	9.23	9.03	SQM	401.40	3,624.64	
30	Providing and fixing oxidised M.S. casement stays (straight peg type) with necessary screws etc. complete.						
(i)	300 mm weighing not less than 200 gms	9.68.1	12.00	NOS	59.25	711.00	
(ii)	250 mm weighing not less than 150 gms	9.68.2	2.00	NOS	51.90	103.80	
31	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete. Twin rubber stopper	9.101.2	6.00	NOS	62.25	373.50	
32	Providing and fixing factory made door frame (single rebate) made out of single piece extruded solid PVC foam profile with homogenous fine cellular structure having smooth outer integral skin having 62 mm width & 32 mm thickness, frame will be mitred & Jointed with self driven self tapping screws of size 38 mm x 4 mm & PVC solvent cement, including fixing the frame to wall with suitable dia & length anchor fastener as per manufacturer's specification and direction of Engineer-in-charge.	9.123	9.90	RM	481.85	4,770.32	
33	Providing and fixing PVC rigid foam sheet 1 mm thick on existing door shutters (bathroom and W.C. doors) using synthetic rubber based adhesive.	9.125	3.15	SQM	1293.05	4,073.11	

34	Providing & Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt/ suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality. 1.0 mm thick	9.127.2	14.91	SQM	764.00	11,391.24	
35	Providing and fixing wire gauge shutters using stainless steel grade 304 wire gauge with wire of dia 0.5 mm and average width of aperture 1.4 mm in both directions for doors, windows and clerestory windows with necessary screws : **30 mm thick shutters With ISI marked stainless steel butt hinges of required size,** Kiln seasoned and chemically treated hollock wood	9.134.2.2.2	2.10	SQM	3124.15	6,560.72	
36	Providing and fixing fly proof stainless steel grade 304 wire gauge, to windows and clerestory windows using wire gauge with average width of aperture 1.4 mm in both directions with wire of dia. 0.50 mm all complete**.With 12 mm mild steel U beading**	9.135.2	7.92	SQM	1051.75	8,329.86	
37	Providing and fixing bright /matt finished Stainless Steel handles of approved quality & make with necessary screws etc all complete. (a) 125 mm.	9.165.1	12.00	NOS	100.45	1,205.40	
38	Providing & fixing Stainless steel sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with nuts and screws etc complete. (a) 250mm x 16mm .	M.R.	6.00	NOS	560.00		3,360.00
39	Providing and fixing stainless steel towerbolts (barrel type) with necessary screws etc. complete.						
	300 x 10mm	M.R.	6.00	NOS	448.00		2,688.00
	150 x 10mm	M.R.	6.00	NOS	392.00		2,352.00
40	Providing and fixing 6mm thick both sides Pre-laminated cement bonded wood particle board as per IS : 15786:2008 of approved brand and shade with suitable full threaded steel screws etc. on the backing of racks, drawer, cupboard, kitchen cabinet under kitchen counter etc. all complete as per direction of Engineer in-charge.	9.167	7.74	SQM	902.55	6,985.74	
						-	
41	Providing and fixing cupboard shutter with 19mm thick one side decorative and other side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand including 2mm thick PVC edge banding tape with hot glue by edge bending machine etc. with auto closing spring loaded hinges (hydraulic type) etc. complete as per direction of Engineer in-charge.(Payment of providing and fixing auto closing hinges shall be paid separately)	9.168	7.74	SQM	2563.75	19,843.43	
						-	
42	Providing and fixing 19mm thick both side balancing lamination factory pressed BWP grade marine ply as per IS 710 of approved brand boxes,shelves,racks,almirah, cupboard and drawer etc. including necessary nails,screws etc. complete as per direction of Engineer-in-charge.	9.169	16.85	SQM	2339.60	39,422.26	
						-	

43	Providing and fixing stainless steel fancy handle of approved make fixed with SS screws etc. complete as per direction of Engineer-in-charge. 200 mm for CB	9.170.1	6.00	Nos.	153.15	918.90	
44	Providing and fixing stainless steel soft closing spring hinges at 0 degree hinges (hydraulic type) of approved make/brand to cupboard shutters with full threaded steel screws including making necessary recess in board and finished etc. complete as per direction of Engineer-in-charge	9.170.2	16.00	Nos.	226.75	3,628.00	
	SS Hanging Rod for CB					-	
45	Providing and fixing **25 mm dia. SS pipe** Hanging rods with SS brackets :	Analysis	2.90	RM	348.00	1,009.20	
G	**Steel Work**						
46	Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer.	10.13.1	72.60	KG	114.65	8,323.59	
47	Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with : 4.0 mm thick glass panes.	10.30.1	17.92	SQM	940.30	16,850.18	
48	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) : Powder coated aluminium (minimum thickness of powder coating 50 micron)	21.1.1.2	393.50	Kg	466.30	183,489.05	
49	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)	21.1.2.2	103.68	Kg	564.80	58,558.46	
50	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item): With float glass panes of 4.0 mm thickness (weight not less than 10kg/sqm)	21.3	17.92	sqm	1019.80	18,274.82	

51	Filling the gap in between aluminium frame & adjacent RCC/ Brick/ Stone work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete. Upto 5mm depth and 5 mm width	21.8	77.44	metre	85.25	6,601.76	
H	**Flooring**						
52	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : 25 mm thick	11.26.1	4.24	SQM	1706.60	7,235.98	
53	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	11.27	3.56	SQM	2038.55	7,257.24	
54	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 @ 3.3kg/sqm including pointing the joints with white cement and matching pigment etc., complete.	11.37	6.40	SQM	935.60	5,987.84	
55	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joints with white cement and matching pigments etc., complete. Size of Tile 600x600 mm.	11.41.2	41.33	SQM	1416.65	58,550.14	
						-	
56	Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joint with white cement & matching pigments etc. complete. Size of Tile 600x600 mm	11.46.2	4.55	SQM	1466.50	6,672.58	
I	**Finishing**						
57	12mm cement plaster in single coat on fair side of single or half brick wall for exterior plastering up to floor two level including internal rounded angles chamfers, and/or rounded angles not exceeding 80mm in girth and finished even and smooth no extra for mixing any additive. 1:6 (1 cement: 6 coarse sand)	13.4.2	91.96	SQM	294.35	27,068.43	
58	15 mm cement plaster on the rough side of single or half brick wall of mix : 1:6 (1 cement: 6 coarse sand)	13.5.2	124.47	SQM	339.10	42,207.78	
59	6 mm cement plaster on celling (a) 1:3(1 cement:3 fine sand)	13.16.1	77.19	SQM	253.05	19,532.93	

60	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer.	13.41.1	201.66	SQM	162.55	32,779.83	
61	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade. New work (Two or more coats applied @ 1.43 ltr/ 10 sqm. over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm).	13.47.1	91.96	SQM	162.35	14,929.71	
	Applying priming coat:	13.50					
62	With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	13.50.1	54.38	SQM	61.45	3,341.59	
63	With ready mixed red oxide zink chromate primer of approved brand and manufacture on steel galvanised iron/steel works.	13.50.3	7.28	SQM	55.50	404.04	
64	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade:						
	Two or more coats on new work.	13.61.1	61.66	SQM	131.45	8,105.08	
65	Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade : Two or more coats on new work	13.65.1	16.98	SQM	115.10	1954.40	
66	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	13.80	91.96	SQM	123.85	11,389.25	
J	**Water Proofing**						
67	Painting top of roofs with bitumen of approved quality @ 17kg per 10 sqm impregnated with a coat of coarse sand at 60 cudm per 10 sqm, including cleaning the slab surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil complete :	12.15					
	With residual type petroleum bitumen of grade VG -10	12.15.1	87.81	SQM	133.15	11,691.90	
68	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.	10.16.1	702.48	KG	154.90	108,814.15	

69	Supply & Fixing of Prepainted coloured Trapezoidal or approved profiled Sheeting 1000-1020 mm cover width, 28-30 mm high crests with subtle square fluting in the five pan at nominal 190-255 mm (as approved by EIC) centre-to-centre manufactured out of 0.50 mm TCT hi-tensile prepainted Zincalume /Galvalume steel (AZ-150 gsm. Aluminium –Zinc alloy metallic coating of total both sides 550 MPa yield stress as per AS-1397). Colour/ Exterior coat of RMP 20 micron top coat applied over 5 micron primer and a 5 micron polyester back coat applied over 5 microns primer OR equivalent coating/painting. The sheet shall have wide pans with stiffening ribs for effective water shedding and special male/female ends with full return legs on side laps for purlin support. The male end of the sheet shall have anti-capillary flute at side laps to prevent leakages. The sheet shall be fixed by means of anti corrosive approved make "Rust Shield" (Epoxy Polymer) coated self-drilling self tapping fasteners 12-14 X 55 mm with EPDM seals through crest for roofing and 12-24 X 20 mm through valley (pans) for wall cladding. The sheet shall be supplied in lengths maximum up to 6-12 meter long to suit site dimensions. The scope includes all sealing of joint, curves, edges or other accessories with silicon sealant.	M.R.	87.81	SQM	1060.00		93,078.60
					TOTAL	**2,648,982.78**	**101,478.60**
					Say Rs. In Lacs	**26.49**	**1.01**

SUMMARY SHEET OF PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)			
Guset House Electrical Work			
Sl.No.	Name of Work	TOTAL AMOUNT (IN RS.)	
		DSR-2022	MR
I	SUB HEAD - I: CIRCUIT CUM POINT WIRING	240,678.00	-
II	SUBHEAD -II - FITTINGS & FIXTURES	10,920.00	13,741.84
III	SUBHEAD - III - DISTRIBUTION BOARDS	16,765.00	-
IV	SUB HEAD-IV , LIGHTNING CONDUCTOR	23,257.00	
	TOTAL	291,620.00	13,741.84
	Say in lacs	2.92	0.14

CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)								
Detailed Estimate for ELECTRICAL Works GUEST HOUSE								
S.No.	**DSR-2022/NSI**	**Description**	**Unit**	**Qty**	**Rate**		**Amount**	
					DSR-2022	**NSI**	**DSR-2022**	**NSI**
		SUB HEAD - I: CIRCUIT CUM POINT WIRING						
		SWITCH CONTROL LIGHT POINTS						
1	**DSR 1.10**	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	**DSR 1.10.3**	Group C	Point	21	1,467.00		30,807	
2	**DSR-1.55**	**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 **PVC conduit**, **and earthing the point with 1.5 sq. mm** FRLS PVC insulated **copper conductor single core cable** etc as required. **(Switch Control Secondary Points)**	Point	2	858.00		1,716	
2.1	**DSR-1.55.3**	Group C						
3	**DSR-1.3**	**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 **steel 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. **(Switch Control Primary Points)**						
3.1	**DSR-1.3.3**	Group C	Point	0	1,845.00		-	
4	**DSR-1.54**	**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. **(Switch Control Secondary Points)**						
4.1	**DSR-1.54.3**	Group C	Point	0	1,094.00		-	
		MCB CONTROL LIGHT POINTS						
5	**NSI-1**	**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 **steel 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. **(Switch Control Primary Points)**						
5.1	**NSI-1.1**	**Primary point controlled by one MCB.**	Point	0		1,523.13		-
5.2	**NSI-1.2**	Same as item above but **Secondary point**. i.e. Points to be looped with Primary point with 2.5 sqmm wire and Point wiring	Point	0		1,354.89		-

6	**DSR 1.5**	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	60	433.00		25,980	
7	**DSR 1.7**	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.						
7.1	**DSR 1.7.1**	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Metre	0	327.00		-	
7.2	**DSR 1.7.2**	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	180	369.00		66,420	
7.3	**DSR 1.7.4**	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	80	589.00		47,120	
7.4	**DSR 1.7.5**	2 x 10 sq. mm + 1 x 10 sq.mm earth wire	Metre	0	710.00		-	
7.5	**DSR 1.7.10**	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	50	1,166.00		58,300	
7.6	**DSR 1.7.11**	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	0	1,645.00		-	
8	**DSR 1.31**	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 Amp modular socket outlet and 5/6 A modular switch, connection etc. as required.	Each	6	477.00		2,862	
9	**NSI-2**	Supply and Wiring for 250 volts single phase and neutral 2 Nos 6 amps socket outlate with control by 1 No switched with 2.5 sq.mm PVC insulated copper conductor 1100 volts grade stranded flexible FRLS wires in concealed or surface mounted 25 mm dia 2mm thick PVC conduit including providing and fixing of 6 amps 3 pin switch socket outlet of aprpoved make and design in 2 mm thick GI box with grid plate and earthing of third pin of the socket with 2.5 Sq. mm PVC insulated copper conductor stranded flexible FRLS wire.(maximum four no. of switches socket shall be connected on one circuit)	Each	0		1,782		-
10	**DSR 1.32**	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 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	Each	6	586.00		3,516.00	
11	**NSI-3**	Supplying and fixing 63 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 63 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		11,284.98		-
12	**NSI-4**	Supplying and fixing 80 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 80 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		17,343.23		-
13	**DSR-1.33**	Supplying and fixing **3 pin, 5 A ceiling rose** on the existing junction box/ wooden block including connections etc. as required.	Each	2	87		174.00	
14	**DSR-1.57**	Supplying & fixing suitable size GI box wih modular plate and cover in front on surface or in recess i/c providing and fixing 25 amp modular socket outlet and 25 Amps modular SP MCB, "C" curve including connection, painting etc. as required. (AC's & Gysers)	Each	5	727		3,635.00	
15	**DSR 1.24**	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.						
15.1	**DSR 1.24.6**	Telephone socket outlet	Nos	1	148.00		148.00	

16	**DSR 1.27**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
16.1	**DSR 1.27.1**	1 or 2 Module (75mmX75mm)	Nos	0	298.00		-	
16.2	**DSR 1.27.4**	6 module (78mm X 205 mm X 50 mm)	Nos	0	402.00		-	
17	**DSR 1.24**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
17.1	**DSR 1.24.4**	3 pin , 5/6 amps socket outlet	Each	0	122.00		-	
17.1	**DSR 1.24.1**	5/6 amps switch	Each	0	103.00		-	
18	**DSR 1.21**	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.						
18.1	**DSR 1.21.2**	25 mm	Mtr	0	145.00		-	
18.2	**DSR 1.21.3**	32 mm	Mtr	0	184.00		-	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - I					**240,678.00**	**-**
		SUBHEAD -II - FITTINGS & FIXTURES						
1	**NSI-1**	Supply, Installation, Testing and Commissioning of 10 W Bulk head Light.	Each	0		1,158.20		-
2	**NSI-2**	Supply, Installation, Testing and Commissioning of 5W Mirror Light.	Each	2		445.46		890.92
3	**NSI-3**	Supply, Installation, Testing and Commissioning of 18W Surface/Recessed Mounted LED circular Downlighter.	Each	0		1,470.02		-
4	**NSI-4**	Supply, Installation, Testing and Commissioning of 18/20W Wall/Surface mouted 4 ft. LED	Each	3		1,336.38		4,009.14
5	**NSI-5**	Supply, Installation, Testing and Commissioning of 15W Surface mounted LED Square Downlighter.	Each	2		1,380.93		2,761.85
6	**NSI-6**	Supply, Installation, Testing and Commissioning of 150 W CHANDELIER	Each	0		89,091.94		-
7	**NSI-7**	Supply, Installation, Testing and Commissioning of 12/9W Recessed mounted LED circular Downlighter.	Each	0		1,069.10		-
8	**NSI-8**	Supply, Installation, Testing and Commissioning of 9W (Nominal) Wall Bracket Light	Each	7		222.73		1,559.11
9	**DSR 1.21**	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019),THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	Each	4	2,730.00		10,920.00	-
10	**NSI-9**	Supply Installation, Testing and Commissioning of 250 mm dia Domestic Exhaust Fan	Each	2		2,260.41		4,520.82

		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - II					**10,920.00**	**13,741.84**
		SUBHEAD - III - DISTRIBUTION BOARDS						
1	**DSR 2.3**	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)						
1.1	**DSR 2.3.1**	6 way, Double door	Each	0	2206		-	
1.2	**DSR 2.3.2**	8 way, Double door	Each	0	2573		-	
1.3	**DSR 2.3.3**	12 way, Double door	Each	0	2315		-	
2	**DSR 2.4**	Supplying and fixing following way, three pole and neutral, sheet steel, MCB distribution board, 415 volts, on surface/ recess complete with tinned copper busbar, neutral busbar, earth bar, din bar, detachable gland plate, interconnections, phosphatized and powder painted including earthing etc. as required. (But without MCB/ RCCB/ Isolator)						
2.1	**DSR 2.4.1**	4 way (4 + 12), Double door	Each	0	4,091.00		-	
2.2	**DSR 2.4.2**	6 way (4 + 18), Double door	Each	1	4,974.00		4,974.00	
2.3	**DSR 2.4.3**	8 way (4 + 24), Double door	Each	0	5,967.00		-	
3	**DSR 2.5**	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note :Vertical type MCB TPDB is normally used where 3 phase outlets are required.)						
3.1	**DSR 2.5.3**	12 way (4 + 36), Double door	Each	0	12833		-	
4	**DSR 2.10**	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "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.						
4.1	**2.10.1**	Single Pole	Each	12	256		3,072.00	
4.2	**2.10.2**	Single Pole Neutral	Each	0	599		-	
5	**DSR 2.12**	Supplying and fixing following rating, double pole, 240 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
5.1	**DSR 2.12.1**	40 A	Each	0	435		-	
5.2	**DSR 2.12.2**	63 A	Each	1	527		527.00	
6	**DSR 2.13**	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
6.1	**DSR 2.13.1**	25 A	Each	0	970		-	
6.1	**DSR 2.13.1**	40 A	Each	0	970		-	
6.2	**DSR 2.13.2**	63 A	Each	0	1034		-	

7	**DSR 2.14**	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
7.1	**DSR 2.14.1**	25 A	Each	0	2028		-	
7.2	**DSR 2.14.2**	40 A	Each	0	2642		-	
7.3	**DSR 2.14.3**	63 A	Each	3	2722		8,166.00	
8	**DSR 2.11**	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	2	13		26.00	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - III					**16,765.00**	**-**
VI		**SUB HEAD-IV , LIGHTNING CONDUCTOR**						
		LIGHTNING CONDUCTOR						
1	6.2	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required.	Each	2.0	518.00		1,036.00	
2	6.3	Fixing of lightning conductor finial (single prong) with base plate including holes etc. complete as required.	Each	2.0	360.00		720.00	
3	6.4	Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required.	Metre	5.0	113.00		565.00	
4	6.7	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)	Metre	40.0	126.00		5,040.00	
5	6.8	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	20.0	197.00		3,940.00	
6	6.10	Fixing of copper/ G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Metre	10.0	162.00		1,620.00	
7	6.12	Providing and fixing testing joint, made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 nos. of G.I. bolts, nuts, chuck nuts and spring washers etc. complete as required.	Each	12.0	121.00		1,452.00	
8	5.4	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 metre long etc. with charcoal/ coke and salt as required. Details of cost for one Set	Each	1.0	7,472.00		7,472.00	
9	5.11	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.	Metre	2.0	706.00		1,412.00	
		TOTAL SUB HEAD (VI)					**23,257.00**	

Construction of Phase-A works at JNV Cooch Behar(WB)

ABSTRACT OF COST

DETAILS OF MEASUREMENT ELECTRIC SUB STATION BUILDING (ESS)

S.N.	DESCRIPTION OF ITEM	DSR 2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
A	**Earth Work**						
1	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	2.8.1	9.93	CUM	286.85	2,848.42	
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 upto 50 m and lift upto 1.5 m.	2.25	6.95	CUM	253.95	1,764.95	
3	Supplying and filling in plinth with sand under floors, including watering,ramming, consolidating and dressing complete.	2.27	3.68	CUM	2161.20	7,953.22	
4	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.	2.25a	22.10	CUM	368.65	8,147.17	
B	**Concrete Work**						
5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:5:10 (1 cement : 5 coarse sand (zoneIII)derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	4.1.10	8.42	CUM	6050.65	50,946.47	
6	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 12.5mm nominal size derived from natural sources)	4.10	6.32	SQM	370.85	2,343.77	
7	Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification.	4.12	2.00	per 50kg cement	57.15	114.30	
8	Providing & applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	4.13	6.32	SQM	113.85	719.53	
9	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand,including necessary excavation,levelling & dressing & finishing the top smooth.	4.17	24.330	SQM	681.65	16,584.54	
10	Brick edging in full brick width and half brick depth including excavation refilling and disposal of surplus earth lead upto 50 metres. With common burnt clay F.P.S.(non modulur) bricks of class designation 75	16.7.1	40.55	RM	179.50	7,278.73	
C	**Reinforced Cement Concrete**						
11	Centering and shuttering including strutting, propping etc. and removal of form for all heights :						
(a)	Foundations, footings, bases of columns, etc. for mass concrete.	5.9.1	4.48	SQM	307.95	1,379.62	
(b)	Suspended floors, roofs, landings, balconies and access platform.	5.9.3	66.07	SQM	766.55	50,645.96	
(c)	Lintels, beams, plinth beams, girders, bressumers	5.9.5	63.57	SQM	608.35	38,672.81	

(d)	Columns,Pillars, Piers, Abutments, Posts and Struts.	5.9.6	23.76	SQM	804.25	19,108.98	
(e)	Edges of slabs and breaks in floors and walls Under 20 cm wide.	5.9.16.1	35.16	RM	181.90	6,395.60	
12	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.	5.22.6	14.29	QTL.	8965.00	128,109.85	
13	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete a**bove plinth level.** Thermo-Mechanically Treated bars of grade Fe-500 D or more.	5.22.A.6	12.57	QTL.	8965.00	112,690.05	
	PILE WORK						
14	Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by percussion drilling using Direct mud circulation (DMC) or Bailer and chisel technique by tripod and mechanical Winch Machine all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap) 45**0 mm dia piles**	**20.2.1**	81.000	metre	1916.40	155,228.40	
15	Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform by Kentledge/Anchor piles method and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer in-charge. Note: 1. Initial and Routine Load Test shall not be carried out by Dynamic method of testing. Note: 2. Testing agency shall submit the design of loading platform for the approval of Engineer-in-charge.						
	Single pile upto 50 tonne Safe capacity						
	Initial test (Test Load 2.5 times the Safe capacity)	20.6.1.1	1.000	per test	51510.60	51,510.60	
	Routine test (Test Load 1.5 times the Safe capacity)	20.6.1.2	2.000	per test	18463.55	36,927.10	
16	Add for plaster drip course/ groove in plastered surface or moulding to R.C.C. projections.	5.30	74.68	RM	64.70	4,831.80	
17	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 ozzolana / 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. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable eparately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.	5.33					
(I)	**All works upto plinth level**	5.33.1					
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.1.1					
	(i) R.C.C. work in Footing	5.33.1.1	0.79	CUM	8683.80	6,860.20	
	(ii) R.C.C. work in Beam	5.33.1.1	2.81	CUM	8683.80	24,401.48	
	(iii) R.C.C. work in Columns	5.33.1.1	0.16	CUM	8683.80	1,389.41	
(II)	**All works above plinth level upto floor V level**	5.33.2					

	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.2.1					
	(i) R.C.C. work in Lintel	5.33.2.1	0.28	CUM	10306.20	2,885.74	
	(ii) R.C.C. work in Beam	5.33.2.1	2.61	CUM	10306.20	26,899.18	
	(iii) R.C.C. work in Columns	5.33.2.1	1.62	CUM	10306.20	16,696.04	
	(iv) R.C.C. work in Slab	5.33.2.1	8.59	CUM	10306.20	88,530.26	
D	**Masonry Work**						
18	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in superstructure above plinth level up to floor V level in : Cement mortar 1:6 (1 cement : 6 coarse sand)	6.34.2	17.60	CUM	7676.30	135,102.88	
19	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:Cement mortar 1:6 (1 cement : 6 coarse sand)	6.1.2	6.75	CUM	6658.25	44,943.19	
E	**Wood and PVC Work**						
20	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters: **35mm thick** including ISI marked Stainless Steel butt hinges with necessary screws	9.21.1	5.04	SQM	2015.75	10,159.38	
21	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	9.23	5.04	SQM	401.40	2,023.06	
22	Extra for cutting rebate in flush door shutters (Total area of the shutter to be measured).	9.26	5.04	SQM	93.65	472.00	
23	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete. Fixed to steel windows by welding.	9.48.1	44.55	KG	181.00	8,063.55	
24	Providing and fixing oxidised M.S. casement stays (straight peg type) with necessary screws etc. complete.						
	250 mm weighing not less than 150 gms	9.68.2	3.00	NOS	51.90	155.70	
25	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete. Twin rubber stopper	9.101.2	4.00	NOS	62.25	249.00	
26	Providing and fixing bright /matt finished Stainless Steel handles of approved quality & make with necessary screws etc all complete. (a) 125 mm.	9.165.1	8.00	NOS	100.45	803.60	
27	Providing & fixing Stainless steel sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with nuts and screws etc complete. (a) 250mm x 16mm .	M.R.	2.00	NOS	560.00		1,120.00
28	Providing and fixing stainless steel towerbolts (barrel type) with necessary screws etc. complete.						
(i)	300 x 10mm	M.R.	2.00	NOS	448.00		896.00
(ii)	150x 10mm	M.R.	2.00	NOS	392.00		784.00
F	**Steel Work**						
29	Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling shutters. 80x1.25 mm M.S. laths with 1.25 mm thick top cover	10.6.1	6.25	SQM	3008.80	18,805.00	

30	Providing and fixing ball bearing for rolling shutters.	10.7	3.00	NOS.	424.20	1,272.60	
31	Extra for providing grilled rolling shutters manufactured out of 8 mm dia M.S. bar instead of laths as per design approved by Engineer-in- charge, (area of grill to be measured).	10.9	1.50	SQM	668.95	1,003.43	
32	Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side /top /centre hung, with beading and all members such as F7D, F4B, K11 B and K12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design, (sectional weight of only steel members shall be measured for payment). Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).	10.11.1	19.44	KG	175.65	3,414.64	
33	Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size	10.13.1	45.00	KG	114.65	5,159.25	
34	Providing and fixing M.S. Tubular frames for doors, windows, ventilators and cupboard with rectangular/ L-Type sections, made of 1.60 mm thick M.S. Sheet, joints mitred, welded and grinded finish, with profiles of required size, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer. Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	10.15.1	56.98	Kg	146.55	8,350.42	
35	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete. Electric resistance or induction butt welded tubes.	10.16.3	528.60	KG	140.85	74,453.31	
36	Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with : 4.0 mm thick glass panes.	10.30.1	2.97	SQM	940.30	2,792.69	
G	**Flooring**						
37	Chequerred precast cement concrete tiles 22 mm thick in footpath & courtyard, jointed with neat cement slurry mixed with pigment to match the shade of tiles, including rubbing and cleaning etc. complete, on 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand). **Medium shade pigment using 50% white cement 50% Grey cement**	11.20.2	6.300	SQM	1160.00	7,308.00	
38	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : 25 mm thick	11.26.1	61.29	SQM	1706.60	104,597.51	
39	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	11.27	16.34	SQM	2038.55	33,309.91	

40	Providing and laying factory made chamfered edge Cement Concrete paver blocks in footpath, parks, lawns, drive ways or light traffic parking etc, of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand. complete all as per direction of Engineer-in-Charge. **60mm thick cement concrete paver block of M-35 grade with approved colour, design & pattern.**	16.91.1	59.36	SQM	932.35	55,344.30	
I	**Roofing**						
41	Painting top of roofs with bitumen of approved quality @ 17kg per 10 sqm impregnated with a coat of coarse sand at 60 cudm per 10 sqm, including cleaning the slab surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil complete :	12.15					
	With residual type petroleum bitumen of grade VG -10	12.15.1	66.07	SQM	133.15	8,797.22	
42	Supply & Fixing of Prepainted coloured Trapezoidal or approved profiled Sheeting 1000-1020 mm cover width, 28-30 mm high crests with subtle square fluting in the five pan at nominal 190-255 mm (as approved by EIC) centre-to-centre manufactured out of 0.50 mm TCT hi-tensile prepainted Zincalume /Galvalume steel (AZ-150 gsm. Aluminium –Zinc alloy metallic coating of total both sides 550 MPa yield stress as per AS-1397). Colour/ Exterior coat of RMP 20 micron top coat applied over 5 micron primer and a 5 micron polyester back coat applied over 5 microns primer OR equivalent coating/painting. The sheet shall have wide pans with stiffening ribs for effective water shedding and special male/female ends with full return legs on side laps for purlin support. The male end of the sheet shall have anti-capillary flute at side laps to prevent leakages. The sheet shall be fixed by means of anti corrosive approved make "Rust Shield" (Epoxy Polymer) coated self-drilling self tapping fasteners 12-14 X 55 mm with EPDM seals through crest for roofing and 12-24 X 20 mm through valley (pans) for wall cladding. The sheet shall be supplied in lengths maximum up to 6-12 meter long to suit site dimensions. The scope includes all sealing of joint, curves, edges or other accessories with silicon sealant.	MR	66.07	SQM	1060.00		70,034.20
H	**Finishing**						
43	15 mm cement plaster on the rough side of single or half brick wall of mix : 1:6 (1 cement: 6 coarse sand)	13.5.2	84.38	SQM	339.10	28,613.26	
44	12mm cement plaster in single coat on fair side of single or half brick wall for exterior plastering up to floor two level including internal rounded angles chamfers, and/or rounded angles not exceeding 80mm in girth and finished even and smooth no extra for mixing any additive. 1:6 (1 cement: 6 coarse sand)	13.4.2	109.77	SQM	294.35	32,310.80	
45	6 mm cement plaster on celling (a) 1:3(1 cement:3 fine sand)	13.16.1	66.07	SQM	253.05	16,719.01	
46	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer.	13.41.1	175.84	SQM	162.55	28,582.79	
47	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade. New work (Two or more coats applied @ 1.43 ltr/ 10 sqm. over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm).	13.47.1	84.38	SQM	162.35	13,699.09	
	Applying priming coat:	13.50					

48	With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	13.50.1	12.10	SQM	61.45	743.55	
49	With ready mixed red oxide zink chromate primer of approved brand and manufacture on steel galvanised iron/steel works.	13.50.3	5.67	SQM	55.50	314.69	
50	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. On steel work.	13.52.1	33.04	SQM	201.70	6,664.17	
51	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade:	13.61					
	Two or more coats on new work.	13.61.1	17.77	SQM	131.45	2,335.87	
52	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	13.80	66.07	SQM	123.85	8,182.77	
53	Providing & fixing GI chain link fencing with in mesh size 50x50mm	Aanlysis	39.14	sqm	3017.08	118,088.51	
					TOTAL	**1,654,699.33**	**72,834.20**
				Say Rs. In Lacs		**16.55**	**0.73**

SUMMARY SHEET OF PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)			
Electrical Sub Station (ELECTRICAL WORK)			
Sl.No.	Name of Work	TOTAL AMOUNT (IN RS.)	
		DSR-2022	MR
I	SUB HEAD - I: CIRCUIT CUM POINT WIRING	80,947.00	-
II	SUBHEAD -II - FITTINGS & FIXTURES	-	19,254.10
III	SUBHEAD - III - DISTRIBUTION BOARDS	7,466.00	-
	TOTAL	88,413.00	19,254.10
	Say in lacs	0.88	0.19

PROJECT :- PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)								
Detailed Estimate for ELECTRICAL Works SUBSTATION								
S.No.	DSR-2022/NSI	Description	Unit	Qty	Rate		Amount	
					DSR-2022	NSI	DSR-2022	NSI
		SUB HEAD - I: CIRCUIT CUM POINT WIRING						
		SWITCH CONTROL LIGHT POINTS						
1	**DSR 1.10**	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	**DSR 1.10.3**	Group C	Point	13	1,467.00		19,071	
2	**DSR-1.55**	**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 **PVC conduit**, **and earthing the point with 1.5 sq. mm** FRLS PVC insulated **copper conductor single core cable** etc as required. **(Switch Control Secondary Points)**	Point	1	858.00		858	
2.1	**DSR-1.55.3**	Group C						
3	**DSR-1.3**	**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 **steel 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. **(Switch Control Primary Points)**						
3.1	**DSR-1.3.3**	Group C	Point	0	1,845.00		-	
4	**DSR-1.54**	**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. **(Switch Control Secondary Points)**						
4.1	**DSR-1.54.3**	Group C	Point	0	1,094.00		-	
		MCB CONTROL LIGHT POINTS						
5	**NSI-1**	**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 **steel 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. **(Switch Control Primary Points)**						
5.1	**NSI-1.1**	**Primary point controlled by one MCB.**	Point	0		1,523.13		-
5.2	**NSI-1.2**	Same as item above but **Secondary point**. i.e. Points to be looped with Primary point with 2.5 sqmm wire and Point wiring	Point	0		1,354.89		-
6	**DSR 1.5**	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	40	433.00		17,320	
7	**DSR 1.7**	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.						
7.1	**DSR 1.7.1**	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Metre	0	327.00		-	
7.2	**DSR 1.7.2**	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	70	369.00		25,830	
7.3	**DSR 1.7.4**	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	0	589.00		-	

7.4	**DSR 1.7.5**	2 x 10 sq. mm + 1 x 10 sq.mm earth wire	Metre	20	710.00		14,200	
7.5	**DSR 1.7.10**	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	0	1,166.00		-	
7.6	**DSR 1.7.11**	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	0	1,645.00		-	
8	**DSR 1.31**	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 Amp modular socket outlet and 5/6 A modular switch, connection etc. as required.	Each	1	477.00		477	
9	**NSI-2**	Supply and Wiring for 250 volts single phase and neutral 2 Nos 6 amps socket outlate with control by 1 No switched with 2.5 sq.mm PVC insulated copper conductor 1100 volts grade stranded flexible FRLS wires in concealed or surface mounted 25 mm dia 2mm thick PVC conduit including providing and fixing of 6 amps 3 pin switch socket outlet of aprpoved make and design in 2 mm thick GI box with grid plate and earthing of third pin of the socket with 2.5 Sq. mm PVC insulated copper conductor stranded flexible FRLS wire.(maximum four no. of switches socket shall be connected on one circuit)	Each	0		1,782		-
10	**DSR 1.32**	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 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	Each	5	586.00		2,930.00	
11	**NSI-3**	Supplying and fixing 63 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 63 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		11,284.98		-
12	**NSI-4**	Supplying and fixing 80 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 80 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		17,343.23		-
13	**DSR-1.33**	Supplying and fixing **3 pin, 5 A ceiling rose** on the existing junction box/ wooden block including connections etc. as required.	Each	3	87		261.00	
14	**DSR-1.57**	Supplying & fixing suitable size GI box wih modular plate and cover in front on surface or in recess i/c providing and fixing 25 amp modular socket outlet and 25 Amps modular SP MCB, "C" curve including connection, painting etc. as required. (AC's & Gysers)	Each	0	727		-	
15	**DSR 1.24**	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.						
15.1	**DSR 1.24.6**	Telephone socket outlet	Nos	0	148.00		-	
16	**DSR 1.27**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
16.1	**DSR 1.27.1**	1 or 2 Module (75mmX75mm)	Nos	0	298.00		-	
16.2	**DSR 1.27.4**	6 module (78mm X 205 mm X 50 mm)	Nos	0	402.00		-	
17	**DSR 1.24**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
17.1	**DSR 1.24.4**	3 pin , 5/6 amps socket outlet	Each	0	122.00		-	
17.1	**DSR 1.24.1**	5/6 amps switch	Each	0	103.00		-	
18	**DSR 1.21**	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.						
18.1	**DSR 1.21.2**	25 mm	Mtr	0	145.00		-	
18.2	**DSR 1.21.3**	32 mm	Mtr	0	184.00		-	

		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - I					**80,947.00**	**-**
		SUBHEAD -II - FITTINGS & FIXTURES						
1	**NSI-1**	Supply, Installation, Testing and Commissioning of 10 W Bulk head Light.	Each	0		1,158.20		-
2	**NSI-2**	Supply, Installation, Testing and Commissioning of 5W Mirror Light.	Each	0		445.46		-
3	**NSI-3**	Supply, Installation, Testing and Commissioning of 18W Surface/Recessed Mounted LED circular Downlighter.	Each	0		1,470.02		-
4	**NSI-4**	Supply, Installation, Testing and Commissioning of 18/20W Wall/Surface mouted 4 ft. LED	Each	9		1,336.38		12,027.41
5	**NSI-5**	Supply, Installation, Testing and Commissioning of 15W Surface mounted LED Square Downlighter.	Each	0		1,380.93		-
6	**NSI-6**	Supply, Installation, Testing and Commissioning of 36W (Nominal) 2x2 ft Recess Mounted LED Luminaire.	Each	0		5,345.52		-
7	**NSI-7**	Supply, Installation, Testing and Commissioning of 12/9W Recessed mounted LED circular Downlighter.	Each	0		1,069.10		-
8	**NSI-8**	Supply, Installation, Testing and Commissioning of 9W (Nominal) Wall Bracket Light	Each	2		222.73		445.46
9	**DSR 1.21**	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019),THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	Each	0	2,730.00		-	-
10	**NSI-9**	Supply Installation, Testing and Commissioning of 250 mm dia Domestic Exhaust Fan	Each	3		2,260.41		6,781.23
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - II					**-**	**19,254.10**
		SUBHEAD - III - DISTRIBUTION BOARDS						
1	**DSR 2.3**	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)						
1.1	**DSR 2.3.1**	6 way, Double door	Each	0	2206		-	
1.2	**DSR 2.3.2**	8 way, Double door	Each	0	2573		-	
1.3	**DSR 2.3.3**	12 way, Double door	Each	1	2315		2,315.00	
2	**DSR 2.4**	Supplying and fixing following way, three pole and neutral, sheet steel, MCB distribution board, 415 volts, on surface/ recess complete with tinned copper busbar, neutral busbar, earth bar, din bar, detachable gland plate, interconnections, phosphatized and powder painted including earthing etc. as required. (But without MCB/ RCCB/ Isolator)						
2.1	**DSR 2.4.1**	4 way (4 + 12), Double door	Each	0	4,091.00		-	
2.2	**DSR 2.4.2**	6 way (4 + 18), Double door	Each	0	4,974.00		-	
2.3	**DSR 2.4.3**	8 way (4 + 24), Double door	Each	0	5,967.00		-	

3	**DSR 2.5**	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note :Vertical type MCB TPDB is normally used where 3 phase outlets are required.)						
3.1	**DSR 2.5.3**	12 way (4 + 36), Double door	Each	0	12833		-	
4	**DSR 2.10**	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "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.						
4.1	**2.10.1**	Single Pole	Each	8	256		2,048.00	
4.2	**2.10.2**	Single Pole Neutral	Each	0	599		-	
5	**DSR 2.12**	Supplying and fixing following rating, double pole, 240 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
5.1	**DSR 2.12.1**	40 A	Each	1	435		435.00	
5.2	**DSR 2.12.2**	63 A	Each	0	527		-	
6	**DSR 2.13**	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
6.1	**DSR 2.13.1**	25 A	Each	0	970		-	
6.1	**DSR 2.13.1**	40 A	Each	0	970		-	
6.2	**DSR 2.13.2**	63 A	Each	0	1034		-	
7	**DSR 2.14**	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
7.1	**DSR 2.14.1**	25 A	Each	0	2028		-	
7.2	**DSR 2.14.2**	40 A	Each	1	2642		2,642.00	
7.3	**DSR 2.14.3**	63 A	Each	0	2722		-	
8	**DSR 2.11**	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	2	13		26.00	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - III					**7,466.00**	**-**

Construction of Phase-A works at JNV Cooch Behar(WB)

ABSTRACT OF COST

DETAILS OF MEASUREMENT UNDER GROUND TANK (UGT) WITH PUMP ROOM

S.N.	DESCRIPTION OF ITEM	DSR 2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
A	**Earth Work**						
1	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.	2.8					
	All kinds of soil	2.8.1	279.87	CUM	286.85	80,280.14	
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 upto 50 m and lift upto 1.5 m.	2.25	90.08	CUM	253.95	22,875.82	
3	Extra for every additional lift of 1.5 m or part thereof in excavation /banking excavated or stacked materials.	2.26				-	
	All kinds of soil	2.26.1	276.46	CUM	104.50	28,890.07	
B	**Concrete Work**					-	
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)	4.1.8	6.29	CUM	6326.05	39,790.85	
5	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 12.5mm nominal size derived from natural sources)	4.10	2.50	SQM	370.85	927.13	
						-	
6	Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification.	4.12	1.00	per 50kg cement	57.15	57.15	
						-	
7	Providing & applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	4.13	2.50	SQM	113.85	284.63	
						-	
8	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand,including necessary excavation,levelling & dressing & finishing the top smooth.	4.17	16.980	SQM	681.65	11,574.42	
						-	
9	Brick edging in full brick width and half brick depth including excavation refilling and disposal of surplus earth lead upto 50 metres. With common burnt clay F.P.S.(non modulur) bricks of class designation 75	16.7.1	27.70	RM	179.50	4,972.15	
						-	
C	**Reinforced Cement Concrete**					-	
10	Centering and shuttering including strutting, propping etc. and removal of form for all heights :					-	
(a)	Foundations, footings, bases of columns, etc. for mass concrete.	5.9.1	10.50	SQM	307.95	3,233.48	
(b)	Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	5.9.2	170.68	SQM	669.55	114,278.79	
(c)	Suspended floors, roofs, landings, balconies and access platform.	5.9.3	46.05	SQM	766.55	35,299.63	
(d)	Lintels, beams, plinth beams, girders, bressumers	5.9.5	15.96	SQM	608.35	9,709.27	
(e)	Columns,Pillars, Piers, Abutments, Posts and Struts.	5.9.6	16.32	SQM	804.25	13,125.36	
(f)	Edges of slabs and breaks in floors and walls Under 20 cm wide.	5.9.16.1	42.42	RM	181.90	7,716.20	
						-	
11	Extra for additional height in centering, shuttering where ever required with adequate bracing, propping etc., including cost of de-shuttering and decentering at all levels, over a height of 3.5 m, for every additional height of 1 metre or part thereof (Plan area to be measured).	5.11				-	
	Suspended floors, roofs, landing, beams and balconies (Plan area to be measured)	5.11.1	28.810	SQM	319.25	9,197.59	
						-	
12	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.	5.22.6	62.29	QTL.	8965.00	558,429.85	
						-	

13	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete a**bove plinth level.** Thermo-Mechanically Treated bars of grade Fe-500 D or more.	5.22.A.6	11.10	QTL.	8965.00	99,511.50	
						-	
14	Add for plaster drip course/ groove in plastered surface or moulding to R.C.C. projections.	5.30	23.98	RM	64.70	1,551.51	
						-	
15	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. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.	5.33				-	
(I)	**All works upto plinth level**	5.33.1				-	
	Concrete of M30 grade with minimum cement content of 350 kg /cum	5.33.1.1				-	
	(i) R.C.C. work in Footing	5.33.1.1	20.96	CUM	8825.35	184,979.34	
	(ii) R.C.C. work in Beam	5.33.1.1	30.18	CUM	8825.35	266,349.06	
	(iii) R.C.C. work in Columns	5.33.1.1	2.48	CUM	8825.35	21,886.87	
						-	
(II)	**All works above plinth level upto floor V level**	5.33.2				-	
	Concrete of M30 grade with minimum cement content of 350 kg /cum	5.33.2.1				-	
	(i) R.C.C. work in Lintel	5.33.2.1	0.18	CUM	10306.20	1,855.12	
	(ii) R.C.C. work in Beam	5.33.2.1	1.69	CUM	10306.20	17,417.48	
	(iii) R.C.C. work in Columns	5.33.2.1	1.22	CUM	10306.20	12,573.56	
	(iv) R.C.C. work in Slab	5.33.2.1	8.27	CUM	10306.20	85,232.27	
						-	
D	**Masonry Work**					-	
16	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in superstructure above plinth level up to floor V level in : Cement mortar 1:6 (1 cement : 6 coarse sand)	6.34.2	10.40	CUM	7676.30	79,833.52	
17	Brick work with non modular fly ash bricks conforming to IS:12894, class designation 10 average compressive strength in foundation and plinth in : Cement mortar 1:6 (1 cement : 6 coarse sand)	6.1.2	1.22	CUM	6658.25	8,123.07	
E	**CLADDING WORK**					-	
18	Providing and fixing Ist quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	8.31	106.72	SQM	1063.45	113,491.38	
F	**Wood and PVC Work**					-	
19	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters: **35mm thick** including ISI marked Stainless Steel butt hinges with necessary screws	9.21.1	2.10	SQM	2015.75	4,233.08	
						-	
20	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	9.23	2.10	SQM	401.40	842.94	
						-	
21	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete. Fixed to steel windows by welding.	9.48.1	57.38	KG	181.00	10,385.78	
						-	
22	Providing and fixing oxidised M.S. casement stays (straight peg type) with necessary screws etc. complete.					-	
	250 mm weighing not less than 150 gms	9.68.2	3.00	NOS	51.90	155.70	
						-	

23	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete. Twin rubber stopper	9.101.2	1.00	NOS	62.25	62.25	
						-	
	Providing and fixing factory made uPVC white colour casement/casement cum fixed glazed windows comprising of uPVC multi-chambered frame, sash and mullion (where ever required) extruded profiles duly reinforced with 1.60 ± 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), uPVC extruded glazing beads of appropriate dimension, EPDM gasket, stainless steel (SS 304 grade) friction hinges, zinc alloy (white powder coated) casement handles, G.I fasteners 100 x 8 mm size for fixing frame to finished wall, plastic packers, plastic caps and necessary stainless steel screws etc. Profile of frame & sash shall be mitred cut and fusion welded at all corners, mullion (if required) shall be also fusion welded including drilling of holes for fixing hardware's and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-Charge. **(Single / double glass panes and silicon sealant shall be paid separately).** Variation in profile dimension in higher side shall be accepted but no extra payment on this account shall be made.Note: For uPVC frame, sash and mullion extruded profiles minus 5% tolerancein dimension i.e. in depth & width of profile shall be acceptable.	9.147A					
24	Casement window single panel with S.S. friction hinges (300 x 19 x 1.9 mm), made of (small series) frame 47 x 50 mm & sash 47 x 68 mm both having wall thickness of 1.9 ± 0.2 mm and single glass pane glazing bead of appropriate dimension. (Area of window upto 0.75 sqm.)	9.147A.1	0.90	SQM	10443.75	9,399.38	
25	Providing and fixing factory made uPVC white colour sliding glazed window upto 1.50 m in height dimension comprising of uPVC multi-chambered frame with in-built roller track and sash extruded profiles duly reinforced with 1.60 ± 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), appropriate dimension of uPVC extruded glazing beads and uPVC extruded interlocks, EPDM gasket, wool pile, zinc alloy (white powder coated) touch locks with hook, zinc alloy body with single nylon rollers						
	(weight bearing capacity to be 40 kg), G.I fasteners 100 x 8 mm size for fixing frame to finished wall and necessary stainless steel screws etc. Profile of frame & sash shall be mitred cut and fusion welded at all corners, including drilling of holes for fixing hardware's and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealent over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-Charge. (Single / double glass panes, wire mesh and silicon sealent shall be paid separately). Variation in profile dimension in higher side shall be accepted but no extra payment on this account shall be made. Note: For uPVC frame and sash extruded profiles minus 5% tolerance in dimension i.e. in depth & width of profile shall be acceptable.	9.147 D					
	Three track three panels sliding window with fly proof S.S wire mesh (Two nos. glazed & one no. wire mesh panels) made of (big series) frame 116 x 45 mm & sash 46 x 62 mm both having wall thickness of 2.3 ± 0.2 mm and single glazing bead / double glazing bead of appropriate dimension. **(Area of window above 1.75 sqm).**	9.147 D.4	2.48	SQM	9642.60	23,913.65	

26	Filling the gap in between aluminium frame & adjacent RCC/ Brick/ Stone work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete. **Upto 5mm depth and 5 mm width**	21.8.1	10.50	RM	85.25	895.13	
27	Providing and fixing bright /matt finished Stainless Steel handles of approved quality & make with necessary screws etc all complete. (a) 125 mm.	9.165.1	2.00	NOS	100.45	200.90	
						-	
28	Providing & fixing Stainless steel sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with nuts and screws etc complete. (a) 250mm x 16mm .	M.R.	1.00	NOS	560.00		560.00
29	Providing and fixing stainless steel towerbolts (barrel type) with necessary screws etc. complete.						
(i)	300 x 10mm	M.R.	1.00	NOS	448.00		448.00
(ii)	150 x 10mm	M.R.	1.00	NOS	392.00		392.00
						-	
						-	
G	**Steel Work**					-	
30	Providing and fixing pressed steel door frames conforming to IS: 4351, manufactured from commercial mild steel sheet of 1.60 mm thickness, including hinges, jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50x25 mm, or base ties of 1.60 mm, pressed mild steel welded or rigidly fixed together by mechanical means, including M.S. pressed butt hinges 2.5 mm thick with mortar guards, lock strike-plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by Engineer-in-charge:	10.14					
(i)	Profile C	10.14.2					
	Fixing with adjustable lugs with split end tail to each jamb	10.14.2.1	6.10	RM	471.25	2,874.63	
31	Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with : 4.0 mm thick glass panes.	10.30.1	4.06	SQM	940.30	3,817.62	
G	**Flooring**					-	
32	Chequerred precast cement concrete tiles 22 mm thick in footpath & courtyard, jointed with neat cement slurry mixed with pigment to match the shade of tiles, including rubbing and cleaning etc. complete, on 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand). **Medium shade pigment using 50% white cement 50% Grey cement**	11.20.2	4.500	SQM	1160.00	5,220.00	
33	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : 25 mm thick	11.26.1	34.27	SQM	1706.60	58,485.18	
34	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	11.27	18.14	SQM	2038.55	36,979.30	
35	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.	11.37	28.81	SQM	935.60	26,954.64	
36	Providing and laying factory made chamfered edge Cement Concrete paver blocks in footpath, parks, lawns, drive ways or light traffic parking etc, of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand. complete all as per direction of Engineer-in-Charge. **60mm thick cement concrete paver block of M-35 grade with approved colour, design & pattern.**	16.91.1	22.56	SQM	932.35	21,033.82	

H	**Finishing**					-	
37	12mm cement plaster in single coat on fair side of single or half brick wall for exterior plastering up to floor two level including internal rounded angles chamfers, and/or rounded angles not exceeding 80mm in girth and finished even and smooth no extra for mixing any additive. 1:6 (1 cement: 6 coarse sand)	13.4.2	91.47	SQM	294.35	26,924.19	
38	15 mm cement plaster on the rough side of single or half brick wall of mix : 1:6 (1 cement: 6 coarse sand)	13.5.2	41.84	SQM	339.10	14,187.94	
39	6 mm cement plaster on celling (a) 1:3(1 cement:3 fine sand)	13.16.1	46.05	SQM	253.05	11,652.95	
40	Neat cement punning	13.18	28.81	SQM	67.80	1,953.32	
41	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer.	13.41.1	59.08	SQM	162.55	9,603.45	
42	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade. New work (Two or more coats applied @ 1.43 ltr/ 10 sqm. over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm).	13.47.1	91.47	SQM	162.35	14,850.15	
	Applying priming coat:	13.50				-	
43	With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	13.50.1	5.04	SQM	61.45	309.71	
44	With ready mixed red oxide zink chromate primer of approved brand and manufacture on steel galvanised iron/steel works.	13.50.3	1.37	SQM	55.50	76.04	
45	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade:	13.61				-	
	Two or more coats on new work.	13.61.1	6.41	SQM	131.45	842.59	
46	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	13.80	17.24	SQM	123.85	2,135.17	
47	Providing M.S. foot rests including fixing in manholes with 20x20x10cm cement concrete blocks 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) as per standard design :	19.15				-	
	With 20x20 mm square bar	19.15.1	26.00	NOS.	461.35	11,995.10	
48	Supplying and fixing C.I. cover without frame for manholes :	19.18				-	
	560 mm diameter C.I. cover (heavy duty) the weight of the cover to be not less than 108 kg	19.18.3	2.00	NOS.	6972.75	13,945.50	
I	**Water Proofing**					-	
49	Providing and laying integral cement based treatment for water proofing on horizontal surface at all depth below ground level for under ground structures as directed by Engineer-in-Charge and consisting of : (i) Ist layer of 22 mm to 25 mm thick approved and specified rough stone slab over a 25 mm thick base of cement mortar 1:3 (1cement : 3 coarse sand) mixed with water proofing compound conforming to IS:2645 in the recommended proportion over the leveling course (leveling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound. (ii) 2nd layer of 25 mm thick cement mortar 1:3 (1 cement: 3 coarse sand) mixed with water proofing compound in recommended proportions. (iii) Finishing top with stone aggregate of 10 mm to 12 mm nominal size spreading @ 8 cudm/sqm thoroughly embedded in the2nd layer.	22.1				-	
	Using rough kota stone.	22.1.1	52.100	SQM	1362.95	71,009.70	
50	Providing and laying integral cement based treatment for waterproofing on the vertical surface by fixing specified stone slab 22 mm to 25 mm thick with cement slurry mixed with water proofing compound conforming to IS:2645 in commended proportions with a gap of 20 mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with cement mortar 1:3 (1 cement : 3 coarse sand) 20 mm thick with neat cement punning mixed with water proofing compound in recommended proportion complete at all levels and as directed by Engineer-in-charge :	22.2				-	
	Using rough Kota stone	22.2.1	132.580	SQM	1780.30	236,032.17	
51	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations:					-	
(a)	Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment.					-	

(b)	Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs.					-	
(c)	After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineerin-charge.					-	
(d)	Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineerin-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep.					-	
(e)	The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order and as directed and specified by the Engineer-in-Charge :					-	
	With average thickness of 120 mm and minimum thickness at khurra as 65 mm.	22.7.1	14.00	SQM	1522.95	21,321.30	
						-	
52	Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservior, sewage & water treatment plant, tunnels / subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI- 212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.	22.23				-	
(i)	For vertical surface two coats @ 0.70 kg per sqm	22.23.1	102.03	SQM	406.25	41,449.69	
(ii)	For horizontal surface one coat @1.10 kg per sqm.	22.23.2	28.81	SQM	311.50	8,974.32	
					TOTAL	**2,526,164.50**	**1,400.00**
					Say Rs. In Lacs	**25.26**	**0.01**

SUMMARY SHEET OF PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)			
Pump House Electrical Work			
Sl.No.	Name of Work	TOTAL AMOUNT (IN RS.)	
		DSR-2022	MR
I	SUB HEAD - I: CIRCUIT CUM POINT WIRING	23,102.00	-
II	SUBHEAD -II - FITTINGS & FIXTURES	-	4,933.17
III	SUBHEAD - III - DISTRIBUTION BOARDS	7,466.00	-
	TOTAL	30,568.00	4,933.17
	Say in lacs	0.31	0.05

PROJECT :- PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)								
Detailed Estimate for ELECTRICAL Works UGT (100 KL) & PUMP ROOM								
S.No.	DSR-2022/NSI	Description	Unit	Qty	Rate		Amount	
					DSR-2022	NSI	DSR-2022	NSI
		SUB HEAD - I: CIRCUIT CUM POINT WIRING						
		SWITCH CONTROL LIGHT POINTS						
1	**DSR 1.10**	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	**DSR 1.10.3**	Group C	Point	3	1,467.00		4,401	
2	**DSR-1.55**	**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 **PVC conduit**, **and earthing the point with 1.5 sq. mm** FRLS PVC insulated **copper conductor single core cable** etc as required. **(Switch Control Secondary Points)**	Point	0	858.00		-	
2.1	**DSR-1.55.3**	Group C						
3	**DSR-1.3**	**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 **steel 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. **(Switch Control Primary Points)**						
3.1	**DSR-1.3.3**	Group C	Point	0	1,845.00		-	
4	**DSR-1.54**	**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. **(Switch Control Secondary Points)**						
4.1	**DSR-1.54.3**	Group C	Point	0	1,094.00		-	
		MCB CONTROL LIGHT POINTS						
5	**NSI-1**	**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 **steel 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. **(Switch Control Primary Points)**						
5.1	**NSI-1.1**	**Primary point controlled by one MCB.**	Point	0		1,523.13		-
5.2	**NSI-1.2**	Same as item above but **Secondary point**. i.e. Points to be looped with Primary point with 2.5 sqmm wire and Point wiring	Point	0		1,354.89		-
6	**DSR 1.5**	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	10	433.00		4,330	
7	**DSR 1.7**	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.						
7.1	**DSR 1.7.1**	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Metre	0	327.00		-	
7.2	**DSR 1.7.2**	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	15	369.00		5,535	
7.3	**DSR 1.7.4**	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	0	589.00		-	

7.4	**DSR 1.7.5**	2 x 10 sq. mm + 1 x 10 sq.mm earth wire	Metre	10	710.00		7,100	
7.5	**DSR 1.7.10**	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	0	1,166.00		-	
7.6	**DSR 1.7.11**	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	0	1,645.00		-	
8	**DSR 1.31**	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 Amp modular socket outlet and 5/6 A modular switch, connection etc. as required.	Each	1	477.00		477	
9	**NSI-2**	Supply and Wiring for 250 volts single phase and neutral 2 Nos 6 amps socket outlate with control by 1 No switched with 2.5 sq.mm PVC insulated copper conductor 1100 volts grade stranded flexible FRLS wires in concealed or surface mounted 25 mm dia 2mm thick PVC conduit including providing and fixing of 6 amps 3 pin switch socket outlet of aprpoved make and design in 2 mm thick GI box with grid plate and earthing of third pin of the socket with 2.5 Sq. mm PVC insulated copper conductor stranded flexible FRLS wire.(maximum four no. of switches socket shall be connected on one circuit)	Each	0		1,782		-
10	**DSR 1.32**	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 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	Each	2	586.00		1,172.00	
11	**NSI-3**	Supplying and fixing 63 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 63 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		11,284.98		-
12	**NSI-4**	Supplying and fixing 80 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 80 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		17,343.23		-
13	**DSR-1.33**	Supplying and fixing **3 pin, 5 A ceiling rose** on the existing junction box/ wooden block including connections etc. as required.	Each	1	87		87.00	
14	**DSR-1.57**	Supplying & fixing suitable size GI box wih modular plate and cover in front on surface or in recess i/c providing and fixing 25 amp modular socket outlet and 25 Amps modular SP MCB, "C" curve including connection, painting etc. as required. (AC's & Gysers)	Each	0	727		-	
15	**DSR 1.24**	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.						
15.1	**DSR 1.24.6**	Telephone socket outlet	Nos	0	148.00		-	
16	**DSR 1.27**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
16.1	**DSR 1.27.1**	1 or 2 Module (75mmX75mm)	Nos	0	298.00		-	
16.2	**DSR 1.27.4**	6 module (78mm X 205 mm X 50 mm)	Nos	0	402.00		-	
17	**DSR 1.24**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
17.1	**DSR 1.24.4**	3 pin , 5/6 amps socket outlet	Each	0	122.00		-	
17.1	**DSR 1.24.1**	5/6 amps switch	Each	0	103.00		-	
18	**DSR 1.21**	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.						
18.1	**DSR 1.21.2**	25 mm	Mtr	0	145.00		-	
18.2	**DSR 1.21.3**	32 mm	Mtr	0	184.00		-	

		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - I					**23,102.00**	**-**
		SUBHEAD -II - FITTINGS & FIXTURES						
1	**NSI-1**	Supply, Installation, Testing and Commissioning of 10 W Bulk head Light.	Each	0		1,158.20		-
2	**NSI-2**	Supply, Installation, Testing and Commissioning of 5W Mirror Light.	Each	0		445.46		-
3	**NSI-3**	Supply, Installation, Testing and Commissioning of 18W Surface/Recessed Mounted LED circular Downlighter.	Each	0		1,470.02		-
4	**NSI-4**	Supply, Installation, Testing and Commissioning of 18/20W Wall/Surface mouted 4 ft. LED	Each	2		1,336.38		2,672.76
5	**NSI-5**	Supply, Installation, Testing and Commissioning of 15W Surface mounted LED Square Downlighter.	Each	0		1,380.93		-
6	**NSI-6**	Supply, Installation, Testing and Commissioning of 36W (Nominal) 2x2 ft Recess Mounted LED Luminaire.	Each	0		5,345.52		-
7	**NSI-7**	Supply, Installation, Testing and Commissioning of 12/9W Recessed mounted LED circular Downlighter.	Each	0		1,069.10		-
8	**NSI-8**	Supply, Installation, Testing and Commissioning of 9W (Nominal) Wall Bracket Light	Each	0		222.73		-
9	**DSR 1.21**	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019),THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	Each	0	2,730.00		-	-
10	**NSI-9**	Supply Installation, Testing and Commissioning of 250 mm dia Domestic Exhaust Fan	Each	1		2,260.41		2,260.41
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - II					**-**	**4,933.17**
		SUBHEAD - III - DISTRIBUTION BOARDS						
1	**DSR 2.3**	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)						
1.1	**DSR 2.3.1**	6 way, Double door	Each	0	2206		-	
1.2	**DSR 2.3.2**	8 way, Double door	Each	0	2573		-	
1.3	**DSR 2.3.3**	12 way, Double door	Each	1	2315		2,315.00	
2	**DSR 2.4**	Supplying and fixing following way, three pole and neutral, sheet steel, MCB distribution board, 415 volts, on surface/ recess complete with tinned copper busbar, neutral busbar, earth bar, din bar, detachable gland plate, interconnections, phosphatized and powder painted including earthing etc. as required. (But without MCB/ RCCB/ Isolator)						
2.1	**DSR 2.4.1**	4 way (4 + 12), Double door	Each	0	4,091.00		-	
2.2	**DSR 2.4.2**	6 way (4 + 18), Double door	Each	0	4,974.00		-	
2.3	**DSR 2.4.3**	8 way (4 + 24), Double door	Each	0	5,967.00		-	

3	**DSR 2.5**	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note :Vertical type MCB TPDB is normally used where 3 phase outlets are required.)						
3.1	**DSR 2.5.3**	12 way (4 + 36), Double door	Each	0	12833		-	
4	**DSR 2.10**	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "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.						
4.1	**2.10.1**	Single Pole	Each	8	256		2,048.00	
4.2	**2.10.2**	Single Pole Neutral	Each	0	599		-	
5	**DSR 2.12**	Supplying and fixing following rating, double pole, 240 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
5.1	**DSR 2.12.1**	40 A	Each	1	435		435.00	
5.2	**DSR 2.12.2**	63 A	Each	0	527		-	
6	**DSR 2.13**	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
6.1	**DSR 2.13.1**	25 A	Each	0	970		-	
6.1	**DSR 2.13.1**	40 A	Each	0	970		-	
6.2	**DSR 2.13.2**	63 A	Each	0	1034		-	
7	**DSR 2.14**	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
7.1	**DSR 2.14.1**	25 A	Each	0	2028		-	
7.2	**DSR 2.14.2**	40 A	Each	1	2642		2,642.00	
7.3	**DSR 2.14.3**	63 A	Each	0	2722		-	
8	**DSR 2.11**	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	2	13		26.00	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - III					**7,466.00**	**-**

PLUMBING INTERNAL ESTIMATE PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)							
						School Building	
						Amount	
S.No.	DSR '21	Description	Rate	Unit	Qty.	DSR	MR
		Sub Head – I Sanitary Installation					
1.1	17.1	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:.					
	17.1.1	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests.	5,781.35	each	16.00	92,501.60	
1.2	17.3	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :					
	17.3.1	W.C. pan with ISI marked white solid plastic seat and lid	6,941.30	each	3.00	20,823.90	
1.3	17.81	Providing and fixing floor mounted, white vitreous china single piece, double traps syphonic water closet of approved brand/make, shape, size and pattern including integrated white vitreous china cistern of capacity 10 litres with dual flushing system, including all fittings and fixtures with seat cover, cistern fittings, nuts, bolts and gasket etc including making connection with the existing P/S trap, complete in all respect as per directions of Engineer-in-Charge.	16,100.40	each	4.00	64,401.60	
1.4	17.80	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.	7,004.45	each	16.00	112,071.20	
1.5	17.7	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:					
1.5.1	17.7.3	White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps	3,158.70	each	5.00	15,793.50	
1.6	NSI-1	Providing and fixing white vitreous china wash basin under counter basin, with C.I. concealed type brackets fixed to walls with GI rag bolts or approved fasteners etc., including 32 mm CP brass waste coupling, including painting of fittings and brackets, cutting and making good the walls wherever required all complete (Granite counter top will be measured and paid separately under relevent item): as per approved make and decision of engineer-in-charge	3,428.00	each	18.00		61,704.00
1.7	17.34	Providing and fixing toilet paper holder :					
	17.34.1	C.P. brass	680.80	each	23.00	15,658.40	
1.8	NSI-2	Providing and fixing CP brass auto closing system basin pillar tap / hand wash of Jaquar PRS - 001 or Equivalent as approved by Engineer- In Charge	3,580.00	each	1.00		3,580.00
1.9	NSI-3	Providing and fixing CP brass single lever basin mixer without popo with 450mm long braided hose (connection pipe) basin pillar tap of Jaquar LYR-38001B or Equivalent as approved by Engineer- In Charge.	5,201.00	each	1.00		5,201.00
1.10	17.22A	Providing and fixing 32mm C.P brass bottle Trap of approved quality & make as per the direction of engineer-in-incharge.	886.25	each	23.00	20,383.75	
1.11	17.31	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	1,411.15	Sqm	23.00	32,456.45	
1.12	17.10	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS : 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :					
	17.10.1	Kitchen sink with drain board					
	17.10.1.1	510x1040 mm bowl depth 250mm	6008.45	each	0.00	-	
	17.10.2	Kitchen sink without drain board					
	17.10.2.2	610x460 mm bowl depth 200 mm	3,337.85	each	2.00	6,675.70	

PLUMBING INTERNAL ESTIMATE							
PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)							
						School Building	
						Amount	
1.13	17.11	Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete, including painting of fittings and brackets, cutting and making good the wall wherever required :					
	17.11.1	Size 450x300x150 mm	4,272.95	each	10.00	42,729.50	
1.14	17.28	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.					
	17.28.2	Flexible pipe					
	17.28.2.2	40 mm dia	104.35	each	12.00	1,252.20	
1.15	17.35	Providing and fixing soil, waste and vent pipes :					
	17.35.1	100 mm dia					
	17.35.1.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	1,061.25	meter	227.00	240,903.75	
1.16	17.38	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.					
	17.38.1	100 mm					
	17.38.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside I.S. 15905	550.80	each	16.00	8,812.80	
1.17	17.39	Providing and fixing plain bend of required degree.					
	17.39.1	100 mm					
	17.39.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	346.05	each	167.00	57,790.35	
1.18	17.40	Providing and fixing heel rest sanitary bend					
	17.40.1	100 mm dia					
	17.40.1.2	Sand cast iron S&S as per IS - 3989	439.75	each	8.00	3,518.00	
1.19	17.42	Providing and fixing double equal plain junction of required degree					
	17.42.1	100x100x100x100 mm					
	17.42.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	881.25	each	4.00	3,525.00	
1.20	17.43	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.					
	17.43.1	100x100x100 mm					
	17.43.1.2	sand cast Iron S&S as per IS: 3989	731.40	each	16.00	11,702.40	
1.21	17.44	Providing and fixing single equal plain junction of required degree					
	17.44.1	100x100x100 mm					
	17.44.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	573.50	each	24.00	13,764.00	
1.22	17.56	Providing and fixing terminal guard:					
	17.56.1	100 mm					
	17.56.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	399.60	each	8.00	3,196.80	
1.23	17.57A	Providing and fixing shielded coupling for Hubless centrifugally cast iron pipes					
	17.57A.1	100 mm					
	17.57A.1.1	S S 304 grade coupling with EPDM rubber gasket	406.30	each	227.00	92,230.10	
1.24	17.59	Providing and fixing M.S. stays and clamps for sand cast iron/centrifugally cast (spun) iron pipes of diameter :					
	17.59.1	100 mm	128.65	each	8.00	1,029.20	
1.25	17.65	Painting sand cast iron/ centrifugally cast (spun) iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint of any colour such as chocolate grey, or buff etc. over a coat of primer (of approved quality) for new work :					
	17.65.1	100 mm diameter pipe	69.55	meter	80.00	5,564.00	
1.26	17.37	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc. :					
	17.37.1	100 mm diameter pipe	308.45	each	80.00	24,676.00	
1.27	18.10	Providing and fixing G.I. soil / waste pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.					
	18.10.4	32 mm dia. nominal bore	563.60	metre	250.30	141,069.08	
	18.10.5	40 mm dia. nominal bore	725.15	metre	151.50	109,860.23	
	18.10.6	50 mm dia. nominal bore	893.20	metre	65.00	58,058.00	

PLUMBING INTERNAL ESTIMATE							
PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)							
						School Building	
						Amount	
1.28	17.60	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :					
	17.60.1	100 mm inlet and 100 mm outlet					
	17.60.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	760.85	each	26.00	19,782.10	
1.29	18.77	Cutting holes up to 15 x 15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 Cement : 2 course sand : 4 graded stone aggregate 20 mm nominal size) , including finishing complete so as to make it leak proof.	377.10	each	10.00	3,771.00	
1.30	NSI-4	Providing & fixing in position GI 100x50 elbow floor drain including cost of cutting and making good the walls and floors wherever required.	896.00	each	4.00		3,584.00
1.31	NSI-5	Providing and fixing 125 mm dia S/S grating (with or without hole)for floor or Nahani trap.	513.00	each	30.00		15,390.00
1.32	NSI-6	Providing and fixing soap dish holder from wall of standard shape with fittings of approved quality with all complete. Make Jaguar - ACN-1131N & Equivalent	826.00	each	0.00		-
1.33	NSI-7	Providing and fixing soap dispenser with glass bottle from wall of standard shape with fittings of approved quality with all complete. Make Jaguar - ACN-1135N & Equivalent	1,481.00	each	14.00		20,734.00
1.34	NSI-8	Providing & fixing 600 mm towel rail long stanless steel from wall face with concealed fittings arrangement of approved quality with all complete. Make Jaquar - CAN-1111SM	1,433.00	each	5.00		7,165.00
1.35	18.65	Providing and fixing PTMT soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements, weighing not less than 106 gms.	96.75	each	0.00	-	
136	17.73	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.					
	17.73.2	600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms.	600.35	each	0.00	-	
1.37	12.22	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	266.60	each	20.00	5,332.00	
1.38	12.41	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.	319.75	metre	200.00	63,950.00	
1.39	12.42	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.					
	12.42.1	Coupler					
	12.42.1.1	110 mm	119.95	each	80.00	9,596.00	
	12.42.3	Single tee with door					
	12.42.3.2	110x110x110 mm	119.95	each	20.00	2,399.00	
	12.42.5	Bend 87.5°					
	12.42.5.2	110 mm	132.00	each	20.00	2,640.00	
	12.42.6	Shoe (Plain)					
	12.42.6.1	110 mm Shoe	115.95	each	20.00	2,319.00	
1.40	12.43	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.					
	12.43.2	110 mm	309.50	each	80.00	24,760.00	

PLUMBING INTERNAL ESTIMATE							
PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)							
						School Building	
						Amount	
1.41	NSI-9	Supplying and fixing of HDPE pipe (PE grade 63 - PN-8) confirming to IS 14333-1996 chemical waste pipes jointed with rubber ring with good quality lubricant with fittings inclussive of all necessary specials like bends, tees, offsets,junctions etc laid under floor/under ceiling/on walls with suitable clamps and specials curing, necessary chasing, jointing and restoring to original conditions, testing etc. including all other incidental charges etc. complete for successful completion of work as per specifications, and as directed by Engineer -in- Charge.					
	a)	110 mm outer dia	1,173.00	metre	25.00		29,325.00
	b)	50 mm outer dia	435.00	metre	16.50		7,177.50
1.42	NSI-10	Providing & fixing in position upvc P"or S" trap of self cleaning design of following sizes for the embedded areas Making proper connection with chemical sealent joint , cutting chase / hole in floors /slabs and bringing the same in proper condition in cement concrete 1:2:4 mix complete as required. including cost of cutting and making good the walls and floors wherever required.	627.00	each	6.00		3,762.00
1.43	NSI-11	Providing & Fixing water cooler wth stainless steel having storage capacity of 80 liter & cooling capacity 60 liter / hour with Reverse osmosis system & ultra voilet membrane TDS reduction 90% having automatic back wash system with filteration unit & all other required accessories complete in all respect as per direction of the engineer in charge .	59,048.00	each	2.00		118,096.00
		TOTAL				**1,334,996.61**	**275,718.50**
		Sub Head – II Water Supply					
2.1	18.10	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.					
		Internal work – Exposed on wall.					
	18.10.2	**20 mm** nominal outer dia Pipes	373.35	metre	313.00	116,858.55	
	18.10.3	**25 mm** nominal outer dia Pipes	491.20	metre	205.00	100,696.00	
	18.10.4	**32 mm** nominal outer dia Pipes	563.60	metre	105.00	59,178.00	
	18.10.5	**40 mm** nominal outer dia Pipes	725.15	metre	67.00	48,585.05	
	18.10.6	**50 mm** nominal outer dia Pipes	893.20	metre	200.00	178,640.00	
	NSI-12a	**65 mm** nominal outer dia Pipes	1,084.00	metre	0.00		-
	NSI-12b	**80 mm** nominal outer dia Pipes	1,276.00	metre	0.00		-
2.2	18.8	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing.This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.					
		Concealed including cutting chases and making good the wall etc.					
	18.8.2	15 mm nominal outer dia Pipes	441.15	metre	216.00	95,288.40	
	18.8.3	20 mm nominal outer dia Pipes	513.75	metre	144.00	73,980.00	
	18.8.4	25 mm nominal outer dia Pipes	626.05	metre	108.00	67,613.40	
2.3	18.17	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :					
	18.17.1A	20 mm dia. nominal bore	461.75	each	6.00	2,770.50	
	18.17.1	25 mm dia. nominal bore	532.35	each	8.00	4,258.80	
	18.17.2	32 mm dia. nominal bore	589.90	each	4.00	2,359.60	
	18.17.3	40 mm dia. nominal bore	707.30	each	2.00	1,414.60	
	18.17.4	50 mm dia. nominal bore	878.25	each	4.00	3,513.00	
2.4	18.18	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :					
	18.18.3	25 mm nominal bore	399.15	each			
2.5	NSI-13	Providing and fixing hand held ablution fitting (health faucet) with 1.2 meter long flexible tube and wall hook, all complete approved engineer-in-charge	1,691.00	each	23.00		38,893.00
2.6	NSI-14	Supply and fixing of 15mm CP brass 2 -Way Bib Cock with wall flange and suitable length CP brass extension pipe all of approved engineer-in-charge	1,871.00	each	23.00		43,033.00
2.7	18.48	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank	9.70	per litre	17,000.00	164,900.00	
2.8	18.51	Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.					
	18.51.1	15 mm nominal bore	708.40	each			

PLUMBING INTERNAL ESTIMATE							
PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)							
						School Building	
						Amount	
2.9	18.52	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.					
	18.52.1	15 mm nominal bore	594.75				
2.10	18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931					
	18.53.1	15mm nominal bore	500.30	each	68.00	34,020.40	
2.11	18.21	Providing and fixing uplasticised PVC connection pipe with brass unions :					
	18.21.2	45 cm length					
	18.21.2.1	15 mm nominal bore	85.20	each	68.00	5,793.60	
2.12	18.22	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :					
	18.22.2	150 mm diameter	190.10	each	0.00	-	
2.13	17.22B	Providing and fixing CP Brass Single lever telephonic wall mixer of quality & make as approved by Engineer in charge.					
		(a) 15 mm nominal dia	6,119.15	each	0.00	-	
2.14	NSI-15	Providing , Fixing, testing and commissioning of CP Brass 150 mm x 150 mm Shower head with wall flange with all accessories as required and making good the walls wherever required. (MAKE-JAQUAR -Model No- OHS-35495 or EQUIVALENT.)	3,418.00	each	0.00		-
2.15	NSI-16	Supply ,Erection , Testing & Commissioning of Automatic water level control panel & related accessories for pumping automation with consisting of automatic water level controller , level sensor with stainless steel probe, motorized butterfly valve, motorized valve controller with complete in all respect.					
	a	upto 50 mm dia. nominal bore	26,947.00	each	1.00		26,947.00
		TOTAL				**959,869.90**	**108,873.00**
		SUBHEAD – III Drainage					
3.1	NSI-17	Supply and fixing HDPE double wall corrugated (DWC) I.S 16098 (Part - 2) 3013 for soil / waste pipe under ground drainage system with jointed with rubber ring with good quality lubricant for fittings, inclusive of all necessary specials like bends, tees, offsets, junctions, re excavtion and refillig etc complete.					
	a	150 mm diameter	880.00	metre	12.00		10,560.00
	b	200 mm diameter	1,092.00	metre	12.00		13,104.00
3.2	19.4	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not lessthan 4.50 kg and frame to be not less than 2.70 kg as per standard design :					
	19.4.3	180x150 mm size P type					
	19.4.3.1	With fly ash bricks (non modular) bricks of class designation 7.5	2,534.00	each	6.00	15,204.00	
3.3	19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :					
	19.6.2	150 mm dia. R.C.C. pipe	493.10	metre	75.00	36,982.50	
	19.6.3	250 mm dia. R.C.C. pipe	811.15	metre	75.00	60,836.25	
	19.6.4	300 mm dia. R.C.C. pipe	902.05	metre	75.00	67,653.75	
3.4	19.7	Constructing brick masonry manhole in cement mortar 1:4 (1 cement :4 coarse sand) with RCC top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 stone aggregate 20 mm nominal size) , foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 stone aggregate 40 mm nominal size) inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation cocreate 1:3:6 mix (1 cement :3 coarse sand : 6 graded stone aggregate 40 mm norminal size),and making necessary channel in cement concrete 1:2:4 (1 cement :2 coarse sand :4 graded stone aggregate 20 mm norminal size) finished with a floating coat of neat cement complete as per standard design .					
	19.7.1	inside size 90x80 cms and 45 cms deep including CI cover with frame (light duty) 455x610 mm internal dimensions total weight of cover & frame to be not less than 38 kg (weight of cover 23 kg & weight of frame 15 kg)					
	19.7.1.1	with common brunt clay FPS (non modular) bricks of class designation 7.5	11,687.10	Each	10.00	116,871.00	

PLUMBING INTERNAL ESTIMATE							
PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)							
						School Building	
						Amount	
3.5	19.8	Extra depth for manhole 90x80 cm					
	19.8.1.1	With FPS bricks class designation 7.5	8,127.45	Metre	1.80	14,629.41	
3.6	19.16	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering esides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per pecifications and having manufacture's permanent identification mark to be visible even after fixing,including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	487.10	Each	25.00	12,177.50	
3.7	19.27	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :					
	19.27.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	5,589.45	Each	20.00	111,789.00	
		TOTAL				**436,143.41**	**23,664.00**

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Kitchen & Dining Hall	
					Qty	Amount
					Qty.	Amount
		Sub Head – I Sanitary Installation				
1.1	17.1	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:.				
	17.1.1	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests.	5,781.35	each	3	17,344.05
1.2	17.3	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :				
	17.3.1	W.C. pan with ISI marked white solid plastic seat and lid	6,941.30	each	0	-
1.3	17.81	Providing and fixing floor mounted, white vitreous china single piece, double traps syphonic water closet of approved brand/make, shape, size and pattern including integrated white vitreous china cistern of capacity 10 litres with dual flushing system, including all fittings and fixtures with seat cover, cistern fittings, nuts, bolts and gasket etc including making connection with the existing P/S trap, complete in all respect as per directions of Engineer-in-Charge.	16,100.40	each	0	-
1.4	17.80	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.	7,004.45	each	0	-
1.5	17.7	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:				
1.5.1	17.7.3	White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps	3,158.70	each	0.00	-
1.6	NSI-1	Providing and fixing white vitreous china wash basin under counter basin, with C.I. concealed type brackets fixed to walls with GI rag bolts or approved fasteners etc., including 32 mm CP brass waste coupling, including painting of fittings and brackets, cutting and making good the walls wherever required all complete (Granite counter top will be measured and paid separately under relevent item): as per approved make and decision of engineer-in-charge	3,428.00	each	8	27,424.00
1.7	17.34	Providing and fixing toilet paper holder :				
	17.34.1	C.P. brass	680.80	each	3	2,042.40
1.8	NSI-2	Providing and fixing CP brass auto closing system basin pillar tap / hand wash of Jaquar PRS - 001 or Equivalent as approved by Engineer- In Charge	3,580.00	each	4	14,320.00
1.9	NSI-3	Providing and fixing CP brass single lever basin mixer without popo with 450mm long braided hose (connection pipe) basin pillar tap of Jaquar LYR-38001B or Equivalent as approved by Engineer- In Charge.	5,201.00	each	0	-
1.10	17.22A	Providing and fixing 32mm C.P brass bottle Trap of approved quality & make as per the direction of engineer-in-incharge.	886.25	each	4	3,545.00

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Kitchen & Dining Hall	
					Qty	Amount
					Qty.	Amount
1.11	17.31	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	1,411.15	Sqm	8	11,289.20
1.12	17.10	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS : 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :				
	17.10.1	Kitchen sink with drain board				
	17.10.1.1	510x1040 mm bowl depth 250mm	6008.45	each	4	24,033.80
	17.10.2	Kitchen sink without drain board				
	17.10.2.2	610x460 mm bowl depth 200 mm	3,337.85	each	0	-
1.13	17.11	Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete, including painting of fittings and brackets, cutting and making good the wall wherever required :				
	17.11.1	Size 450x300x150 mm	4,272.95	each	0	-
1.14	17.28	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.				
	17.28.2	Flexible pipe				
	17.28.2.2	40 mm dia	104.35	each	4	417.40
1.15	17.35	Providing and fixing soil, waste and vent pipes :				
	17.35.1	100 mm dia				
	17.35.1.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	1,061.25	meter	45	47,756.25
1.16	17.38	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
	17.38.1	100 mm				
	17.38.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside I.S. 15905	550.80	each	0	-
1.17	17.39	Providing and fixing plain bend of required degree.				
	17.39.1	100 mm				
	17.39.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	346.05	each	15	5,190.75
1.18	17.40	Providing and fixing heel rest sanitary bend				
	17.40.1	100 mm dia				
	17.40.1.2	Sand cast iron S&S as per IS - 3989	439.75	each	0	-
1.19	17.42	Providing and fixing double equal plain junction of required degree				
	17.42.1	100x100x100x100 mm				
	17.42.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	881.25	each	0	-
1.20	17.43	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
	17.43.1	100x100x100 mm				
	17.43.1.2	sand cast Iron S&S as per IS: 3989	731.40	each	0	-
1.21	17.44	Providing and fixing single equal plain junction of required degree				
	17.44.1	100x100x100 mm				
	17.44.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	573.50	each	0	-
1.22	17.56	Providing and fixing terminal guard:				
	17.56.1	100 mm				
	17.56.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	399.60	each	0	-

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Kitchen & Dining Hall	
					Qty	Amount
					Qty.	Amount
1.23	17.57A	Providing and fixing shielded coupling for Hubless centrifugally cast iron pipes				
	17.57A.1	100 mm				
	17.57A.1.1	S S 304 grade coupling with EPDM rubber gasket	406.30	each	4	1,625.20
1.24	17.59	Providing and fixing M.S. stays and clamps for sand cast iron/centrifugally cast (spun) iron pipes of diameter :				
	17.59.1	100 mm	128.65	each	0	-
1.25	17.65	Painting sand cast iron/ centrifugally cast (spun) iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint of any colour such as chocolate grey, or buff etc. over a coat of primer (of approved quality) for new work :				
	17.65.1	100 mm diameter pipe	69.55	meter	0	-
1.26	17.37	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc. :				
	17.37.1	100 mm diameter pipe	308.45	each	0	-
1.27	18.10	Providing and fixing G.I. soil / waste pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.				
	18.10.4	32 mm dia. nominal bore	563.60	metre	0	-
	18.10.5	40 mm dia. nominal bore	725.15	metre	0	-
	18.10.6	50 mm dia. nominal bore	893.20	metre	0	-
1.28	17.60	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :				
	17.60.1	100 mm inlet and 100 mm outlet				
	17.60.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	760.85	each	4	3,043.40
1.29	18.77	Cutting holes up to 15 x 15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 Cement : 2 course sand : 4 graded stone aggregate 20 mm nominal size) , including finishing complete so as to make it leak proof.	377.10	each	0	-
1.30	NSI-4	Providing & fixing in position GI 100x50 elbow floor drain including cost of cutting and making good the walls and floors wherever required.	896.00	each	5	4,480.00
1.31	NSI-5	Providing and fixing 125 mm dia S/S grating (with or without hole)for floor or Nahani trap.	513.00	each	15	7,695.00
1.32	NSI-6	Providing and fixing soap dish holder from wall of standard shape with fittings of approved quality with all complete. Make Jaquar - ACN-1131N & Equivalent	826.00	each	4	3,304.00
1.33	NSI-7	Providing and fixing soap dispenser with glass bottle from wall of standard shape with fittings of approved quality with all complete. Make Jaquar - ACN-1135N & Equivalent	1,481.00	each	4	5,924.00
1.34	NSI-8	Providing & fixing 600 mm towel rail long stanless steel from wall face with concealed fittings arrangement of approved quality with all complete. Make Jaquar - CAN-1111SM	1,433.00	each	4	5,732.00
1.35	18.65	Providing and fixing PTMT soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements, weighing not less than 106 gms.	96.75	each	0	-

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Kitchen & Dining Hall	
					Qty	Amount
					Qty.	Amount
136	17.73	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.				
	17.73.2	600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms.	600.35	each	0	-
1.37	12.22	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	266.60	each	6	1,599.60
1.38	12.41	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.	319.75	metre	30	9,592.50
1.39	12.42	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.				
	12.42.1	Coupler				
	12.42.1.1	110 mm	119.95	each	15	1,799.25
	12.42.3	Single tee with door				
	12.42.3.2	110x110x110 mm	119.95	each	6	719.70
	12.42.5	Bend 87.5°				
	12.42.5.2	110 mm	132.00	each	6	792.00
	12.42.6	Shoe (Plain)				
	12.42.6.1	110 mm Shoe	115.95	each	6	695.70
1.40	12.43	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.				
	12.43.2	110 mm	309.50	each	15	4,642.50
1.41	NSI-9	Supplying and fixing of HDPE pipe (PE grade 63 - PN-8) confirming to IS 14333-1996 chemical waste pipes jointed with rubber ring with good quality lubricant with fittings inclussive of all necessary specials like bends, tees, offsets,junctions etc laid under floor/under ceiling/on walls with suitable clamps and specials curing, necessary chasing, jointing and restoring to original conditions, testing etc. including all other incidental charges etc. complete for successful completion of work as per specifications, and as directed by Engineer -in- Charge.				
	a)	110 mm outer dia	1,173.00	metre	0	-
	b)	50 mm outer dia	435.00	metre	0	-
1.42	NSI-10	Providing & fixing in position upvc P"or S" trap of self cleaning design of following sizes for the embedded areas Making proper connection with chemical sealent joint , cutting chase / hole in floors /slabs and bringing the same in proper condition in cement concrete 1:2:4 mix complete as required. including cost of cutting and making good the walls and floors wherever required.	627.00	each	0	-
1.43	NSI-11	Providing & Fixing water cooler wth stainless steel having storage capacity of 80 liter & cooling capacity 60 liter / hour with Reverse osmosis system & ultra voilet membrane TDS reduction 90% having automatic back wash system with filteration unit & all other required accessories complete in all respect as per direction of the engineer in charge .	59,048.00	each	1	59,048.00

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Kitchen & Dining Hall	
					Qty	Amount
					Qty.	Amount
		TOTAL				246,711.65
		DSR Items				220,216.65
		NS				26,495.00
		Sub Head – II Water Supply				
2.1	18.10	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.				
		Internal work – Exposed on wall.				
	18.10.2	**20 mm** nominal outer dia Pipes	373.35	metre	15	5,600.25
	18.10.3	**25 mm** nominal outer dia Pipes	491.20	metre	15	7,368.00
	18.10.4	**32 mm** nominal outer dia Pipes	563.60	metre	10	5,636.00
	18.10.5	**40 mm** nominal outer dia Pipes	725.15	metre	10	7,251.50
	18.10.6	**50 mm** nominal outer dia Pipes	893.20	metre	10	8,932.00
	NSI-12a	**65 mm** nominal outer dia Pipes	1,084.00	metre	0	-
	NSI-12b	**80 mm** nominal outer dia Pipes	1,276.00	metre	0	-
2.2	18.8	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing.This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.				
		Concealed including cutting chases and making good the wall etc.				
	18.8.2	15 mm nominal outer dia Pipes	441.15	metre	45	19,851.75
	18.8.3	20 mm nominal outer dia Pipes	513.75	metre	38	19,265.63
	18.8.4	25 mm nominal outer dia Pipes	626.05	metre	30	18,781.50
2.3	18.17	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :				
	18.17.1A	20 mm dia. nominal bore	461.75	each	2	923.50
	18.17.1	25 mm dia. nominal bore	532.35	each	2	1,064.70
	18.17.2	32 mm dia. nominal bore	589.90	each	2	1,179.80
	18.17.3	40 mm dia. nominal bore	707.30	each	1	707.30
	18.17.4	50 mm dia. nominal bore	878.25	each	1	878.25
2.4	18.18	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :				
	18.18.3	25 mm nominal bore	399.15	each		
2.5	NSI-13	Providing and fixing hand held ablution fitting (health faucet) with 1.2 meter long flexible tube and wall hook, all complete approved engineer-in-charge	1,691.00	each	3	5,073.00
2.6	NSI-14	Supply and fixing of 15mm CP brass 2 -Way Bib Cock with wall flange and suitable length CP brass extension pipe all of approved engineer-in-charge	1,871.00	each	3	5,613.00
2.7	18.48	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank	9.70	per litre	10,000	97,000.00
2.8	18.51	Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.				
	18.51.1	15 mm nominal bore	708.40	each		
2.9	18.52	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.				
	18.52.1	15 mm nominal bore	594.75			

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Kitchen & Dining Hall	
					Qty	Amount
					Qty.	Amount
2.10	18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931				
	18.53.1	15mm nominal bore	500.30	each	25	12,507.50
2.11	18.21	Providing and fixing uplasticised PVC connection pipe with brass unions :				
	18.21.2	45 cm length				
	18.21.2.1	15 mm nominal bore	85.20	each	25	2,130.00
2.12	18.22	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :				
	18.22.2	150 mm diameter	190.10	each	0	-
2.13	17.22B	Providing and fixing CP Brass Single lever telephonic wall mixer of quality & make as approved by Engineer in charge.				
		(a) 15 mm nominal dia	6,119.15	each	0	-
2.14	NSI-15	Providing , Fixing, testing and commissioning of CP Brass 150 mm x 150 mm Shower head with wall flange with all accessories as required and making good the walls wherever required. (MAKE-JAQUAR -Model No- OHS-35495 or EQUIVALENT.)	3,418.00	each	0	-
2.15	NSI-16	Supply ,Erection , Testing & Commissioning of Automatic water level control panel & related accessories for pumping automation with consisting of automatic water level controller , level sensor with stainless steel probe, motorized butterfly valve, motorized valve controller with complete in all respect.				
	a	upto 50 mm dia. nominal bore	26,947.00	each	2	53,894.00
		TOTAL				**273,657.68**
		DSR Items				**209,077.68**
		NS				**64,580.00**
		SUBHEAD – III Drainage				
3.1	NSI-17	Supply and fixing HDPE double wall corrugated (DWC) I.S 16098 (Part - 2) 3013 for soil / waste pipe under ground drainage system with jointed with rubber ring with good quality lubricant for fittings, inclusive of all necessary specials like bends, tees, offsets, junctions, re excavtion and refillig etc complete.				
	a	150 mm diameter	880.00	metre	10	8,800.00
	b	200 mm diameter	1,092.00	metre	10	10,920.00
3.2	19.4	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not lessthan 4.50 kg and frame to be not less than 2.70 kg as per standard design :				
	19.4.3	180x150 mm size P type				
	19.4.3.1	With fly ash bricks (non modular) bricks of class designation 7.5	2,534.00	each	4	10,136.00
3.3	19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				
	19.6.2	150 mm dia. R.C.C. pipe	493.10	metre	25	12,327.50
	19.6.3	250 mm dia. R.C.C. pipe	811.15	metre	10	8,111.50
	19.6.4	300 mm dia. R.C.C. pipe	902.05	metre	10	9,020.50

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Kitchen & Dining Hall	
					Qty	Amount
					Qty.	Amount
3.4	19.7	Constructing brick masonry manhole in cement mortar 1:4 (1 cement :4 coarse sand) with RCC top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 stone aggregate 20 mm nominal size) , foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 stone aggregate 40 mm nominal size) inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation cocreate 1:3:6 mix (1 cement :3 coarse sand : 6 graded stone aggregate 40 mm norminal size),and making necessary channel in cement concrete 1:2:4 (1 cement :2 coarse sand :4 graded stone aggregate 20 mm norminal size) finished with a floating coat of neat cement complete as per standard design .				
	19.7.1	inside size 90x80 cms and 45 cms deep including CI cover with frame (light duty) 455x610 mm internal dimensions total weight of cover & frame to be not less than 38 kg (weight of cover 23 kg & weight of frame 15 kg)				
	19.7.1.1	with common brunt clay FPS (non modular) bricks of class designation 7.5	11,687.10	Each	4.00	46,748.40
3.5	19.8	Extra depth for manhole 90x80 cm				
	19.8.1.1	With FPS bricks class designation 7.5	8,127.45	Metre	0.40	3,250.98
3.6	19.16	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering esides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per pecifications and having manufacture's permanent identification mark to be visible even after fixing,including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	487.10	Each	10.00	4,871.00
3.7	19.27	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :				
	19.27.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	5,589.45	Each	10.00	55,894.50
		TOTAL				**170,080.38**
		DSR Items				**150,360.38**
		NS				**19,720.00**

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	1.5 Unit Boys	
					Qty	Amount
					Qty.	Amount
		Sub Head – I Sanitary Installation				
1.1	17.1	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:.				
	17.1.1	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests.	5,781.35	each	44	254,379.40
1.2	17.3	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :				
	17.3.1	W.C. pan with ISI marked white solid plastic seat and lid	6,941.30	each	18	124,943.40
1.3	17.81	Providing and fixing floor mounted, white vitreous china single piece, double traps syphonic water closet of approved brand/make, shape, size and pattern including integrated white vitreous china cistern of capacity 10 litres with dual flushing system, including all fittings and fixtures with seat cover, cistern fittings, nuts, bolts and gasket etc including making connection with the existing P/S trap, complete in all respect as per directions of Engineer-in-Charge.	16,100.40	each	0	-
1.4	17.80	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.	7,004.45	each	0	-
1.5	17.7	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:				
1.5.1	17.7.3	White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps	3,158.70	each	18	56,856.60
1.6	NSI-1	Providing and fixing white vitreous china wash basin under counter basin, with C.I. concealed type brackets fixed to walls with GI rag bolts or approved fasteners etc., including 32 mm CP brass waste coupling, including painting of fittings and brackets, cutting and making good the walls wherever required all complete (Granite counter top will be measured and paid separately under relevent item): as per approved make and decision of engineer-in-charge	3,428.00	each	0	-
1.7	17.34	Providing and fixing toilet paper holder :				
	17.34.1	C.P. brass	680.80	each	18	12,254.40
1.8	NSI-2	Providing and fixing CP brass auto closing system basin pillar tap / hand wash of Jaquar PRS - 001 or Equivalent as approved by Engineer- In Charge	3,580.00	each	8	28,640.00
1.9	NSI-3	Providing and fixing CP brass single lever basin mixer without popo with 450mm long braided hose (connection pipe) basin pillar tap of Jaquar LYR-38001B or Equivalent as approved by Engineer- In Charge.	5,201.00	each	8	41,608.00
1.10	17.22A	Providing and fixing 32mm C.P brass bottle Trap of approved quality & make as per the direction of engineer-in-incharge.	886.25	each	18	15,952.50

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	1.5 Unit Boys	
					Qty	Amount
					Qty.	Amount
1.11	17.31	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	1,411.15	Sqm	18	25,400.70
1.12	17.10	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS : 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :				
	17.10.1	Kitchen sink with drain board				
	17.10.1.1	510x1040 mm bowl depth 250mm	6008.45	each	8	48,067.60
	17.10.2	Kitchen sink without drain board				
	17.10.2.2	610x460 mm bowl depth 200 mm	3,337.85	each	0	-
1.13	17.11	Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete, including painting of fittings and brackets, cutting and making good the wall wherever required :				
	17.11.1	Size 450x300x150 mm	4,272.95	each	0	-
1.14	17.28	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.				
	17.28.2	Flexible pipe				
	17.28.2.2	40 mm dia	104.35	each	8	834.80
1.15	17.35	Providing and fixing soil, waste and vent pipes :				
	17.35.1	100 mm dia				
	17.35.1.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	1,061.25	meter	584	619,770.00
1.16	17.38	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
	17.38.1	100 mm				
	17.38.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside I.S. 15905	550.80	each	72	39,657.60
1.17	17.39	Providing and fixing plain bend of required degree.				
	17.39.1	100 mm				
	17.39.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	346.05	each	134	46,370.70
1.18	17.40	Providing and fixing heel rest sanitary bend				
	17.40.1	100 mm dia				
	17.40.1.2	Sand cast iron S&S as per IS - 3989	439.75	each	16	7,036.00
1.19	17.42	Providing and fixing double equal plain junction of required degree				
	17.42.1	100x100x100x100 mm				
	17.42.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	881.25	each	72	63,450.00
1.20	17.43	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
	17.43.1	100x100x100 mm				
	17.43.1.2	sand cast Iron S&S as per IS: 3989	731.40	each	72	52,660.80
1.21	17.44	Providing and fixing single equal plain junction of required degree				
	17.44.1	100x100x100 mm				
	17.44.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	573.50	each	144	82,584.00
1.22	17.56	Providing and fixing terminal guard:				
	17.56.1	100 mm				
	17.56.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	399.60	each	18	7,192.80

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	1.5 Unit Boys	
					Qty	Amount
					Qty.	Amount
1.23	17.57A	Providing and fixing shielded coupling for Hubless centrifugally cast iron pipes				
	17.57A.1	100 mm				
	17.57A.1.1	S S 304 grade coupling with EPDM rubber gasket	406.30	each	584	237,279.20
1.24	17.59	Providing and fixing M.S. stays and clamps for sand cast iron/centrifugally cast (spun) iron pipes of diameter :				
	17.59.1	100 mm	128.65	each	18	2,315.70
1.25	17.65	Painting sand cast iron/ centrifugally cast (spun) iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint of any colour such as chocolate grey, or buff etc. over a coat of primer (of approved quality) for new work :				
	17.65.1	100 mm diameter pipe	69.55	meter	270	18,778.50
1.26	17.37	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc. :				
	17.37.1	100 mm diameter pipe	308.45	each	270	83,281.50
1.27	18.10	Providing and fixing G.I. soil / waste pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.				
	18.10.4	32 mm dia. nominal bore	563.60	metre	50	28,180.00
	18.10.5	40 mm dia. nominal bore	725.15	metre	20	14,503.00
	18.10.6	50 mm dia. nominal bore	893.20	metre	50	44,660.00
1.28	17.60	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :				
	17.60.1	100 mm inlet and 100 mm outlet				
	17.60.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	760.85	each	80	60,868.00
1.29	18.77	Cutting holes up to 15 x 15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 Cement : 2 course sand : 4 graded stone aggregate 20 mm nominal size) , including finishing complete so as to make it leak proof.	377.10	each	36	13,575.60
1.30	NSI-4	Providing & fixing in position GI 100x50 elbow floor drain including cost of cutting and making good the walls and floors wherever required.	896.00	each	48	43,008.00
1.31	NSI-5	Providing and fixing 125 mm dia S/S grating (with or without hole)for floor or Nahani trap.	513.00	each	128	65,664.00
1.32	NSI-6	Providing and fixing soap dish holder from wall of standard shape with fittings of approved quality with all complete. Make Jaquar - ACN-1131N & Equivalent	826.00	each	10	8,260.00
1.33	NSI-7	Providing and fixing soap dispenser with glass bottle from wall of standard shape with fittings of approved quality with all complete. Make Jaquar - ACN-1135N & Equivalent	1,481.00	each	0	-
1.34	NSI-8	Providing & fixing 600 mm towel rail long stanless steel from wall face with concealed fittings arrangement of approved quality with all complete. Make Jaquar - CAN-1111SM	1,433.00	each	10	14,330.00
1.35	18.65	Providing and fixing PTMT soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements, weighing not less than 106 gms.	96.75	each	0	-

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	1.5 Unit Boys	
					Qty	Amount
					Qty.	Amount
136	17.73	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.				
	17.73.2	600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms.	600.35	each	0	-
1.37	12.22	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	266.60	each	37	9,864.20
1.38	12.41	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.	319.75	metre	555	177,461.25
1.39	12.42	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.				
	12.42.1	Coupler				
	12.42.1.1	110 mm	119.95	each	275	32,986.25
	12.42.3	Single tee with door				
	12.42.3.2	110x110x110 mm	119.95	each	37	4,438.15
	12.42.5	Bend 87.5°				
	12.42.5.2	110 mm	132.00	each	37	4,884.00
	12.42.6	Shoe (Plain)				
	12.42.6.1	110 mm Shoe	115.95	each	37	4,290.15
1.40	12.43	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.				
	12.43.2	110 mm	309.50	each	275	85,112.50
1.41	NSI-9	Supplying and fixing of HDPE pipe (PE grade 63 - PN-8) confirming to IS 14333-1996 chemical waste pipes jointed with rubber ring with good quality lubricant with fittings inclussive of all necessary specials like bends, tees, offsets,junctions etc laid under floor/under ceiling/on walls with suitable clamps and specials curing, necessary chasing, jointing and restoring to original conditions, testing etc. including all other incidental charges etc. complete for successful completion of work as per specifications, and as directed by Engineer -in- Charge.				
	a)	110 mm outer dia	1,173.00	metre	0	-
	b)	50 mm outer dia	435.00	metre	0	-
1.42	NSI-10	Providing & fixing in position upvc P"or S" trap of self cleaning design of following sizes for the embedded areas Making proper connection with chemical sealent joint , cutting chase / hole in floors /slabs and bringing the same in proper condition in cement concrete 1:2:4 mix complete as required. including cost of cutting and making good the walls and floors wherever required.	627.00	each	0	-
1.43	NSI-11	Providing & Fixing water cooler wth stainless steel having storage capacity of 80 liter & cooling capacity 60 liter / hour with Reverse osmosis system & ultra voilet membrane TDS reduction 90% having automatic back wash system with filteration unit & all other required accessories complete in all respect as per direction of the engineer in charge .	59,048.00	each	12	708,576.00

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	1.5 Unit Boys	
					Qty	Amount
					Qty.	Amount
		TOTAL				2,810,652.50
		DSR Items				2,631,732.50
		NS				178,920.00
		Sub Head – II Water Supply				
2.1	18.10	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.				
		Internal work – Exposed on wall.				
	18.10.2	**20 mm** nominal outer dia Pipes	373.35	metre	75	28,001.25
	18.10.3	**25 mm** nominal outer dia Pipes	491.20	metre	155	76,136.00
	18.10.4	**32 mm** nominal outer dia Pipes	563.60	metre	90	50,724.00
	18.10.5	**40 mm** nominal outer dia Pipes	725.15	metre	125	90,643.75
	18.10.6	**50 mm** nominal outer dia Pipes	893.20	metre	50	44,660.00
	NSI-12a	**65 mm** nominal outer dia Pipes	1,084.00	metre	40	43,360.00
	NSI-12b	**80 mm** nominal outer dia Pipes	1,276.00	metre	35	44,660.00
2.2	18.8	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing.This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.				
		Concealed including cutting chases and making good the wall etc.				
	18.8.2	15 mm nominal outer dia Pipes	441.15	metre	264	116,463.60
	18.8.3	20 mm nominal outer dia Pipes	513.75	metre	220	113,025.00
	18.8.4	25 mm nominal outer dia Pipes	626.05	metre	176	110,184.80
2.3	18.17	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :				
	18.17.1A	20 mm dia. nominal bore	461.75	each	18	8,311.50
	18.17.1	25 mm dia. nominal bore	532.35	each	38	20,229.30
	18.17.2	32 mm dia. nominal bore	589.90	each	24	14,157.60
	18.17.3	40 mm dia. nominal bore	707.30	each	5	3,536.50
	18.17.4	50 mm dia. nominal bore	878.25	each	4	3,513.00
2.4	18.18	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :				
	18.18.3	25 mm nominal bore	399.15	each	7	2,794.05
2.5	NSI-13	Providing and fixing hand held ablution fitting (health faucet) with 1.2 meter long flexible tube and wall hook, all complete approved engineer-in-charge	1,691.00	each	62	104,842.00
2.6	NSI-14	Supply and fixing of 15mm CP brass 2 -Way Bib Cock with wall flange and suitable length CP brass extension pipe all of approved engineer-in-charge	1,871.00	each	62	116,002.00
2.7	18.48	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank	9.70	per litre	13,000	126,100.00
2.8	18.51	Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.				
	18.51.1	15 mm nominal bore	708.40	each	0	
2.9	18.52	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.				
	18.52.1	15 mm nominal bore	594.75		0	

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	1.5 Unit Boys	
					Qty	Amount
					Qty.	Amount
2.10	18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931				
	18.53.1	15mm nominal bore	500.30	each	116	58,034.80
2.11	18.21	Providing and fixing uplasticised PVC connection pipe with brass unions :				
	18.21.2	45 cm length				
	18.21.2.1	15 mm nominal bore	85.20	each	116	9,883.20
2.12	18.22	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :				
	18.22.2	150 mm diameter	190.10	each	0	-
2.13	17.22B	Providing and fixing CP Brass Single lever telephonic wall mixer of quality & make as approved by Engineer in charge.				
		(a) 15 mm nominal dia	6,119.15	each	10	61,191.50
2.14	NSI-15	Providing , Fixing, testing and commissioning of CP Brass 150 mm x 150 mm Shower head with wall flange with all accessories as required and making good the walls wherever required. (MAKE-JAQUAR -Model No- OHS-35495 or EQUIVALENT.)	3,418.00	each	10	34,180.00
2.15	NSI-16	Supply ,Erection , Testing & Commissioning of Automatic water level control panel & related accessories for pumping automation with consisting of automatic water level controller , level sensor with stainless steel probe, motorized butterfly valve, motorized valve controller with complete in all respect.				
	a	upto 50 mm dia. nominal bore	26,947.00	each	4	107,788.00
		TOTAL				1,388,421.85
		DSR Items				971,769.85
		NS				416,652.00
		SUBHEAD – III Drainage				
3.1	NSI-17	Supply and fixing HDPE double wall corrugated (DWC) I.S 16098 (Part - 2) 3013 for soil / waste pipe under ground drainage system with jointed with rubber ring with good quality lubricant for fittings, inclusive of all necessary specials like bends, tees, offsets, junctions, re excavtion and refillig etc complete.				
	a	150 mm diameter	880.00	metre	35	30,800.00
	b	200 mm diameter	1,092.00	metre	10	10,920.00
3.2	19.4	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not lessthan 4.50 kg and frame to be not less than 2.70 kg as per standard design :				
	19.4.3	180x150 mm size P type				
	19.4.3.1	With fly ash bricks (non modular) bricks of class designation 7.5	2,534.00	each	10	25,340.00
3.3	19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				
	19.6.2	150 mm dia. R.C.C. pipe	493.10	metre	25	12,327.50
	19.6.3	250 mm dia. R.C.C. pipe	811.15	metre	10	8,111.50
	19.6.4	300 mm dia. R.C.C. pipe	902.05	metre	10	9,020.50

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	1.5 Unit Boys	
					Qty	Amount
					Qty.	Amount
3.4	19.7	Constructing brick masonry manhole in cement mortar 1:4 (1 cement :4 coarse sand) with RCC top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 stone aggregate 20 mm nominal size) , foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 stone aggregate 40 mm nominal size) inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation cocreate 1:3:6 mix (1 cement :3 coarse sand : 6 graded stone aggregate 40 mm norminal size),and making necessary channel in cement concrete 1:2:4 (1 cement :2 coarse sand :4 graded stone aggregate 20 mm norminal size) finished with a floating coat of neat cement complete as per standard design .				
	19.7.1	inside size 90x80 cms and 45 cms deep including CI cover with frame (light duty) 455x610 mm internal dimensions total weight of cover & frame to be not less than 38 kg (weight of cover 23 kg & weight of frame 15 kg)				
	19.7.1.1	with common brunt clay FPS (non modular) bricks of class designation 7.5	11,687.10	Each	4.00	46,748.40
3.5	19.8	Extra depth for manhole 90x80 cm				
	19.8.1.1	With FPS bricks class designation 7.5	8,127.45	Metre	0.40	3,250.98
3.6	19.16	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering esides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per pecifications and having manufacture's permanent identification mark to be visible even after fixing,including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	487.10	Each	35.00	17,048.50
3.7	19.27	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :				
	19.27.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	5,589.45	Each	20.00	111,789.00
		TOTAL				**275,356.38**
		DSR Items				**233,636.38**
		NS				**41,720.00**

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	1 Unit Girls Dormitory	
					Qty	Amount
					Qty.	Amount
		Sub Head – I Sanitary Installation				
1.1	17.1	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:.				
	17.1.1	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests.	5,781.35	each	32	185,003.20
1.2	17.3	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :				
	17.3.1	W.C. pan with ISI marked white solid plastic seat and lid	6,941.30	each	9	62,471.70
1.3	17.81	Providing and fixing floor mounted, white vitreous china single piece, double traps syphonic water closet of approved brand/make, shape, size and pattern including integrated white vitreous china cistern of capacity 10 litres with dual flushing system, including all fittings and fixtures with seat cover, cistern fittings, nuts, bolts and gasket etc including making connection with the existing P/S trap, complete in all respect as per directions of Engineer-in-Charge.	16,100.40	each	0	-
1.4	17.80	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.	7,004.45	each	0	-
1.5	17.7	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:				
1.5.1	17.7.3	White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps	3,158.70	each	9	28,428.30
1.6	NSI-1	Providing and fixing white vitreous china wash basin under counter basin, with C.I. concealed type brackets fixed to walls with GI rag bolts or approved fasteners etc., including 32 mm CP brass waste coupling, including painting of fittings and brackets, cutting and making good the walls wherever required all complete (Granite counter top will be measured and paid separately under relevent item): as per approved make and decision of engineer-in-charge	3,428.00	each	0	-
1.7	17.34	Providing and fixing toilet paper holder :				
	17.34.1	C.P. brass	680.80	each	9	6,127.20
1.8	NSI-2	Providing and fixing CP brass auto closing system basin pillar tap / hand wash of Jaquar PRS - 001 or Equivalent as approved by Engineer- In Charge	3,580.00	each	8	28,640.00
1.9	NSI-3	Providing and fixing CP brass single lever basin mixer without popo with 450mm long braided hose (connection pipe) basin pillar tap of Jaquar LYR-38001B or Equivalent as approved by Engineer- In Charge.	5,201.00	each	4	20,804.00
1.10	17.22A	Providing and fixing 32mm C.P brass bottle Trap of approved quality & make as per the direction of engineer-in-incharge.	886.25	each	9	7,976.25

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	1 Unit Girls Dormitory	
					Qty	Amount
					Qty.	Amount
1.11	17.31	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	1,411.15	Sqm	9	12,700.35
1.12	17.10	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS : 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :				
	17.10.1	Kitchen sink with drain board				
	17.10.1.1	510x1040 mm bowl depth 250mm	6008.45	each	4	24,033.80
	17.10.2	Kitchen sink without drain board				
	17.10.2.2	610x460 mm bowl depth 200 mm	3,337.85	each	0	-
1.13	17.11	Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete, including painting of fittings and brackets, cutting and making good the wall wherever required :				
	17.11.1	Size 450x300x150 mm	4,272.95	each	0	-
1.14	17.28	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.				
	17.28.2	Flexible pipe				
	17.28.2.2	40 mm dia	104.35	each	4	417.40
1.15	17.35	Providing and fixing soil, waste and vent pipes :				
	17.35.1	100 mm dia				
	17.35.1.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	1,061.25	meter	358	379,927.50
1.16	17.38	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
	17.38.1	100 mm				
	17.38.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside I.S. 15905	550.80	each	48	26,438.40
1.17	17.39	Providing and fixing plain bend of required degree.				
	17.39.1	100 mm				
	17.39.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	346.05	each	113	39,103.65
1.18	17.40	Providing and fixing heel rest sanitary bend				
	17.40.1	100 mm dia				
	17.40.1.2	Sand cast iron S&S as per IS - 3989	439.75	each	12	5,277.00
1.19	17.42	Providing and fixing double equal plain junction of required degree				
	17.42.1	100x100x100x100 mm				
	17.42.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	881.25	each	48	42,300.00
1.20	17.43	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
	17.43.1	100x100x100 mm				
	17.43.1.2	sand cast Iron S&S as per IS: 3989	731.40	each	48	35,107.20
1.21	17.44	Providing and fixing single equal plain junction of required degree				
	17.44.1	100x100x100 mm				
	17.44.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	573.50	each	96	55,056.00
1.22	17.56	Providing and fixing terminal guard:				
	17.56.1	100 mm				
	17.56.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	399.60	each	12	4,795.20

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	1 Unit Girls Dormitory	
					Qty	Amount
					Qty.	Amount
1.23	17.57A	Providing and fixing shielded coupling for Hubless centrifugally cast iron pipes				
	17.57A.1	100 mm				
	17.57A.1.1	S S 304 grade coupling with EPDM rubber gasket	406.30	each	358	145,455.40
1.24	17.59	Providing and fixing M.S. stays and clamps for sand cast iron/centrifugally cast (spun) iron pipes of diameter :				
	17.59.1	100 mm	128.65	each	12	1,543.80
1.25	17.65	Painting sand cast iron/ centrifugally cast (spun) iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint of any colour such as chocolate grey, or buff etc. over a coat of primer (of approved quality) for new work :				
	17.65.1	100 mm diameter pipe	69.55	meter	180	12,519.00
1.26	17.37	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc. :				
	17.37.1	100 mm diameter pipe	308.45	each	180	55,521.00
1.27	18.10	Providing and fixing G.I. soil / waste pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.				
	18.10.4	32 mm dia. nominal bore	563.60	metre	35	19,726.00
	18.10.5	40 mm dia. nominal bore	725.15	metre	15	10,877.25
	18.10.6	50 mm dia. nominal bore	893.20	metre	40	35,728.00
1.28	17.60	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :				
	17.60.1	100 mm inlet and 100 mm outlet				
	17.60.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	760.85	each	48	36,520.80
1.29	18.77	Cutting holes up to 15 x 15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 Cement : 2 course sand : 4 graded stone aggregate 20 mm nominal size) , including finishing complete so as to make it leak proof.	377.10	each	36	13,575.60
1.30	NSI-4	Providing & fixing in position GI 100x50 elbow floor drain including cost of cutting and making good the walls and floors wherever required.	896.00	each	32	28,672.00
1.31	NSI-5	Providing and fixing 125 mm dia S/S grating (with or without hole)for floor or Nahani trap.	513.00	each	80	41,040.00
1.32	NSI-6	Providing and fixing soap dish holder from wall of standard shape with fittings of approved quality with all complete. Make Jaquar - ACN-1131N & Equivalent	826.00	each	6	4,956.00
1.33	NSI-7	Providing and fixing soap dispenser with glass bottle from wall of standard shape with fittings of approved quality with all complete. Make Jaquar - ACN-1135N & Equivalent	1,481.00	each	0	-
1.34	NSI-8	Providing & fixing 600 mm towel rail long stanless steel from wall face with concealed fittings arrangement of approved quality with all complete. Make Jaquar - CAN-1111SM	1,433.00	each	6	8,598.00
1.35	18.65	Providing and fixing PTMT soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements, weighing not less than 106 gms.	96.75	each	0	-

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	1 Unit Girls Dormitory	
					Qty	Amount
					Qty.	Amount
136	17.73	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.				
	17.73.2	600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms.	600.35	each	0	-
1.37	12.22	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	266.60	each	25	6,665.00
1.38	12.41	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.	319.75	metre	375	119,906.25
1.39	12.42	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.				
	12.42.1	Coupler				
	12.42.1.1	110 mm	119.95	each	200	23,990.00
	12.42.3	Single tee with door				
	12.42.3.2	110x110x110 mm	119.95	each	25	2,998.75
	12.42.5	Bend 87.5°				
	12.42.5.2	110 mm	132.00	each	25	3,300.00
	12.42.6	Shoe (Plain)				
	12.42.6.1	110 mm Shoe	115.95	each	25	2,898.75
1.40	12.43	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.				
	12.43.2	110 mm	309.50	each	200	61,900.00
1.41	NSI-9	Supplying and fixing of HDPE pipe (PE grade 63 - PN-8) confirming to IS 14333-1996 chemical waste pipes jointed with rubber ring with good quality lubricant with fittings inclussive of all necessary specials like bends, tees, offsets,junctions etc laid under floor/under ceiling/on walls with suitable clamps and specials curing, necessary chasing, jointing and restoring to original conditions, testing etc. including all other incidental charges etc. complete for successful completion of work as per specifications, and as directed by Engineer -in- Charge.				
	a)	110 mm outer dia	1,173.00	metre	0	-
	b)	50 mm outer dia	435.00	metre	0	-
1.42	NSI-10	Providing & fixing in position upvc P"or S" trap of self cleaning design of following sizes for the embedded areas Making proper connection with chemical sealent joint , cutting chase / hole in floors /slabs and bringing the same in proper condition in cement concrete 1:2:4 mix complete as required. including cost of cutting and making good the walls and floors wherever required.	627.00	each	0	-
1.43	NSI-11	Providing & Fixing water cooler wth stainless steel having storage capacity of 80 liter & cooling capacity 60 liter / hour with Reverse osmosis system & ultra voilet membrane TDS reduction 90% having automatic back wash system with filteration unit & all other required accessories complete in all respect as per direction of the engineer in charge .	59,048.00	each	8	472,384.00

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	1 Unit Girls Dormitory	
					Qty	Amount
					Qty.	Amount
		TOTAL				1,825,907.85
		DSR Items				1,706,751.85
		NS				119,156.00
		Sub Head – II Water Supply				
2.1	18.10	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.				
		Internal work – Exposed on wall.				
	18.10.2	**20 mm** nominal outer dia Pipes	373.35	metre	45	16,800.75
	18.10.3	**25 mm** nominal outer dia Pipes	491.20	metre	105	51,576.00
	18.10.4	**32 mm** nominal outer dia Pipes	563.60	metre	60	33,816.00
	18.10.5	**40 mm** nominal outer dia Pipes	725.15	metre	85	61,637.75
	18.10.6	**50 mm** nominal outer dia Pipes	893.20	metre	25	22,330.00
	NSI-12a	**65 mm** nominal outer dia Pipes	1,084.00	metre	20	21,680.00
	NSI-12b	**80 mm** nominal outer dia Pipes	1,276.00	metre	10	12,760.00
2.2	18.8	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing.This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.				
		Concealed including cutting chases and making good the wall etc.				
	18.8.2	15 mm nominal outer dia Pipes	441.15	metre	162	71,466.30
	18.8.3	20 mm nominal outer dia Pipes	513.75	metre	135	69,356.25
	18.8.4	25 mm nominal outer dia Pipes	626.05	metre	108	67,613.40
2.3	18.17	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :				
	18.17.1A	20 mm dia. nominal bore	461.75	each	12	5,541.00
	18.17.1	25 mm dia. nominal bore	532.35	each	32	17,035.20
	18.17.2	32 mm dia. nominal bore	589.90	each	16	9,438.40
	18.17.3	40 mm dia. nominal bore	707.30	each	3	2,121.90
	18.17.4	50 mm dia. nominal bore	878.25	each	2	1,756.50
2.4	18.18	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :				
	18.18.3	25 mm nominal bore	399.15	each	5	1,995.75
2.5	NSI-13	Providing and fixing hand held ablution fitting (health faucet) with 1.2 meter long flexible tube and wall hook, all complete approved engineer-in-charge	1,691.00	each	41	69,331.00
2.6	NSI-14	Supply and fixing of 15mm CP brass 2 -Way Bib Cock with wall flange and suitable length CP brass extension pipe all of approved engineer-in-charge	1,871.00	each	41	76,711.00
2.7	18.48	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank	9.70	per litre	10,000	97,000.00
2.8	18.51	Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.				
	18.51.1	15 mm nominal bore	708.40	each	0	-
2.9	18.52	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.				
	18.52.1	15 mm nominal bore	594.75		0	-

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	1 Unit Girls Dormitory	
					Qty	Amount
					Qty.	Amount
2.10	18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931				
	18.53.1	15mm nominal bore	500.30	each	70	35,021.00
2.11	18.21	Providing and fixing uplasticised PVC connection pipe with brass unions :				
	18.21.2	45 cm length				
	18.21.2.1	15 mm nominal bore	85.20	each	70	5,964.00
2.12	18.22	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :				
	18.22.2	150 mm diameter	190.10	each	0	-
2.13	17.22B	Providing and fixing CP Brass Single lever telephonic wall mixer of quality & make as approved by Engineer in charge.				
		(a) 15 mm nominal dia	6,119.15	each	6	36,714.90
2.14	NSI-15	Providing , Fixing, testing and commissioning of CP Brass 150 mm x 150 mm Shower head with wall flange with all accessories as required and making good the walls wherever required. (MAKE-JAQUAR -Model No- OHS-35495 or EQUIVALENT.)	3,418.00	each	6	20,508.00
2.15	NSI-16	Supply ,Erection , Testing & Commissioning of Automatic water level control panel & related accessories for pumping automation with consisting of automatic water level controller , level sensor with stainless steel probe, motorized butterfly valve, motorized valve controller with complete in all respect.				
	a	upto 50 mm dia. nominal bore	26,947.00	each	4	107,788.00
		TOTAL				**915,963.10**
		DSR Items				**627,693.10**
		NS				**288,270.00**
		SUBHEAD – III Drainage				
3.1	NSI-17	Supply and fixing HDPE double wall corrugated (DWC) I.S 16098 (Part - 2) 3013 for soil / waste pipe under ground drainage system with jointed with rubber ring with good quality lubricant for fittings, inclusive of all necessary specials like bends, tees, offsets, junctions, re excavtion and refillig etc complete.				
	a	150 mm diameter	880.00	metre	25	22,000.00
	b	200 mm diameter	1,092.00	metre	10	10,920.00
3.2	19.4	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not lessthan 4.50 kg and frame to be not less than 2.70 kg as per standard design :				
	19.4.3	180x150 mm size P type				
	19.4.3.1	With fly ash bricks (non modular) bricks of class designation 7.5	2,534.00	each	6	15,204.00
3.3	19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				
	19.6.2	150 mm dia. R.C.C. pipe	493.10	metre	25	12,327.50
	19.6.3	250 mm dia. R.C.C. pipe	811.15	metre	10	8,111.50
	19.6.4	300 mm dia. R.C.C. pipe	902.05	metre	10	9,020.50

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	1 Unit Girls Dormitory	
					Qty	Amount
					Qty.	Amount
3.4	19.7	Constructing brick masonry manhole in cement mortar 1:4 (1 cement :4 coarse sand) with RCC top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 stone aggregate 20 mm nominal size) , foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 stone aggregate 40 mm nominal size) inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation cocreate 1:3:6 mix (1 cement :3 coarse sand : 6 graded stone aggregate 40 mm norminal size),and making necessary channel in cement concrete 1:2:4 (1 cement :2 coarse sand :4 graded stone aggregate 20 mm norminal size) finished with a floating coat of neat cement complete as per standard design .				
	19.7.1	inside size 90x80 cms and 45 cms deep including CI cover with frame (light duty) 455x610 mm internal dimensions total weight of cover & frame to be not less than 38 kg (weight of cover 23 kg & weight of frame 15 kg)				
	19.7.1.1	with common brunt clay FPS (non modular) bricks of class designation 7.5	11,687.10	Each	4.00	46,748.40
3.5	19.8	Extra depth for manhole 90x80 cm				
	19.8.1.1	With FPS bricks class designation 7.5	8,127.45	Metre	0.40	3,250.98
3.6	19.16	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering esides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per pecifications and having manufacture's permanent identification mark to be visible even after fixing,including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	487.10	Each	25.00	12,177.50
3.7	19.27	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :				
	19.27.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	5,589.45	Each	15.00	83,841.75
		TOTAL				**223,602.13**
		DSR Items				**190,682.13**
		NS				**32,920.00**

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Principal Residence	
					Qty	Amount
					Qty.	Amount
		Sub Head – I Sanitary Installation				
1.1	17.1	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:.				
	17.1.1	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests.	5,781.35	each	0	-
1.2	17.3	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :				
	17.3.1	W.C. pan with ISI marked white solid plastic seat and lid	6,941.30	each	0	-
1.3	17.81	Providing and fixing floor mounted, white vitreous china single piece, double traps syphonic water closet of approved brand/make, shape, size and pattern including integrated white vitreous china cistern of capacity 10 litres with dual flushing system, including all fittings and fixtures with seat cover, cistern fittings, nuts, bolts and gasket etc including making connection with the existing P/S trap, complete in all respect as per directions of Engineer-in-Charge.	16,100.40	each	0	-
1.4	17.80	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.	7,004.45	each	0	-
1.5	17.7	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:				
1.5.1	17.7.3	White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps	3,158.70	each	3.00	9,476.10
1.6	NSI-1	Providing and fixing white vitreous china wash basin under counter basin, with C.I. concealed type brackets fixed to walls with GI rag bolts or approved fasteners etc., including 32 mm CP brass waste coupling, including painting of fittings and brackets, cutting and making good the walls wherever required all complete (Granite counter top will be measured and paid separately under relevent item): as per approved make and decision of engineer-in-charge	3,428.00	each	0	-
1.7	17.34	Providing and fixing toilet paper holder :				
	17.34.1	C.P. brass	680.80	each	3	2,042.40
1.8	NSI-2	Providing and fixing CP brass auto closing system basin pillar tap / hand wash of Jaquar PRS - 001 or Equivalent as approved by Engineer- In Charge	3,580.00	each	0	-
1.9	NSI-3	Providing and fixing CP brass single lever basin mixer without popo with 450mm long braided hose (connection pipe) basin pillar tap of Jaquar LYR-38001B or Equivalent as approved by Engineer- In Charge.	5,201.00	each	3	15,603.00
1.10	17.22A	Providing and fixing 32mm C.P brass bottle Trap of approved quality & make as per the direction of engineer-in-incharge.	886.25	each	3	2,658.75

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Principal Residence	
					Qty	Amount
					Qty.	Amount
1.11	17.31	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	1,411.15	Sqm	3	4,233.45
1.12	17.10	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS : 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :				
	17.10.1	Kitchen sink with drain board				
	17.10.1.1	510x1040 mm bowl depth 250mm	6008.45	each	1	6,008.45
	17.10.2	Kitchen sink without drain board				
	17.10.2.2	610x460 mm bowl depth 200 mm	3,337.85	each	0	-
1.13	17.11	Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete, including painting of fittings and brackets, cutting and making good the wall wherever required :				
	17.11.1	Size 450x300x150 mm	4,272.95	each	0	-
1.14	17.28	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.				
	17.28.2	Flexible pipe				
	17.28.2.2	40 mm dia	104.35	each	1	104.35
1.15	17.35	Providing and fixing soil, waste and vent pipes :				
	17.35.1	100 mm dia				
	17.35.1.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	1,061.25	meter	15	15,918.75
1.16	17.38	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
	17.38.1	100 mm				
	17.38.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside I.S. 15905	550.80	each	0	-
1.17	17.39	Providing and fixing plain bend of required degree.				
	17.39.1	100 mm				
	17.39.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	346.05	each	10	3,460.50
1.18	17.40	Providing and fixing heel rest sanitary bend				
	17.40.1	100 mm dia				
	17.40.1.2	Sand cast iron S&S as per IS - 3989	439.75	each	0	-
1.19	17.42	Providing and fixing double equal plain junction of required degree				
	17.42.1	100x100x100x100 mm				
	17.42.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	881.25	each	0	-
1.20	17.43	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
	17.43.1	100x100x100 mm				
	17.43.1.2	sand cast Iron S&S as per IS: 3989	731.40	each	0	-
1.21	17.44	Providing and fixing single equal plain junction of required degree				
	17.44.1	100x100x100 mm				
	17.44.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	573.50	each	0	-
1.22	17.56	Providing and fixing terminal guard:				
	17.56.1	100 mm				
	17.56.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	399.60	each	0	-

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Principal Residence	
					Qty	Amount
					Qty.	Amount
1.23	17.57A	Providing and fixing shielded coupling for Hubless centrifugally cast iron pipes				
	17.57A.1	100 mm				
	17.57A.1.1	S S 304 grade coupling with EPDM rubber gasket	406.30	each	15	6,094.50
1.24	17.59	Providing and fixing M.S. stays and clamps for sand cast iron/centrifugally cast (spun) iron pipes of diameter :				
	17.59.1	100 mm	128.65	each	0	-
1.25	17.65	Painting sand cast iron/ centrifugally cast (spun) iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint of any colour such as chocolate grey, or buff etc. over a coat of primer (of approved quality) for new work :				
	17.65.1	100 mm diameter pipe	69.55	meter	0	-
1.26	17.37	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc. :				
	17.37.1	100 mm diameter pipe	308.45	each	0	-
1.27	18.10	Providing and fixing G.I. soil / waste pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.				
	18.10.4	32 mm dia. nominal bore	563.60	metre	5	2,818.00
	18.10.5	40 mm dia. nominal bore	725.15	metre	5	3,625.75
	18.10.6	50 mm dia. nominal bore	893.20	metre	5	4,466.00
1.28	17.60	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :				
	17.60.1	100 mm inlet and 100 mm outlet				
	17.60.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	760.85	each	4	3,043.40
1.29	18.77	Cutting holes up to 15 x 15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 Cement : 2 course sand : 4 graded stone aggregate 20 mm nominal size) , including finishing complete so as to make it leak proof.	377.10	each	0	-
1.30	NSI-4	Providing & fixing in position GI 100x50 elbow floor drain including cost of cutting and making good the walls and floors wherever required.	896.00	each	3	2,688.00
1.31	NSI-5	Providing and fixing 125 mm dia S/S grating (with or without hole)for floor or Nahani trap.	513.00	each	7	3,591.00
1.32	NSI-6	Providing and fixing soap dish holder from wall of standard shape with fittings of approved quality with all complete. Make Jaquar - ACN-1131N & Equivalent	826.00	each	3	2,478.00
1.33	NSI-7	Providing and fixing soap dispenser with glass bottle from wall of standard shape with fittings of approved quality with all complete. Make Jaquar - ACN-1135N & Equivalent	1,481.00	each	0	-
1.34	NSI-8	Providing & fixing 600 mm towel rail long stanless steel from wall face with concealed fittings arrangement of approved quality with all complete. Make Jaquar - CAN-1111SM	1,433.00	each	3	4,299.00
1.35	18.65	Providing and fixing PTMT soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements, weighing not less than 106 gms.	96.75	each	0	-

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Principal Residence	
					Qty	Amount
					Qty.	Amount
136	17.73	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.				
	17.73.2	600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms.	600.35	each	3	1,801.05
1.37	12.22	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	266.60	each	4	1,066.40
1.38	12.41	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.	319.75	metre	20	6,395.00
1.39	12.42	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.				
	12.42.1	Coupler				
	12.42.1.1	110 mm	119.95	each	10	1,199.50
	12.42.3	Single tee with door				
	12.42.3.2	110x110x110 mm	119.95	each	4	479.80
	12.42.5	Bend 87.5°				
	12.42.5.2	110 mm	132.00	each	4	528.00
	12.42.6	Shoe (Plain)				
	12.42.6.1	110 mm Shoe	115.95	each	4	463.80
1.40	12.43	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.				
	12.43.2	110 mm	309.50	each	10	3,095.00
1.41	NSI-9	Supplying and fixing of HDPE pipe (PE grade 63 - PN-8) confirming to IS 14333-1996 chemical waste pipes jointed with rubber ring with good quality lubricant with fittings inclussive of all necessary specials like bends, tees, offsets,junctions etc laid under floor/under ceiling/on walls with suitable clamps and specials curing, necessary chasing, jointing and restoring to original conditions, testing etc. including all other incidental charges etc. complete for successful completion of work as per specifications, and as directed by Engineer -in- Charge.				
	a)	110 mm outer dia	1,173.00	metre	0	-
	b)	50 mm outer dia	435.00	metre	0	-
1.42	NSI-10	Providing & fixing in position upvc P"or S" trap of self cleaning design of following sizes for the embedded areas Making proper connection with chemical sealent joint , cutting chase / hole in floors /slabs and bringing the same in proper condition in cement concrete 1:2:4 mix complete as required. including cost of cutting and making good the walls and floors wherever required.	627.00	each	0	-
1.43	NSI-11	Providing & Fixing water cooler wth stainless steel having storage capacity of 80 liter & cooling capacity 60 liter / hour with Reverse osmosis system & ultra voilet membrane TDS reduction 90% having automatic back wash system with filteration unit & all other required accessories complete in all respect as per direction of the engineer in charge .	59,048.00	each	0	-

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Principal Residence	
					Qty	Amount
					Qty.	Amount
		TOTAL				**107,637.95**
		DSR Items				**85,755.95**
		NS				**21,882.00**
		Sub Head – II Water Supply				
2.1	**18.10**	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.				
		Internal work – Exposed on wall.				
	18.10.2	**20 mm** nominal outer dia Pipes	373.35	metre	10	3,733.50
	18.10.3	**25 mm** nominal outer dia Pipes	491.20	metre	10	4,912.00
	18.10.4	**32 mm** nominal outer dia Pipes	563.60	metre	10	5,636.00
	18.10.5	**40 mm** nominal outer dia Pipes	725.15	metre	30	21,754.50
	18.10.6	**50 mm** nominal outer dia Pipes	893.20	metre	0	-
	NSI-12a	**65 mm** nominal outer dia Pipes	1,084.00	metre	0	-
	NSI-12b	**80 mm** nominal outer dia Pipes	1,276.00	metre	0	-
2.2	**18.8**	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing.This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.				
		Concealed including cutting chases and making good the wall etc.				
	18.8.2	15 mm nominal outer dia Pipes	441.15	metre	20	8,823.00
	18.8.3	20 mm nominal outer dia Pipes	513.75	metre	20	10,275.00
	18.8.4	25 mm nominal outer dia Pipes	626.05	metre	5	3,130.25
2.3	**18.17**	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :				
	18.17.1A	20 mm dia. nominal bore	461.75	each	3	1,385.25
	18.17.1	25 mm dia. nominal bore	532.35	each	3	1,597.05
	18.17.2	32 mm dia. nominal bore	589.90	each	1	589.90
	18.17.3	40 mm dia. nominal bore	707.30	each	1	707.30
	18.17.4	50 mm dia. nominal bore	878.25	each	0	-
2.4	**18.18**	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :				
	18.18.3	25 mm nominal bore	399.15	each		
2.5	**NSI-13**	Providing and fixing hand held ablution fitting (health faucet) with 1.2 meter long flexible tube and wall hook, all complete approved engineer-in-charge	1,691.00	each	3	5,073.00
2.6	**NSI-14**	Supply and fixing of 15mm CP brass 2 -Way Bib Cock with wall flange and suitable length CP brass extension pipe all of approved engineer-in-charge	1,871.00	each	3	5,613.00
2.7	**18.48**	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank	9.70	per litre	1,000	9,700.00
2.8	**18.51**	Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.				
	18.51.1	15 mm nominal bore	708.40	each		
2.9	**18.52**	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.				
	18.52.1	15 mm nominal bore	594.75			

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Principal Residence	
					Qty	Amount
					Qty.	Amount
2.10	18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931				
	18.53.1	15mm nominal bore	500.30	each	20	10,006.00
2.11	18.21	Providing and fixing uplasticised PVC connection pipe with brass unions :				
	18.21.2	45 cm length				
	18.21.2.1	15 mm nominal bore	85.20	each	20	1,704.00
2.12	18.22	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :				
	18.22.2	150 mm diameter	190.10	each	0	-
2.13	17.22B	Providing and fixing CP Brass Single lever telephonic wall mixer of quality & make as approved by Engineer in charge.				
		(a) 15 mm nominal dia	6,119.15	each	3	18,357.45
2.14	NSI-15	Providing , Fixing, testing and commissioning of CP Brass 150 mm x 150 mm Shower head with wall flange with all accessories as required and making good the walls wherever required. (MAKE-JAQUAR -Model No- OHS-35495 or EQUIVALENT.)	3,418.00	each	3	10,254.00
2.15	NSI-16	Supply ,Erection , Testing & Commissioning of Automatic water level control panel & related accessories for pumping automation with consisting of automatic water level controller , level sensor with stainless steel probe, motorized butterfly valve, motorized valve controller with complete in all respect.				
	a	upto 50 mm dia. nominal bore	26,947.00	each	1	26,947.00
		TOTAL				150,198.20
		DSR Items				112,565.20
		NS				37,633.00
		SUBHEAD – III Drainage				
3.1	NSI-17	Supply and fixing HDPE double wall corrugated (DWC) I.S 16098 (Part - 2) 3013 for soil / waste pipe under ground drainage system with jointed with rubber ring with good quality lubricant for fittings, inclusive of all necessary specials like bends, tees, offsets, junctions, re excavtion and refillig etc complete.				
	a	150 mm diameter	880.00	metre	10	8,800.00
	b	200 mm diameter	1,092.00	metre	10	10,920.00
3.2	19.4	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not lessthan 4.50 kg and frame to be not less than 2.70 kg as per standard design :				
	19.4.3	180x150 mm size P type				
	19.4.3.1	With fly ash bricks (non modular) bricks of class designation 7.5	2,534.00	each	4	10,136.00
3.3	19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				
	19.6.2	150 mm dia. R.C.C. pipe	493.10	metre	10	4,931.00
	19.6.3	250 mm dia. R.C.C. pipe	811.15	metre	5	4,055.75
	19.6.4	300 mm dia. R.C.C. pipe	902.05	metre	5	4,510.25

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Principal Residence	
					Qty	Amount
					Qty.	Amount
3.4	19.7	Constructing brick masonry manhole in cement mortar 1:4 (1 cement :4 coarse sand) with RCC top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 stone aggregate 20 mm nominal size) , foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 stone aggregate 40 mm nominal size) inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation cocreate 1:3:6 mix (1 cement :3 coarse sand : 6 graded stone aggregate 40 mm norminal size),and making necessary channel in cement concrete 1:2:4 (1 cement :2 coarse sand :4 graded stone aggregate 20 mm norminal size) finished with a floating coat of neat cement complete as per standard design .				
	19.7.1	inside size 90x80 cms and 45 cms deep including CI cover with frame (light duty) 455x610 mm internal dimensions total weight of cover & frame to be not less than 38 kg (weight of cover 23 kg & weight of frame 15 kg)				
	19.7.1.1	with common brunt clay FPS (non modular) bricks of class designation 7.5	11,687.10	Each	1.00	11,687.10
3.5	19.8	Extra depth for manhole 90x80 cm				
	19.8.1.1	With FPS bricks class designation 7.5	8,127.45	Metre	0.10	812.75
3.6	19.16	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering esides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per pecifications and having manufacture's permanent identification mark to be visible even after fixing,including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	487.10	Each	10.00	4,871.00
3.7	19.27	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :				
	19.27.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	5,589.45	Each	4.00	22,357.80
		TOTAL				83,081.65
		DSR Items				63,361.65
		NS				19,720.00

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Vice Principal	
					Qty	Amount
					Qty.	Amount
		Sub Head – I Sanitary Installation				
1.1	17.1	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:.				
	17.1.1	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests.	5,781.35	each	0	-
1.2	17.3	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :				
	17.3.1	W.C. pan with ISI marked white solid plastic seat and lid	6,941.30	each	0	-
1.3	17.81	Providing and fixing floor mounted, white vitreous china single piece, double traps syphonic water closet of approved brand/make, shape, size and pattern including integrated white vitreous china cistern of capacity 10 litres with dual flushing system, including all fittings and fixtures with seat cover, cistern fittings, nuts, bolts and gasket etc including making connection with the existing P/S trap, complete in all respect as per directions of Engineer-in-Charge.	16,100.40	each	0	-
1.4	17.80	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.	7,004.45	each	0	-
1.5	17.7	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:				
1.5.1	17.7.3	White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps	3,158.70	each	2.00	6,317.40
1.6	NSI-1	Providing and fixing white vitreous china wash basin under counter basin, with C.I. concealed type brackets fixed to walls with GI rag bolts or approved fasteners etc., including 32 mm CP brass waste coupling, including painting of fittings and brackets, cutting and making good the walls wherever required all complete (Granite counter top will be measured and paid separately under relevent item): as per approved make and decision of engineer-in-charge	3,428.00	each	0	-
1.7	17.34	Providing and fixing toilet paper holder :				
	17.34.1	C.P. brass	680.80	each	2	1,361.60
1.8	NSI-2	Providing and fixing CP brass auto closing system basin pillar tap / hand wash of Jaquar PRS - 001 or Equivalent as approved by Engineer- In Charge	3,580.00	each	8	28,640.00
1.9	NSI-3	Providing and fixing CP brass single lever basin mixer without popo with 450mm long braided hose (connection pipe) basin pillar tap of Jaquar LYR-38001B or Equivalent as approved by Engineer- In Charge.	5,201.00	each	0	-
1.10	17.22A	Providing and fixing 32mm C.P brass bottle Trap of approved quality & make as per the direction of engineer-in-incharge.	886.25	each	2	1,772.50

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Vice Principal	
					Qty	Amount
					Qty.	Amount
1.11	17.31	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	1,411.15	Sqm	2	2,822.30
1.12	17.10	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS : 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :				
	17.10.1	Kitchen sink with drain board				
	17.10.1.1	510x1040 mm bowl depth 250mm	6008.45	each	1	6,008.45
	17.10.2	Kitchen sink without drain board				
	17.10.2.2	610x460 mm bowl depth 200 mm	3,337.85	each	0	-
1.13	17.11	Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete, including painting of fittings and brackets, cutting and making good the wall wherever required :				
	17.11.1	Size 450x300x150 mm	4,272.95	each	0	-
1.14	17.28	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.				
	17.28.2	Flexible pipe				
	17.28.2.2	40 mm dia	104.35	each	1	104.35
1.15	17.35	Providing and fixing soil, waste and vent pipes :				
	17.35.1	100 mm dia				
	17.35.1.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	1,061.25	meter	10	10,612.50
1.16	17.38	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
	17.38.1	100 mm				
	17.38.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside I.S. 15905	550.80	each	0	-
1.17	17.39	Providing and fixing plain bend of required degree.				
	17.39.1	100 mm				
	17.39.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	346.05	each	8	2,768.40
1.18	17.40	Providing and fixing heel rest sanitary bend				
	17.40.1	100 mm dia				
	17.40.1.2	Sand cast iron S&S as per IS - 3989	439.75	each	0	-
1.19	17.42	Providing and fixing double equal plain junction of required degree				
	17.42.1	100x100x100x100 mm				
	17.42.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	881.25	each	0	-
1.20	17.43	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
	17.43.1	100x100x100 mm				
	17.43.1.2	sand cast Iron S&S as per IS: 3989	731.40	each	0	-
1.21	17.44	Providing and fixing single equal plain junction of required degree				
	17.44.1	100x100x100 mm				
	17.44.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	573.50	each	0	-
1.22	17.56	Providing and fixing terminal guard:				
	17.56.1	100 mm				
	17.56.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	399.60	each	0	-

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Vice Principal	
					Qty	Amount
					Qty.	Amount
1.23	17.57A	Providing and fixing shielded coupling for Hubless centrifugally cast iron pipes				
	17.57A.1	100 mm				
	17.57A.1.1	S S 304 grade coupling with EPDM rubber gasket	406.30	each	10	4,063.00
1.24	17.59	Providing and fixing M.S. stays and clamps for sand cast iron/centrifugally cast (spun) iron pipes of diameter :				
	17.59.1	100 mm	128.65	each	0	-
1.25	17.65	Painting sand cast iron/ centrifugally cast (spun) iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint of any colour such as chocolate grey, or buff etc. over a coat of primer (of approved quality) for new work :				
	17.65.1	100 mm diameter pipe	69.55	meter	0	-
1.26	17.37	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc. :				
	17.37.1	100 mm diameter pipe	308.45	each	0	-
1.27	18.10	Providing and fixing G.I. soil / waste pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.				
	18.10.4	32 mm dia. nominal bore	563.60	metre	5	2,818.00
	18.10.5	40 mm dia. nominal bore	725.15	metre	5	3,625.75
	18.10.6	50 mm dia. nominal bore	893.20	metre	5	4,466.00
1.28	17.60	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :				
	17.60.1	100 mm inlet and 100 mm outlet				
	17.60.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	760.85	each	3	2,282.55
1.29	18.77	Cutting holes up to 15 x 15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 Cement : 2 course sand : 4 graded stone aggregate 20 mm nominal size) , including finishing complete so as to make it leak proof.	377.10	each	0	-
1.30	NSI-4	Providing & fixing in position GI 100x50 elbow floor drain including cost of cutting and making good the walls and floors wherever required.	896.00	each	3	2,688.00
1.31	NSI-5	Providing and fixing 125 mm dia S/S grating (with or without hole)for floor or Nahani trap.	513.00	each	6	3,078.00
1.32	NSI-6	Providing and fixing soap dish holder from wall of standard shape with fittings of approved quality with all complete. Make Jaquar - ACN-1131N & Equivalent	826.00	each	2	1,652.00
1.33	NSI-7	Providing and fixing soap dispenser with glass bottle from wall of standard shape with fittings of approved quality with all complete. Make Jaquar - ACN-1135N & Equivalent	1,481.00	each	0	-
1.34	NSI-8	Providing & fixing 600 mm towel rail long stanless steel from wall face with concealed fittings arrangement of approved quality with all complete. Make Jaquar - CAN-1111SM	1,433.00	each	2	2,866.00
1.35	18.65	Providing and fixing PTMT soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements, weighing not less than 106 gms.	96.75	each	0	-

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Vice Principal	
					Qty	Amount
					Qty.	Amount
136	17.73	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.				
	17.73.2	600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms.	600.35	each	0	-
1.37	12.22	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	266.60	each	4	1,066.40
1.38	12.41	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.	319.75	metre	20	6,395.00
1.39	12.42	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.				
	12.42.1	Coupler				
	12.42.1.1	110 mm	119.95	each	10	1,199.50
	12.42.3	Single tee with door				
	12.42.3.2	110x110x110 mm	119.95	each	4	479.80
	12.42.5	Bend 87.5°				
	12.42.5.2	110 mm	132.00	each	4	528.00
	12.42.6	Shoe (Plain)				
	12.42.6.1	110 mm Shoe	115.95	each	4	463.80
1.40	12.43	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.				
	12.43.2	110 mm	309.50	each	10	3,095.00
1.41	NSI-9	Supplying and fixing of HDPE pipe (PE grade 63 - PN-8) confirming to IS 14333-1996 chemical waste pipes jointed with rubber ring with good quality lubricant with fittings inclussive of all necessary specials like bends, tees, offsets,junctions etc laid under floor/under ceiling/on walls with suitable clamps and specials curing, necessary chasing, jointing and restoring to original conditions, testing etc. including all other incidental charges etc. complete for successful completion of work as per specifications, and as directed by Engineer -in- Charge.				
	a)	110 mm outer dia	1,173.00	metre	0	-
	b)	50 mm outer dia	435.00	metre	0	-
1.42	NSI-10	Providing & fixing in position upvc P"or S" trap of self cleaning design of following sizes for the embedded areas Making proper connection with chemical sealent joint , cutting chase / hole in floors /slabs and bringing the same in proper condition in cement concrete 1:2:4 mix complete as required. including cost of cutting and making good the walls and floors wherever required.	627.00	each	0	-
1.43	NSI-11	Providing & Fixing water cooler wth stainless steel having storage capacity of 80 liter & cooling capacity 60 liter / hour with Reverse osmosis system & ultra voilet membrane TDS reduction 90% having automatic back wash system with filteration unit & all other required accessories complete in all respect as per direction of the engineer in charge .	59,048.00	each	0	-

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Vice Principal	
					Qty	Amount
					Qty.	Amount
		TOTAL				101,174.30
		DSR Items				66,768.30
		NS				34,406.00
		Sub Head – II Water Supply				
2.1	18.10	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.				
		Internal work – Exposed on wall.				
	18.10.2	**20 mm** nominal outer dia Pipes	373.35	metre	10	3,733.50
	18.10.3	**25 mm** nominal outer dia Pipes	491.20	metre	10	4,912.00
	18.10.4	**32 mm** nominal outer dia Pipes	563.60	metre	10	5,636.00
	18.10.5	**40 mm** nominal outer dia Pipes	725.15	metre	20	14,503.00
	18.10.6	**50 mm** nominal outer dia Pipes	893.20	metre	0	-
	NSI-12a	**65 mm** nominal outer dia Pipes	1,084.00	metre	0	-
	NSI-12b	**80 mm** nominal outer dia Pipes	1,276.00	metre	0	-
2.2	18.8	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing.This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.				
		Concealed including cutting chases and making good the wall etc.				
	18.8.2	15 mm nominal outer dia Pipes	441.15	metre	15	6,617.25
	18.8.3	20 mm nominal outer dia Pipes	513.75	metre	15	7,706.25
	18.8.4	25 mm nominal outer dia Pipes	626.05	metre	5	3,130.25
2.3	18.17	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :				
	18.17.1A	20 mm dia. nominal bore	461.75	each	2	923.50
	18.17.1	25 mm dia. nominal bore	532.35	each	2	1,064.70
	18.17.2	32 mm dia. nominal bore	589.90	each	1	589.90
	18.17.3	40 mm dia. nominal bore	707.30	each	1	707.30
	18.17.4	50 mm dia. nominal bore	878.25	each	0	-
2.4	18.18	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :				
	18.18.3	25 mm nominal bore	399.15	each		
2.5	NSI-13	Providing and fixing hand held ablution fitting (health faucet) with 1.2 meter long flexible tube and wall hook, all complete approved engineer-in-charge	1,691.00	each	2	3,382.00
2.6	NSI-14	Supply and fixing of 15mm CP brass 2 -Way Bib Cock with wall flange and suitable length CP brass extension pipe all of approved engineer-in-charge	1,871.00	each	2	3,742.00
2.7	18.48	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank	9.70	per litre	1,000	9,700.00
2.8	18.51	Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.				
	18.51.1	15 mm nominal bore	708.40	each		
2.9	18.52	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.				
	18.52.1	15 mm nominal bore	594.75			

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Vice Principal	
					Qty	Amount
					Qty.	Amount
2.10	18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931				
	18.53.1	15mm nominal bore	500.30	each	15	7,504.50
2.11	18.21	Providing and fixing uplasticised PVC connection pipe with brass unions :				
	18.21.2	45 cm length				
	18.21.2.1	15 mm nominal bore	85.20	each	15	1,278.00
2.12	18.22	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :				
	18.22.2	150 mm diameter	190.10	each	0	-
2.13	17.22B	Providing and fixing CP Brass Single lever telephonic wall mixer of quality & make as approved by Engineer in charge.				
		(a) 15 mm nominal dia	6,119.15	each	2	12,238.30
2.14	NSI-15	Providing , Fixing, testing and commissioning of CP Brass 150 mm x 150 mm Shower head with wall flange with all accessories as required and making good the walls wherever required. (MAKE-JAQUAR -Model No- OHS-35495 or EQUIVALENT.)	3,418.00	each	2	6,836.00
2.15	NSI-16	Supply ,Erection , Testing & Commissioning of Automatic water level control panel & related accessories for pumping automation with consisting of automatic water level controller , level sensor with stainless steel probe, motorized butterfly valve, motorized valve controller with complete in all respect.				
	a	upto 50 mm dia. nominal bore	26,947.00	each	1	26,947.00
		TOTAL				**121,151.45**
		DSR Items				**87,080.45**
		NS				**34,071.00**
		SUBHEAD – III Drainage				
3.1	NSI-17	Supply and fixing HDPE double wall corrugated (DWC) I.S 16098 (Part - 2) 3013 for soil / waste pipe under ground drainage system with jointed with rubber ring with good quality lubricant for fittings, inclusive of all necessary specials like bends, tees, offsets, junctions, re excavtion and refillig etc complete.				
	a	150 mm diameter	880.00	metre	10	8,800.00
	b	200 mm diameter	1,092.00	metre	10	10,920.00
3.2	19.4	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not lessthan 4.50 kg and frame to be not less than 2.70 kg as per standard design :				
	19.4.3	180x150 mm size P type				
	19.4.3.1	With fly ash bricks (non modular) bricks of class designation 7.5	2,534.00	each	4	10,136.00
3.3	19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				
	19.6.2	150 mm dia. R.C.C. pipe	493.10	metre	10	4,931.00
	19.6.3	250 mm dia. R.C.C. pipe	811.15	metre	5	4,055.75
	19.6.4	300 mm dia. R.C.C. pipe	902.05	metre	5	4,510.25

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Vice Principal	
					Qty	Amount
					Qty.	Amount
3.4	19.7	Constructing brick masonry manhole in cement mortar 1:4 (1 cement :4 coarse sand) with RCC top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 stone aggregate 20 mm nominal size) , foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 stone aggregate 40 mm nominal size) inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation cocreate 1:3:6 mix (1 cement :3 coarse sand : 6 graded stone aggregate 40 mm norminal size),and making necessary channel in cement concrete 1:2:4 (1 cement :2 coarse sand :4 graded stone aggregate 20 mm norminal size) finished with a floating coat of neat cement complete as per standard design .				
	19.7.1	inside size 90x80 cms and 45 cms deep including CI cover with frame (light duty) 455x610 mm internal dimensions total weight of cover & frame to be not less than 38 kg (weight of cover 23 kg & weight of frame 15 kg)				
	19.7.1.1	with common brunt clay FPS (non modular) bricks of class designation 7.5	11,687.10	Each	1.00	11,687.10
3.5	19.8	Extra depth for manhole 90x80 cm				
	19.8.1.1	With FPS bricks class designation 7.5	8,127.45	Metre	0.10	812.75
3.6	19.16	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering esides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per pecifications and having manufacture's permanent identification mark to be visible even after fixing,including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	487.10	Each	10.00	4,871.00
3.7	19.27	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :				
	19.27.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	5,589.45	Each	4.00	22,357.80
		TOTAL				83,081.65
		DSR Items				63,361.65
		NS				19,720.00

PLUMBING INTERNAL ESTIMATE
CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)

S.No.	DSR '21	Description	Qty.	Rate	Unit	Type-III-18 Nos Amount	
						DSR	MR
		Sub Head – I Sanitary Installation					
1.1	**17.1**	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:.					
	17.1.1	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests.	18	5,781.35	each	104,064.30	
1.2	**17.3**	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :					
	17.3.1	W.C. pan with ISI marked white solid plastic seat and lid	18	6,941.30	each	124,943.40	
1.3	**17.81**	Providing and fixing floor mounted, white vitreous china single piece, double traps syphonic water closet of approved brand/make, shape, size and pattern including integrated white vitreous china cistern of capacity 10 litres with dual flushing system, including all fittings and fixtures with seat cover, cistern fittings, nuts, bolts and gasket etc including making connection with the existing P/S trap, complete in all respect as per directions of Engineer-in-Charge.		16,100.40	each	-	
1.4	**17.80**	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.		7,004.45	each	-	
1.5	**17.7**	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:					
1.5.1	**17.7.3**	White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps	36.00	3,158.70	each	113,713.20	
1.6	**NSI-1**	Providing and fixing white vitreous china wash basin under counter basin, with C.I. concealed type brackets fixed to walls with GI rag bolts or approved fasteners etc., including 32 mm CP brass waste coupling, including painting of fittings and brackets, cutting and making good the walls wherever required all complete (Granite counter top will be measured and paid separately under relevent item): as per approved make and decision of engineer-in-charge		3,428.00	each		-
1.7	**17.34**	Providing and fixing toilet paper holder :					
	17.34.1	C.P. brass		680.80	each	-	
1.8	**NSI-2**	Providing and fixing CP brass auto closing system basin pillar tap / hand wash of Jaquar PRS - 001 or Equivalent as approved by Engineer- In Charge		3,580.00	each		-
1.9	**NSI-3**	Providing and fixing CP brass single lever basin mixer without popo with 450mm long braided hose (connection pipe) basin pillar tap of Jaquar LYR-38001B or Equivalent as approved by Engineer- In Charge.		5,201.00	each		-
1.10	**17.22A**	Providing and fixing 32mm C.P brass bottle Trap of approved quality & make as per the direction of engineer-in-incharge.	36	886.25	each	31,905.00	
1.11	**17.31**	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	36	1,411.15	Sqm	50,801.40	
1.12	**17.10**	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS : 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :					
	17.10.1	Kitchen sink with drain board					
	17.10.1.1	510x1040 mm bowl depth 250mm		6008.45	each	-	
	17.10.2	Kitchen sink without drain board					

PLUMBING INTERNAL ESTIMATE
CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)

S.No.	DSR '21	Description	Qty.	Rate	Unit	Type-III-18 Nos Amount	
						DSR	MR
	17.10.2.2	610x460 mm bowl depth 200 mm	18	3,337.85	each	60,081.30	
1.13	17.11	Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete, including painting of fittings and brackets, cutting and making good the wall wherever required :					
	17.11.1	Size 450x300x150 mm		4,272.95	each	-	
1.14	17.28	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.					
	17.28.2	Flexible pipe					
	17.28.2.2	40 mm dia	18	104.35	each	1,878.30	
1.15	17.35	Providing and fixing soil, waste and vent pipes :					
	17.35.1	100 mm dia					
	17.35.1.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	288	1,061.25	meter	305,640.00	
1.16	17.38	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.					
	17.38.1	100 mm					
	17.38.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside I.S. 15905	54	550.80	each	29,743.20	
1.17	17.39	Providing and fixing plain bend of required degree.					
	17.39.1	100 mm					
	17.39.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	90	346.05	each	31,144.50	
1.18	17.40	Providing and fixing heel rest sanitary bend					
	17.40.1	100 mm dia					
	17.40.1.2	Sand cast iron S&S as per IS - 3989	24	439.75	each	10,554.00	
1.19	17.42	Providing and fixing double equal plain junction of required degree					
	17.42.1	100x100x100x100 mm					
	17.42.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	18	881.25	each	15,862.50	
1.20	17.43	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.					
	17.43.1	100x100x100 mm					
	17.43.1.2	sand cast Iron S&S as per IS: 3989		731.40	each	-	
1.21	17.44	Providing and fixing single equal plain junction of required degree					
	17.44.1	100x100x100 mm					
	17.44.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905		573.50	each	-	
1.22	17.56	Providing and fixing terminal guard:					
	17.56.1	100 mm					
	17.56.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	24	399.60	each	9,590.40	
1.23	17.57A	Providing and fixing shielded coupling for Hubless centrifugally cast iron pipes					
	17.57A.1	100 mm					
	17.57A.1.1	S S 304 grade coupling with EPDM rubber gasket	450	406.30	each	182,835.00	
1.24	17.59	Providing and fixing M.S. stays and clamps for sand cast iron/centrifugally cast (spun) iron pipes of diameter :					
	17.59.1	100 mm		128.65	each	-	
1.25	17.65	Painting sand cast iron/ centrifugally cast (spun) iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint of any colour such as chocolate grey, or buff etc. over a coat of primer (of approved quality) for new work :					
	17.65.1	100 mm diameter pipe	288	69.55	meter	20,030.40	
1.26	17.37	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc. :					
	17.37.1	100 mm diameter pipe	288	308.45	each	88,833.60	

PLUMBING INTERNAL ESTIMATE
CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)

S.No.	DSR '21	Description	Qty.	Rate	Unit	Type-III-18 Nos Amount DSR	MR
1.27	18.10	Providing and fixing G.I. soil / waste pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.					
	18.10.4	32 mm dia. nominal bore	44	563.60	metre	24,798.40	
	18.10.5	40 mm dia. nominal bore	30	725.15	metre	21,754.50	
	18.10.6	50 mm dia. nominal bore	45	893.20	metre	40,194.00	
1.28	17.60	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :					
	17.60.1	100 mm inlet and 100 mm outlet					
	17.60.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	54	760.85	each	41,085.90	
1.29	18.77	Cutting holes up to 15 x 15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 Cement : 2 course sand : 4 graded stone aggregate 20 mm nominal size) , including finishing complete so as to make it leak proof.		377.10	each	-	
1.30	NSI-4	Providing & fixing in position GI 100x50 elbow floor drain including cost of cutting and making good the walls and floors wherever required.	54	896.00	each		48,384.00
1.31	NSI-5	Providing and fixing 125 mm dia S/S grating (with or without hole)for floor or Nahani trap.	108	513.00	each		55,404.00
1.32	NSI-6	Providing and fixing soap dish holder from wall of standard shape with fittings of approved quality with all complete. Make Jaquar - ACN-1131N & Equivalent		826.00	each		-
1.33	NSI-7	Providing and fixing soap dispenser with glass bottle from wall of standard shape with fittings of approved quality with all complete. Make Jaquar - ACN-1135N & Equivalent		1,481.00	each		-
1.34	NSI-8	Providing & fixing 600 mm towel rail long stanless steel from wall face with concealed fittings arrangement of approved quality with all complete. Make Jaquar - CAN-1111SM		1,433.00	each		-
1.35	18.65	Providing and fixing PTMT soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements, weighing not less than 106 gms.	36	96.75	each	3,483.00	
136	17.73	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.					
	17.73.2	600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms.	36	600.35	each	21,612.60	
1.37	12.22	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	12	266.60	each	3,199.20	
1.38	12.41	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.	120	319.75	metre	38,370.00	
1.39	12.42	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.					
	12.42.1	Coupler					
	12.42.1.1	110 mm	60	119.95	each	7,197.00	
	12.42.3	Single tee with door					
	12.42.3.2	110x110x110 mm	12	119.95	each	1,439.40	
	12.42.5	Bend 87.5°					
	12.42.5.2	110 mm	12	132.00	each	1,584.00	
	12.42.6	Shoe (Plain)					
	12.42.6.1	110 mm Shoe	12	115.95	each	1,391.40	

PLUMBING INTERNAL ESTIMATE
CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)

S.No.	DSR '21	Description	Qty.	Rate	Unit	Type-III-18 Nos Amount DSR	Amount MR
1.40	12.43	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.					
	12.43.2	110 mm	60	309.50	each	18,570.00	
1.41	NSI-9	Supplying and fixing of HDPE pipe (PE grade 63 - PN-8) confirming to IS 14333-1996 chemical waste pipes jointed with rubber ring with good quality lubricant with fittings inclussive of all necessary specials like bends, tees, offsets,junctions etc laid under floor/under ceiling/on walls with suitable clamps and specials curing, necessary chasing, jointing and restoring to original conditions, testing etc. including all other incidental charges etc. complete for successful completion of work as per specifications, and as directed by Engineer -in- Charge.					
	a)	110 mm outer dia		1,173.00	metre		-
	b)	50 mm outer dia		435.00	metre		-
1.42	NSI-10	Providing & fixing in position upvc P"or S" trap of self cleaning design of following sizes for the embedded areas Making proper connection with chemical sealent joint , cutting chase / hole in floors /slabs and bringing the same in proper condition in cement concrete 1:2:4 mix complete as required. including cost of cutting and making good the walls and floors wherever required.		627.00	each		-
1.43	NSI-11	Providing & Fixing water cooler wth stainless steel having storage capacity of 80 liter & cooling capacity 60 liter / hour with Reverse osmosis system & ultra voilet membrane TDS reduction 90% having automatic back wash system with filteration unit & all other required accessories complete in all respect as per direction of the engineer in charge .		59,048.00	each		-
		TOTAL				**1,406,299.90**	**103,788.00**
		Sub Head – II Water Supply					
2.1	18.10	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.					
		Internal work – Exposed on wall.					
	18.10.2	**20 mm** nominal outer dia Pipes	45	373.35	metre	16,800.75	
	18.10.3	**25 mm** nominal outer dia Pipes	45	491.20	metre	22,104.00	
	18.10.4	**32 mm** nominal outer dia Pipes	75	563.60	metre	42,270.00	
	18.10.5	**40 mm** nominal outer dia Pipes	30	725.15	metre	21,754.50	
	18.10.6	**50 mm** nominal outer dia Pipes		893.20	metre	-	
	NSI-12a	**65 mm** nominal outer dia Pipes		1,084.00	metre	-	
	NSI-12b	**80 mm** nominal outer dia Pipes		1,276.00	metre	-	
2.2	18.8	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing.This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.					
		Concealed including cutting chases and making good the wall etc.					
	18.8.2	15 mm nominal outer dia Pipes	235	441.15	metre	103,670.25	
	18.8.3	20 mm nominal outer dia Pipes	165	513.75	metre	84,768.75	
	18.8.4	25 mm nominal outer dia Pipes	130	626.05	metre	81,386.50	
2.3	18.17	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :					
	18.17.1A	20 mm dia. nominal bore	54	461.75	each	24,934.50	
	18.17.1	25 mm dia. nominal bore	18	532.35	each	9,582.30	
	18.17.2	32 mm dia. nominal bore	6	589.90	each	3,539.40	
	18.17.3	40 mm dia. nominal bore	3	707.30	each	2,121.90	
	18.17.4	50 mm dia. nominal bore		878.25	each	-	
2.4	18.18	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :					
	18.18.3	25 mm nominal bore	18	399.15	each	7,184.70	
2.5	NSI-13	Providing and fixing hand held ablution fitting (health faucet) with 1.2 meter long flexible tube and wall hook, all complete approved engineer-in-charge	36	1,691.00	each		60,876.00
2.6	NSI-14	Supply and fixing of 15mm CP brass 2 -Way Bib Cock with wall flange and suitable length CP brass extension pipe all of approved engineer-in-charge	36	1,871.00	each		67,356.00

PLUMBING INTERNAL ESTIMATE
CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)

S.No.	DSR '21	Description	Qty.	Rate	Unit	Type-III-18 Nos Amount DSR	Amount MR
2.7	18.48	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank	18,000	9.70	per litre	174,600.00	
2.8	18.51	Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.					
	18.51.1	15 mm nominal bore	72	708.40	each	51,004.80	
2.9	18.52	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.					
	18.52.1	15 mm nominal bore	72	594.75		42,822.00	
2.10	18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931					
	18.53.1	15mm nominal bore	252	500.30	each	126,075.60	
2.11	18.21	Providing and fixing uplasticised PVC connection pipe with brass unions :					
	18.21.2	45 cm length					
	18.21.2.1	15 mm nominal bore	252	85.20	each	21,470.40	
2.12	18.22	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :					
	18.22.2	150 mm diameter	36	190.10	each	6,843.60	
2.13	17.22B	Providing and fixing CP Brass Single lever telephonic wall mixer of quality & make as approved by Engineer in charge.					
		(a) 15 mm nominal dia		6,119.15	each	-	
2.14	NSI-15	Providing , Fixing, testing and commissioning of CP Brass 150 mm x 150 mm Shower head with wall flange with all accessories as required and making good the walls wherever required. (MAKE-JAQUAR -Model No- OHS-35495 or EQUIVALENT.)		3,418.00	each		-
2.15	NSI-16	Supply ,Erection , Testing & Commissioning of Automatic water level control panel & related accessories for pumping automation with consisting of automatic water level controller , level sensor with stainless steel probe, motorized butterfly valve, motorized valve controller with complete in all respect.					
	a	upto 50 mm dia. nominal bore	3	26,947.00	each		80,841.00
		TOTAL				**842,933.95**	**209,073.00**
		SUBHEAD – III Drainage					
3.1	NSI-17	Supply and fixing HDPE double wall corrugated (DWC) I.S 16098 (Part - 2) 3013 for soil / waste pipe under ground drainage system with **j**ointed with rubber ring with good quality lubricant for fittings, inclusive of all necessary specials like bends, tees, offsets, junctions, re excavtion and refillig etc complete.					
	a	150 mm diameter	30	880.00	metre		26,400.00
	b	200 mm diameter	30	1,092.00	metre		32,760.00
3.2	19.4	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not lessthan 4.50 kg and frame to be not less than 2.70 kg as per standard design :					
	19.4.3	180x150 mm size P type					
	19.4.3.1	With fly ash bricks (non modular) bricks of class designation 7.5	12	2,534.00	each	30,408.00	
3.3	19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :					
	19.6.2	150 mm dia. R.C.C. pipe	30	493.10	metre	14,793.00	
	19.6.3	250 mm dia. R.C.C. pipe	15	811.15	metre	12,167.25	
	19.6.4	300 mm dia. R.C.C. pipe	15	902.05	metre	13,530.75	

PLUMBING INTERNAL ESTIMATE
CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)

S.No.	DSR '21	Description	Qty.	Rate	Unit	Type-III-18 Nos Amount DSR	Amount MR
3.4	19.7	Constructing brick masonry manhole in cement mortar 1:4 (1 cement :4 coarse sand) with RCC top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 stone aggregate 20 mm nominal size) , foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 stone aggregate 40 mm nominal size) inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation cocreate 1:3:6 mix (1 cement :3 coarse sand : 6 graded stone aggregate 40 mm norminal size),and making necessary channel in cement concrete 1:2:4 (1 cement :2 coarse sand :4 graded stone aggregate 20 mm norminal size) finished with a floating coat of neat cement complete as per standard design .					
	19.7.1	inside size 90x80 cms and 45 cms deep including CI cover with frame (light duty) 455x610 mm internal dimensions total weight of cover & frame to be not less than 38 kg (weight of cover 23 kg & weight of frame 15 kg)					
	19.7.1.1	with common brunt clay FPS (non modular) bricks of class designation 7.5	3.00	11,687.10	Each	35,061.30	
3.5	19.8	Extra depth for manhole 90x80 cm					
	19.8.1.1	With FPS bricks class designation 7.5	0.60	8,127.45	Metre	4,876.47	
3.6	19.16	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering esides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per pecifications and having manufacture's permanent identification mark to be visible even after fixing,including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	24.00	487.10	Each	11,690.40	
3.7	19.27	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :					
	19.27.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	12.00	5,589.45	Each	67,073.40	
		TOTAL				**189,600.57**	**59,160.00**

PLUMBING INTERNAL ESTIMATE							
PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)							
S.No.	DSR '21	Description		Rate	Unit	Type - II (6 Nos. of Qrts Amount	
			Qty.			DSR	MR
		Sub Head – I Sanitary Installation					
1.1	17.1	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:.					
	17.1.1	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests.	6	5,781.35	each	34,688.10	
1.2	17.3	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :					
	17.3.1	W.C. pan with ISI marked white solid plastic seat and lid	6	6,941.30	each	41,647.80	
1.3	17.81	Providing and fixing floor mounted, white vitreous china single piece, double traps syphonic water closet of approved brand/make, shape, size and pattern including integrated white vitreous china cistern of capacity 10 litres with dual flushing system, including all fittings and fixtures with seat cover, cistern fittings, nuts, bolts and gasket etc including making connection with the existing P/S trap, complete in all respect as per directions of Engineer-in-Charge.	0	16,100.40	each	-	
1.4	17.80	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.	0	7,004.45	each	-	
1.5	17.7	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:					
1.5.1	17.7.3	White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps	12.00	3,158.70	each	37,904.40	
1.6	NSI-1	Providing and fixing white vitreous china wash basin under counter basin, with C.I. concealed type brackets fixed to walls with GI rag bolts or approved fasteners etc., including 32 mm CP brass waste coupling, including painting of fittings and brackets, cutting and making good the walls wherever required all complete (Granite counter top will be measured and paid separately under relevent item): as per approved make and decision of engineer-in-charge	0	3,428.00	each		-
1.7	17.34	Providing and fixing toilet paper holder :					
	17.34.1	C.P. brass	0	680.80	each		-
1.8	NSI-2	Providing and fixing CP brass auto closing system basin pillar tap / hand wash of Jaquar PRS - 001 or Equivalent as approved by Engineer- In Charge	0	3,580.00	each		-
1.9	NSI-3	Providing and fixing CP brass single lever basin mixer without popo with 450mm long braided hose (connection pipe) basin pillar tap of Jaquar LYR-38001B or Equivalent as approved by Engineer- In Charge.	0	5,201.00	each		-
1.10	17.22A	Providing and fixing 32mm C.P brass bottle Trap of approved quality & make as per the direction of engineer-in-incharge.	12	886.25	each	10,635.00	
1.11	17.31	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	12	1,411.15	Sqm		
1.12	17.10	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS : 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :					
	17.10.1	Kitchen sink with drain board					
	17.10.1.1	510x1040 mm bowl depth 250mm	0	6008.45	each	-	
	17.10.2	Kitchen sink without drain board					
	17.10.2.2	610x460 mm bowl depth 200 mm	6	3,337.85	each	20,027.10	

PLUMBING INTERNAL ESTIMATE							
PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)							
S.No.	DSR '21	Description		Rate	Unit	Type - II (6 Nos. of Qrts Amount	
			Qty.			DSR	MR
1.13	17.11	Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete, including painting of fittings and brackets, cutting and making good the wall wherever required :					
	17.11.1	Size 450x300x150 mm	0	4,272.95	each	-	
1.14	17.28	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.					
	17.28.2	Flexible pipe					
	17.28.2.2	40 mm dia	6	104.35	each	626.10	
1.15	17.35	Providing and fixing soil, waste and vent pipes :					
	17.35.1	100 mm dia					
	17.35.1.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	144	1,061.25	meter	152,820.00	
1.16	17.38	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.					
	17.38.1	100 mm					
	17.38.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside I.S. 15905	18	550.80	each	9,914.40	
1.17	17.39	Providing and fixing plain bend of required degree.					
	17.39.1	100 mm					
	17.39.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	30	346.05	each	10,381.50	
1.18	17.40	Providing and fixing heel rest sanitary bend					
	17.40.1	100 mm dia					
	17.40.1.2	Sand cast iron S&S as per IS - 3989	8	439.75	each	3,518.00	
1.19	17.42	Providing and fixing double equal plain junction of required degree					
	17.42.1	100x100x100x100 mm					
	17.42.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	6	881.25	each	5,287.50	
1.20	17.43	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.					
	17.43.1	100x100x100 mm					
	17.43.1.2	sand cast Iron S&S as per IS: 3989	0	731.40	each	-	
1.21	17.44	Providing and fixing single equal plain junction of required degree					
	17.44.1	100x100x100 mm					
	17.44.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	0	573.50	each	-	
1.22	17.56	Providing and fixing terminal guard:					
	17.56.1	100 mm					
	17.56.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	8	399.60	each	3,196.80	
1.23	17.57A	Providing and fixing shielded coupling for Hubless centrifugally cast iron pipes					
	17.57A.1	100 mm					
	17.57A.1.1	S S 304 grade coupling with EPDM rubber gasket	150	406.30	each	60,945.00	
1.24	17.59	Providing and fixing M.S. stays and clamps for sand cast iron/centrifugally cast (spun) iron pipes of diameter :					
	17.59.1	100 mm	0	128.65	each	-	
1.25	17.65	Painting sand cast iron/ centrifugally cast (spun) iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint of any colour such as chocolate grey, or buff etc. over a coat of primer (of approved quality) for new work :					
	17.65.1	100 mm diameter pipe	96	69.55	meter	6,676.80	
1.26	17.37	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc. :					
	17.37.1	100 mm diameter pipe	96	308.45	each	29,611.20	
1.27	18.10	Providing and fixing G.I. soil / waste pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.					

PLUMBING INTERNAL ESTIMATE							
PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)							
S.No.	DSR '21	Description		Rate	Unit	Type - II (6 Nos. of Qrts Amount	
			Qty.			DSR	MR
	18.10.4	32 mm dia. nominal bore	40	563.60	metre	22,544.00	
	18.10.5	40 mm dia. nominal bore	25	725.15	metre	18,128.75	
	18.10.6	50 mm dia. nominal bore	10	893.20	metre	8,932.00	
1.28	17.60	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :					
	17.60.1	100 mm inlet and 100 mm outlet					
	17.60.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	18	760.85	each	13,695.30	
1.29	18.77	Cutting holes up to 15 x 15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 Cement : 2 course sand : 4 graded stone aggregate 20 mm nominal size) , including finishing complete so as to make it leak proof.	0	377.10	each	-	
1.30	NSI-4	Providing & fixing in position GI 100x50 elbow floor drain including cost of cutting and making good the walls and floors wherever required.	12	896.00	each		10,752.00
1.31	NSI-5	Providing and fixing 125 mm dia S/S grating (with or without hole)for floor or Nahani trap.	30	513.00	each		15,390.00
1.32	NSI-6	Providing and fixing soap dish holder from wall of standard shape with fittings of approved quality with all complete. Make Jaquar - ACN-1131N & Equivalent	0	826.00	each		-
1.33	NSI-7	Providing and fixing soap dispenser with glass bottle from wall of standard shape with fittings of approved quality with all complete. Make Jaquar - ACN-1135N & Equivalent	0	1,481.00	each		-
1.34	NSI-8	Providing & fixing 600 mm towel rail long stanless steel from wall face with concealed fittings arrangement of approved quality with all complete. Make Jaquar - CAN-1111SM	0	1,433.00	each		-
1.35	18.65	Providing and fixing PTMT soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements, weighing not less than 106 gms.	12	96.75	each	1,161.00	
136	17.73	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.					
	17.73.2	600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms.	12	600.35	each	7,204.20	
1.37	12.22	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	4	266.60	each	1,066.40	
1.38	12.41	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.	40	319.75	metre	12,790.00	
1.39	12.42	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.					
	12.42.1	Coupler					
	12.42.1.1	110 mm	20	119.95	each	2,399.00	
	12.42.3	Single tee with door					
	12.42.3.2	110x110x110 mm	4	119.95	each	479.80	
	12.42.5	Bend 87.5°					
	12.42.5.2	110 mm	4	132.00	each	528.00	
	12.42.6	Shoe (Plain)					
	12.42.6.1	110 mm Shoe	4	115.95	each	463.80	
1.40	12.43	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.					

PLUMBING INTERNAL ESTIMATE							
PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)							
S.No.	DSR '21	Description		Rate	Unit	Type - II (6 Nos. of Qrts Amount	
			Qty.			DSR	MR
	12.43.2	110 mm	20	309.50	each	6,190.00	
1.41	NSI-9	Supplying and fixing of HDPE pipe (PE grade 63 - PN-8) confirming to IS 14333-1996 chemical waste pipes jointed with rubber ring with good quality lubricant with fittings inclussive of all necessary specials like bends, tees, offsets,junctions etc laid under floor/under ceiling/on walls with suitable clamps and specials curing, necessary chasing, jointing and restoring to original conditions, testing etc. including all other incidental charges etc. complete for successful completion of work as per specifications, and as directed by Engineer -in- Charge.					
	a)	110 mm outer dia	0	1,173.00	metre		-
	b)	50 mm outer dia	0	435.00	metre		-
1.42	NSI-10	Providing & fixing in position upvc P"or S" trap of self cleaning design of following sizes for the embedded areas Making proper connection with chemical sealent joint , cutting chase / hole in floors /slabs and bringing the same in proper condition in cement concrete 1:2:4 mix complete as required. including cost of cutting and making good the walls and floors wherever required.	0	627.00	each		-
1.43	NSI-11	Providing & Fixing water cooler wth stainless steel having storage capacity of 80 liter & cooling capacity 60 liter / hour with Reverse osmosis system & ultra voilet membrane TDS reduction 90% having automatic back wash system with filteration unit & all other required accessories complete in all respect as per direction of the engineer in charge .	0	59,048.00	each		-
		TOTAL				523,461.95	26,142.00
		Sub Head – II Water Supply					
2.1	18.10	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.					
		Internal work – Exposed on wall.					
	18.10.2	**20 mm** nominal outer dia Pipes	5	373.35	metre	1,866.75	
	18.10.3	**25 mm** nominal outer dia Pipes	5	491.20	metre	2,456.00	
	18.10.4	**32 mm** nominal outer dia Pipes	25	563.60	metre	14,090.00	
	18.10.5	**40 mm** nominal outer dia Pipes	0	725.15	metre	-	
	18.10.6	**50 mm** nominal outer dia Pipes	0	893.20	metre	-	
	NSI-12a	**65 mm** nominal outer dia Pipes	0	1,084.00	metre	-	
	NSI-12b	**80 mm** nominal outer dia Pipes	0	1,276.00	metre	-	
2.2	18.8	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing.This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.					
		Concealed including cutting chases and making good the wall etc.					
	18.8.2	15 mm nominal outer dia Pipes	20	441.15	metre	8,823.00	
	18.8.3	20 mm nominal outer dia Pipes	20	513.75	metre	10,275.00	
	18.8.4	25 mm nominal outer dia Pipes	10	626.05	metre	6,260.50	
2.3	18.17	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :					
	18.17.1A	20 mm dia. nominal bore	18	461.75	each	8,311.50	
	18.17.1	25 mm dia. nominal bore	6	532.35	each	3,194.10	
	18.17.2	32 mm dia. nominal bore	2	589.90	each	1,179.80	
	18.17.3	40 mm dia. nominal bore	1	707.30	each	707.30	
	18.17.4	50 mm dia. nominal bore	0	878.25	each	-	
2.4	18.18	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :					
	18.18.3	25 mm nominal bore	6	399.15	each	2,394.90	
2.5	NSI-13	Providing and fixing hand held ablution fitting (health faucet) with 1.2 meter long flexible tube and wall hook, all complete approved engineer-in-charge	12	1,691.00	each		20,292.00
2.6	NSI-14	Supply and fixing of 15mm CP brass 2 -Way Bib Cock with wall flange and suitable length CP brass extension pipe all of approved engineer-in-charge	12	1,871.00	each		22,452.00
2.7	18.48	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank	4,500	9.70	per litre	43,650.00	

PLUMBING INTERNAL ESTIMATE							
PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)							
S.No.	DSR '21	Description		Rate	Unit	Type - II (6 Nos. of Qrts Amount	
			Qty.			DSR	MR
2.8	18.51	Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.					
	18.51.1	15 mm nominal bore	24	708.40	each	17,001.60	
2.9	18.52	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.					
	18.52.1	15 mm nominal bore	24	594.75		14,274.00	
2.10	18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931					
	18.53.1	15mm nominal bore	84	500.30	each	42,025.20	
2.11	18.21	Providing and fixing uplasticised PVC connection pipe with brass unions :					
	18.21.2	45 cm length					
	18.21.2.1	15 mm nominal bore	84	85.20	each	7,156.80	
2.12	18.22	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :					
	18.22.2	150 mm diameter	12	190.10	each	2,281.20	
2.13	17.22B	Providing and fixing CP Brass Single lever telephonic wall mixer of quality & make as approved by Engineer in charge.					
		(a) 15 mm nominal dia	0	6,119.15	each	-	
2.14	NSI-15	Providing , Fixing, testing and commissioning of CP Brass 150 mm x 150 mm Shower head with wall flange with all accessories as required and making good the walls wherever required. (MAKE-JAQUAR -Model No- OHS-35495 or EQUIVALENT.)	0	3,418.00	each		-
2.15	NSI-16	Supply ,Erection , Testing & Commissioning of Automatic water level control panel & related accessories for pumping automation with consisting of automatic water level controller , level sensor with stainless steel probe, motorized butterfly valve, motorized valve controller with complete in all respect.					
	a	upto 50 mm dia. nominal bore	1	26,947.00	each		26,947.00
		TOTAL				**185,947.65**	**69,691.00**
		SUBHEAD – III Drainage					
3.1	NSI-17	Supply and fixing HDPE double wall corrugated (DWC) I.S 16098 (Part - 2) 3013 for soil / waste pipe under ground drainage system with jointed with rubber ring with good quality lubricant for fittings, inclusive of all necessary specials like bends, tees, offsets, junctions, re excavtion and refillig etc complete.					
	a	150 mm diameter	10	880.00	metre		8,800.00
	b	200 mm diameter	10	1,092.00	metre		10,920.00
3.2	19.4	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not lessthan 4.50 kg and frame to be not less than 2.70 kg as per standard design :					
	19.4.3	180x150 mm size P type					
	19.4.3.1	With fly ash bricks (non modular) bricks of class designation 7.5	4	2,534.00	each	10,136.00	
3.3	19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :					
	19.6.2	150 mm dia. R.C.C. pipe	10	493.10	metre	4,931.00	
	19.6.3	250 mm dia. R.C.C. pipe	5	811.15	metre	4,055.75	
	19.6.4	300 mm dia. R.C.C. pipe	5	902.05	metre	4,510.25	
3.4	19.7	Constructing brick masonry manhole in cement mortar 1:4 (1 cement :4 coarse sand) with RCC top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 stone aggregate 20 mm nominal size) , foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 stone aggregate 40 mm nominal size) inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation cocreate 1:3:6 mix (1 cement :3 coarse sand : 6 graded stone aggregate 40 mm norminal size),and making necessary channel in cement concrete 1:2:4 (1 cement :2 coarse sand :4 graded stone aggregate 20 mm norminal size) finished with a floating coat of neat cement complete as per standard design .					

PLUMBING INTERNAL ESTIMATE							
PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)							
S.No.	DSR '21	Description		Rate	Unit	Type - II (6 Nos. of Qrts Amount	
			Qty.			DSR	MR
	19.7.1	inside size 90x80 cms and 45 cms deep including CI cover with frame (light duty) 455x610 mm internal dimensions total weight of cover & frame to be not less than 38 kg (weight of cover 23 kg & weight of frame 15 kg)					
	19.7.1.1	with common brunt clay FPS (non modular) bricks of class designation 7.5	2.00	11,687.10	Each	23,374.20	
3.5	19.8	Extra depth for manhole 90x80 cm					
	19.8.1.1	With FPS bricks class designation 7.5	0.20	8,127.45	Metre	1,625.49	
3.6	19.16	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering esides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per pecifications and having manufacture's permanent identification mark to be visible even after fixing,including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	8.00	487.10	Each	3,896.80	
3.7	19.27	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :					
	19.27.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	4.00	5,589.45	Each	22,357.80	
		TOTAL				74,887.29	19,720.00

PLUMBING INTERNAL ESTIMATE							
PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)							
S.No.	DSR '21	Description	Qty	Rate	Unit	Type - II (7 Nos. of Qrts Amount	
						DSR	MR
		Sub Head – I Sanitary Installation					
1.1	17.1	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:.					
	17.1.1	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests.	7	5,781.35	each	40,469.45	
1.2	17.3	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :					
	17.3.1	W.C. pan with ISI marked white solid plastic seat and lid	7	6,941.30	each	48,589.10	
1.3	17.81	Providing and fixing floor mounted, white vitreous china single piece, double traps syphonic water closet of approved brand/make, shape, size and pattern including integrated white vitreous china cistern of capacity 10 litres with dual flushing system, including all fittings and fixtures with seat cover, cistern fittings, nuts, bolts and gasket etc including making connection with the existing P/S trap, complete in all respect as per directions of Engineer-in-Charge.	0	16,100.40	each	-	
1.4	17.80	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.	0	7,004.45	each	-	
1.5	17.7	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:					
1.5.1	17.7.3	White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps	14.00	3,158.70	each	44,221.80	
1.6	NSI-1	Providing and fixing white vitreous china wash basin under counter basin, with C.I. concealed type brackets fixed to walls with GI rag bolts or approved fasteners etc., including 32 mm CP brass waste coupling, including painting of fittings and brackets, cutting and making good the walls wherever required all complete (Granite counter top will be measured and paid separately under relevent item): as per approved make and decision of engineer-in-charge	0	3,428.00	each		-
1.7	17.34	Providing and fixing toilet paper holder :					
	17.34.1	C.P. brass	0	680.80	each	-	
1.8	NSI-2	Providing and fixing CP brass auto closing system basin pillar tap / hand wash of Jaquar PRS - 001 or Equivalent as approved by Engineer- In Charge	0	3,580.00	each		-
1.9	NSI-3	Providing and fixing CP brass single lever basin mixer without popo with 450mm long braided hose (connection pipe) basin pillar tap of Jaquar LYR-38001B or Equivalent as approved by Engineer- In Charge.	0	5,201.00	each		-
1.10	17.22A	Providing and fixing 32mm C.P brass bottle Trap of approved quality & make as per the direction of engineer-in-incharge.	14	886.25	each	12,407.50	
1.11	17.31	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	14	1,411.15	Sqm	19,756.10	
1.12	17.10	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS : 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :					
	17.10.1	Kitchen sink with drain board					
	17.10.1.1	510x1040 mm bowl depth 250mm	0	6008.45	each	-	
	17.10.2	Kitchen sink without drain board					
	17.10.2.2	610x460 mm bowl depth 200 mm	7	3,337.85	each	23,364.95	

PLUMBING INTERNAL ESTIMATE							
PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)							
S.No.	DSR '21	Description	Qty	Rate	Unit	Type - II (7 Nos. of Qrts Amount	
						DSR	MR
1.13	17.11	Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete, including painting of fittings and brackets, cutting and making good the wall wherever required :					
	17.11.1	Size 450x300x150 mm	0	4,272.95	each	-	
1.14	17.28	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.					
	17.28.2	Flexible pipe					
	17.28.2.2	40 mm dia	7	104.35	each	730.45	
1.15	17.35	Providing and fixing soil, waste and vent pipes :					
	17.35.1	100 mm dia					
	17.35.1.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	152	1,061.25	meter	161,310.00	
1.16	17.38	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.					
	17.38.1	100 mm					
	17.38.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside I.S. 15905	21	550.80	each	11,566.80	
1.17	17.39	Providing and fixing plain bend of required degree.					
	17.39.1	100 mm					
	17.39.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	35	346.05	each	12,111.75	
1.18	17.40	Providing and fixing heel rest sanitary bend					
	17.40.1	100 mm dia					
	17.40.1.2	Sand cast iron S&S as per IS - 3989	8	439.75	each	3,518.00	
1.19	17.42	Providing and fixing double equal plain junction of required degree					
	17.42.1	100x100x100x100 mm					
	17.42.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	6	881.25	each	5,287.50	
1.20	17.43	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.					
	17.43.1	100x100x100 mm					
	17.43.1.2	sand cast Iron S&S as per IS: 3989	0	731.40	each	-	
1.21	17.44	Providing and fixing single equal plain junction of required degree					
	17.44.1	100x100x100 mm					
	17.44.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	0	573.50	each	-	
1.22	17.56	Providing and fixing terminal guard:					
	17.56.1	100 mm					
	17.56.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	8	399.60	each	3,196.80	
1.23	17.57A	Providing and fixing shielded coupling for Hubless centrifugally cast iron pipes					
	17.57A.1	100 mm					
	17.57A.1.1	S S 304 grade coupling with EPDM rubber gasket	150	406.30	each	60,945.00	
1.24	17.59	Providing and fixing M.S. stays and clamps for sand cast iron/centrifugally cast (spun) iron pipes of diameter :					
	17.59.1	100 mm	8	128.65	each	1,029.20	
1.25	17.65	Painting sand cast iron/ centrifugally cast (spun) iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint of any colour such as chocolate grey, or buff etc. over a coat of primer (of approved quality) for new work :					
	17.65.1	100 mm diameter pipe	96	69.55	meter	6,676.80	
1.26	17.37	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc. :					
	17.37.1	100 mm diameter pipe	96	308.45	each	29,611.20	
1.27	18.10	Providing and fixing G.I. soil / waste pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.					

PLUMBING INTERNAL ESTIMATE								
PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)								
S.No.	DSR '21	Description	Qty	Rate	Unit	Type - II (7 Nos. of Qrts Amount		
						DSR	MR	
	18.10.4	32 mm dia. nominal bore	62	563.60	metre	34,943.20		
	18.10.5	40 mm dia. nominal bore	30	725.15	metre	21,754.50		
	18.10.6	50 mm dia. nominal bore	20	893.20	metre	17,864.00		
1.28	17.60	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :						
	17.60.1	100 mm inlet and 100 mm outlet						
	17.60.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	21	760.85	each	15,977.85		
1.29	18.77	Cutting holes up to 15 x 15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 Cement : 2 course sand : 4 graded stone aggregate 20 mm nominal size) , including finishing complete so as to make it leak proof.	0	377.10	each	-		
1.30	NSI-4	Providing & fixing in position GI 100x50 elbow floor drain including cost of cutting and making good the walls and floors wherever required.	14	896.00	each		12,544.00	
1.31	NSI-5	Providing and fixing 125 mm dia S/S grating (with or without hole)for floor or Nahani trap.	35	513.00	each		17,955.00	
1.32	NSI-6	Providing and fixing soap dish holder from wall of standard shape with fittings of approved quality with all complete. Make Jaquar - ACN-1131N & Equivalent	0	826.00	each		-	
1.33	NSI-7	Providing and fixing soap dispenser with glass bottle from wall of standard shape with fittings of approved quality with all complete. Make Jaquar - ACN-1135N & Equivalent	0	1,481.00	each		-	
1.34	NSI-8	Providing & fixing 600 mm towel rail long stanless steel from wall face with concealed fittings arrangement of approved quality with all complete. Make Jaquar - CAN-1111SM	0	1,433.00	each		-	
1.35	18.65	Providing and fixing PTMT soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements, weighing not less than 106 gms.	14	96.75	each	1,354.50		
136	17.73	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.						
	17.73.2	600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms.	14	600.35	each	8,404.90		
1.37	12.22	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	4	266.60	each	1,066.40		
1.38	12.41	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.	40	319.75	metre	12,790.00		
1.39	12.42	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.						
	12.42.1	Coupler						
	12.42.1.1	110 mm	20	119.95	each	2,399.00		
	12.42.3	Single tee with door						
	12.42.3.2	110x110x110 mm	4	119.95	each	479.80		
	12.42.5	Bend 87.5°						
	12.42.5.2	110 mm	4	132.00	each	528.00		
	12.42.6	Shoe (Plain)						
	12.42.6.1	110 mm Shoe	4	115.95	each	463.80		
1.40	12.43	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.						

PLUMBING INTERNAL ESTIMATE								
PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)								
S.No.	DSR '21	Description	Qty	Rate	Unit	Type - II (7 Nos. of Qrts Amount		
						DSR	MR	
	12.43.2	110 mm	20	309.50	each	6,190.00		
1.41	NSI-9	Supplying and fixing of HDPE pipe (PE grade 63 - PN-8) confirming to IS 14333-1996 chemical waste pipes jointed with rubber ring with good quality lubricant with fittings inclussive of all necessary specials like bends, tees, offsets,junctions etc laid under floor/under ceiling/on walls with suitable clamps and specials curing, necessary chasing, jointing and restoring to original conditions, testing etc. including all other incidental charges etc. complete for successful completion of work as per specifications, and as directed by Engineer -in- Charge.						
	a)	110 mm outer dia	0	1,173.00	metre		-	
	b)	50 mm outer dia	0	435.00	metre		-	
1.42	NSI-10	Providing & fixing in position upvc P"or S" trap of self cleaning design of following sizes for the embedded areas Making proper connection with chemical sealent joint , cutting chase / hole in floors /slabs and bringing the same in proper condition in cement concrete 1:2:4 mix complete as required. including cost of cutting and making good the walls and floors wherever required.	0	627.00	each		-	
1.43	NSI-11	Providing & Fixing water cooler wth stainless steel having storage capacity of 80 liter & cooling capacity 60 liter / hour with Reverse osmosis system & ultra voilet membrane TDS reduction 90% having automatic back wash system with filteration unit & all other required accessories complete in all respect as per direction of the engineer in charge .	0	59,048.00	each		-	
		TOTAL				609,008.35	30,499.00	
		Sub Head – II Water Supply						
2.1	18.10	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.						
		Internal work – Exposed on wall.						
	18.10.2	**20 mm** nominal outer dia Pipes	8	373.35	metre	2,986.80		
	18.10.3	**25 mm** nominal outer dia Pipes	5	491.20	metre	2,456.00		
	18.10.4	**32 mm** nominal outer dia Pipes	30	563.60	metre	16,908.00		
	18.10.5	**40 mm** nominal outer dia Pipes	0	725.15	metre	-		
	18.10.6	**50 mm** nominal outer dia Pipes	0	893.20	metre	-		
	NSI-12a	**65 mm** nominal outer dia Pipes	0	1,084.00	metre	-		
	NSI-12b	**80 mm** nominal outer dia Pipes	0	1,276.00	metre	-		
2.2	18.8	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing.This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.						
		Concealed including cutting chases and making good the wall etc.						
	18.8.2	15 mm nominal outer dia Pipes	25	441.15	metre	11,028.75		
	18.8.3	20 mm nominal outer dia Pipes	25	513.75	metre	12,843.75		
	18.8.4	25 mm nominal outer dia Pipes	15	626.05	metre	9,390.75		
2.3	18.17	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :						
	18.17.1A	20 mm dia. nominal bore	21	461.75	each	9,696.75		
	18.17.1	25 mm dia. nominal bore	6	532.35	each	3,194.10		
	18.17.2	32 mm dia. nominal bore	2	589.90	each	1,179.80		
	18.17.3	40 mm dia. nominal bore	1	707.30	each	707.30		
	18.17.4	50 mm dia. nominal bore	0	878.25	each	-		
2.4	18.18	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :						
	18.18.3	25 mm nominal bore	7	399.15	each	2,794.05		
2.5	NSI-13	Providing and fixing hand held ablution fitting (health faucet) with 1.2 meter long flexible tube and wall hook, all complete approved engineer-in-charge	14	1,691.00	each		23,674.00	
2.6	NSI-14	Supply and fixing of 15mm CP brass 2 -Way Bib Cock with wall flange and suitable length CP brass extension pipe all of approved engineer-in-charge	14	1,871.00	each		26,194.00	
2.7	18.48	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank	5,250	9.70	per litre	50,925.00		

PLUMBING INTERNAL ESTIMATE							
PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)							
S.No.	DSR '21	Description	Qty	Rate	Unit	Type - II (7 Nos. of Qrts Amount	
						DSR	MR
2.8	18.51	Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.					
	18.51.1	15 mm nominal bore	28	708.40	each	19,835.20	
2.9	18.52	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.					
	18.52.1	15 mm nominal bore	28	594.75		16,653.00	
2.10	18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931					
	18.53.1	15mm nominal bore	98	500.30	each	49,029.40	
2.11	18.21	Providing and fixing uplasticised PVC connection pipe with brass unions :					
	18.21.2	45 cm length					
	18.21.2.1	15 mm nominal bore	98	85.20	each	8,349.60	
2.12	18.22	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :					
	18.22.2	150 mm diameter	14	190.10	each	2,661.40	
2.13	17.22B	Providing and fixing CP Brass Single lever telephonic wall mixer of quality & make as approved by Engineer in charge.					
		(a) 15 mm nominal dia	0	6,119.15	each	-	
2.14	NSI-15	Providing , Fixing, testing and commissioning of CP Brass 150 mm x 150 mm Shower head with wall flange with all accessories as required and making good the walls wherever required. (MAKE-JAQUAR -Model No- OHS-35495 or EQUIVALENT.)	0	3,418.00	each		-
2.15	NSI-16	Supply ,Erection , Testing & Commissioning of Automatic water level control panel & related accessories for pumping automation with consisting of automatic water level controller , level sensor with stainless steel probe, motorized butterfly valve, motorized valve controller with complete in all respect.					
	a	upto 50 mm dia. nominal bore	1	26,947.00	each		26,947.00
		TOTAL				**220,639.65**	**76,815.00**
		SUBHEAD – III Drainage					
3.1	NSI-17	Supply and fixing HDPE double wall corrugated (DWC) I.S 16098 (Part - 2) 3013 for soil / waste pipe under ground drainage system with jointed with rubber ring with good quality lubricant for fittings, inclusive of all necessary specials like bends, tees, offsets, junctions, re excavtion and refillig etc complete.					
	a	150 mm diameter	10	880.00	metre		8,800.00
	b	200 mm diameter	10	1,092.00	metre		10,920.00
3.2	19.4	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not lessthan 4.50 kg and frame to be not less than 2.70 kg as per standard design :					
	19.4.3	180x150 mm size P type					
	19.4.3.1	With fly ash bricks (non modular) bricks of class designation 7.5	4	2,534.00	each	10,136.00	
3.3	19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :					
	19.6.2	150 mm dia. R.C.C. pipe	10	493.10	metre	4,931.00	
	19.6.3	250 mm dia. R.C.C. pipe	5	811.15	metre	4,055.75	
	19.6.4	300 mm dia. R.C.C. pipe	5	902.05	metre	4,510.25	
3.4	19.7	Constructing brick masonry manhole in cement mortar 1:4 (1 cement :4 coarse sand) with RCC top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 stone aggregate 20 mm nominal size) , foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 stone aggregate 40 mm nominal size) inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation cocreate 1:3:6 mix (1 cement :3 coarse sand : 6 graded stone aggregate 40 mm norminal size),and making necessary channel in cement concrete 1:2:4 (1 cement :2 coarse sand :4 graded stone aggregate 20 mm norminal size) finished with a floating coat of neat cement complete as per standard design .					

PLUMBING INTERNAL ESTIMATE							
PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)							
S.No.	DSR '21	Description	Qty	Rate	Unit	Type - II (7 Nos. of Qrts Amount	
						DSR	MR
	19.7.1	inside size 90x80 cms and 45 cms deep including CI cover with frame (light duty) 455x610 mm internal dimensions total weight of cover & frame to be not less than 38 kg (weight of cover 23 kg & weight of frame 15 kg)					
	19.7.1.1	with common brunt clay FPS (non modular) bricks of class designation 7.5	2.00	11,687.10	Each	23,374.20	
3.5	19.8	Extra depth for manhole 90x80 cm					
	19.8.1.1	With FPS bricks class designation 7.5	0.20	8,127.45	Metre	1,625.49	
3.6	19.16	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering esides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per pecifications and having manufacture's permanent identification mark to be visible even after fixing,including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	8.00	487.10	Each	3,896.80	
3.7	19.27	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :					
	19.27.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	4.00	5,589.45	Each	22,357.80	
		TOTAL				**74,887.29**	**19,720.00**

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Guest House	
					Qty	Amount
					Qty.	Amount
		Sub Head – I Sanitary Installation				
1.1	17.1	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:.				
	17.1.1	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests.	5,781.35	each	0	-
1.2	17.3	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :				
	17.3.1	W.C. pan with ISI marked white solid plastic seat and lid	6,941.30	each	0	-
1.3	17.81	Providing and fixing floor mounted, white vitreous china single piece, double traps syphonic water closet of approved brand/make, shape, size and pattern including integrated white vitreous china cistern of capacity 10 litres with dual flushing system, including all fittings and fixtures with seat cover, cistern fittings, nuts, bolts and gasket etc including making connection with the existing P/S trap, complete in all respect as per directions of Engineer-in-Charge.	16,100.40	each	2	32,200.80
1.4	17.80	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.	7,004.45	each	0	-
1.5	17.7	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:				
1.5.1	17.7.3	White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps	3,158.70	each	2.00	6,317.40
1.6	NSI-1	Providing and fixing white vitreous china wash basin under counter basin, with C.I. concealed type brackets fixed to walls with GI rag bolts or approved fasteners etc., including 32 mm CP brass waste coupling, including painting of fittings and brackets, cutting and making good the walls wherever required all complete (Granite counter top will be measured and paid separately under relevent item): as per approved make and decision of engineer-in-charge	3,428.00	each	0	-
1.7	17.34	Providing and fixing toilet paper holder :				
	17.34.1	C.P. brass	680.80	each	2	1,361.60
1.8	NSI-2	Providing and fixing CP brass auto closing system basin pillar tap / hand wash of Jaquar PRS - 001 or Equivalent as approved by Engineer- In Charge	3,580.00	each	0	-
1.9	NSI-3	Providing and fixing CP brass single lever basin mixer without popo with 450mm long braided hose (connection pipe) basin pillar tap of Jaquar LYR-38001B or Equivalent as approved by Engineer- In Charge.	5,201.00	each	2	10,402.00
1.10	17.22A	Providing and fixing 32mm C.P brass bottle Trap of approved quality & make as per the direction of engineer-in-incharge.	886.25	each	2	1,772.50

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Guest House	
					Qty	Amount
					Qty.	Amount
1.11	17.31	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	1,411.15	Sqm	2	2,822.30
1.12	17.10	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS : 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :				
	17.10.1	Kitchen sink with drain board				
	17.10.1.1	510x1040 mm bowl depth 250mm	6008.45	each	0	-
	17.10.2	Kitchen sink without drain board				
	17.10.2.2	610x460 mm bowl depth 200 mm	3,337.85	each	0	-
1.13	17.11	Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug, 40 mm C.P brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete, including painting of fittings and brackets, cutting and making good the wall wherever required :				
	17.11.1	Size 450x300x150 mm	4,272.95	each	0	-
1.14	17.28	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.				
	17.28.2	Flexible pipe				
	17.28.2.2	40 mm dia	104.35	each	0	-
1.15	17.35	Providing and fixing soil, waste and vent pipes :				
	17.35.1	100 mm dia				
	17.35.1.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	1,061.25	meter	10	10,612.50
1.16	17.38	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
	17.38.1	100 mm				
	17.38.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside I.S. 15905	550.80	each	0	-
1.17	17.39	Providing and fixing plain bend of required degree.				
	17.39.1	100 mm				
	17.39.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	346.05	each	5	1,730.25
1.18	17.40	Providing and fixing heel rest sanitary bend				
	17.40.1	100 mm dia				
	17.40.1.2	Sand cast iron S&S as per IS - 3989	439.75	each	0	-
1.19	17.42	Providing and fixing double equal plain junction of required degree				
	17.42.1	100x100x100x100 mm				
	17.42.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	881.25	each	0	-
1.20	17.43	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
	17.43.1	100x100x100 mm				
	17.43.1.2	sand cast Iron S&S as per IS: 3989	731.40	each	0	-
1.21	17.44	Providing and fixing single equal plain junction of required degree				
	17.44.1	100x100x100 mm				
	17.44.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	573.50	each	0	-
1.22	17.56	Providing and fixing terminal guard:				
	17.56.1	100 mm				
	17.56.1.3	Hubless centrifugally cast (spun) iron pipe epoxy inside & outside IS: 15905	399.60	each	0	-

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Guest House	
					Qty	Amount
					Qty.	Amount
1.23	17.57A	Providing and fixing shielded coupling for Hubless centrifugally cast iron pipes				
	17.57A.1	100 mm				
	17.57A.1.1	S S 304 grade coupling with EPDM rubber gasket	406.30	each	10	4,063.00
1.24	17.59	Providing and fixing M.S. stays and clamps for sand cast iron/centrifugally cast (spun) iron pipes of diameter :				
	17.59.1	100 mm	128.65	each	0	-
1.25	17.65	Painting sand cast iron/ centrifugally cast (spun) iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint of any colour such as chocolate grey, or buff etc. over a coat of primer (of approved quality) for new work :				
	17.65.1	100 mm diameter pipe	69.55	meter	0	-
1.26	17.37	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc. :				
	17.37.1	100 mm diameter pipe	308.45	each	0	-
1.27	18.10	Providing and fixing G.I. soil / waste pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.				
	18.10.4	32 mm dia. nominal bore	563.60	metre	5	2,818.00
	18.10.5	40 mm dia. nominal bore	725.15	metre	5	3,625.75
	18.10.6	50 mm dia. nominal bore	893.20	metre	5	4,466.00
1.28	17.60	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :				
	17.60.1	100 mm inlet and 100 mm outlet				
	17.60.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	760.85	each	2	1,521.70
1.29	18.77	Cutting holes up to 15 x 15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 Cement : 2 course sand : 4 graded stone aggregate 20 mm nominal size) , including finishing complete so as to make it leak proof.	377.10	each	0	-
1.30	NSI-4	Providing & fixing in position GI 100x50 elbow floor drain including cost of cutting and making good the walls and floors wherever required.	896.00	each	0	-
1.31	NSI-5	Providing and fixing 125 mm dia S/S grating (with or without hole)for floor or Nahani trap.	513.00	each	4	2,052.00
1.32	NSI-6	Providing and fixing soap dish holder from wall of standard shape with fittings of approved quality with all complete. Make Jaquar - ACN-1131N & Equivalent	826.00	each	2	1,652.00
1.33	NSI-7	Providing and fixing soap dispenser with glass bottle from wall of standard shape with fittings of approved quality with all complete. Make Jaquar - ACN-1135N & Equivalent	1,481.00	each	2	2,962.00
1.34	NSI-8	Providing & fixing 600 mm towel rail long stanless steel from wall face with concealed fittings arrangement of approved quality with all complete. Make Jaquar - CAN-1111SM	1,433.00	each	2	2,866.00
1.35	18.65	Providing and fixing PTMT soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements, weighing not less than 106 gms.	96.75	each	0	-

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Guest House	
					Qty	Amount
					Qty.	Amount
136	17.73	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.				
	17.73.2	600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms.	600.35	each	0	-
1.37	12.22	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	266.60	each	4	1,066.40
1.38	12.41	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.	319.75	metre	20	6,395.00
1.39	12.42	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.				
	12.42.1	Coupler				
	12.42.1.1	110 mm	119.95	each	10	1,199.50
	12.42.3	Single tee with door				
	12.42.3.2	110x110x110 mm	119.95	each	4	479.80
	12.42.5	Bend 87.5°				
	12.42.5.2	110 mm	132.00	each	4	528.00
	12.42.6	Shoe (Plain)				
	12.42.6.1	110 mm Shoe	115.95	each	4	463.80
1.40	12.43	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.				
	12.43.2	110 mm	309.50	each	10	3,095.00
1.41	NSI-9	Supplying and fixing of HDPE pipe (PE grade 63 - PN-8) confirming to IS 14333-1996 chemical waste pipes jointed with rubber ring with good quality lubricant with fittings inclussive of all necessary specials like bends, tees, offsets,junctions etc laid under floor/under ceiling/on walls with suitable clamps and specials curing, necessary chasing, jointing and restoring to original conditions, testing etc. including all other incidental charges etc. complete for successful completion of work as per specifications, and as directed by Engineer -in- Charge.				
	a)	110 mm outer dia	1,173.00	metre	0	-
	b)	50 mm outer dia	435.00	metre	0	-
1.42	NSI-10	Providing & fixing in position upvc P"or S" trap of self cleaning design of following sizes for the embedded areas Making proper connection with chemical sealent joint , cutting chase / hole in floors /slabs and bringing the same in proper condition in cement concrete 1:2:4 mix complete as required. including cost of cutting and making good the walls and floors wherever required.	627.00	each	0	-
1.43	NSI-11	Providing & Fixing water cooler wth stainless steel having storage capacity of 80 liter & cooling capacity 60 liter / hour with Reverse osmosis system & ultra voilet membrane TDS reduction 90% having automatic back wash system with filteration unit & all other required accessories complete in all respect as per direction of the engineer in charge .	59,048.00	each	0	-

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Guest House	
					Qty	Amount
					Qty.	Amount
		TOTAL				106,473.30
		DSR Items				94,019.30
		NS				12,454.00
		Sub Head – II Water Supply				
2.1	18.10	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.				
		Internal work – Exposed on wall.				
	18.10.2	**20 mm** nominal outer dia Pipes	373.35	metre	10	3,733.50
	18.10.3	**25 mm** nominal outer dia Pipes	491.20	metre	10	4,912.00
	18.10.4	**32 mm** nominal outer dia Pipes	563.60	metre	10	5,636.00
	18.10.5	**40 mm** nominal outer dia Pipes	725.15	metre	5	3,625.75
	18.10.6	**50 mm** nominal outer dia Pipes	893.20	metre	0	-
	NSI-12a	**65 mm** nominal outer dia Pipes	1,084.00	metre	0	-
	NSI-12b	**80 mm** nominal outer dia Pipes	1,276.00	metre	0	-
2.2	18.8	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing.This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.				
		Concealed including cutting chases and making good the wall etc.				
	18.8.2	15 mm nominal outer dia Pipes	441.15	metre	10	4,411.50
	18.8.3	20 mm nominal outer dia Pipes	513.75	metre	10	5,137.50
	18.8.4	25 mm nominal outer dia Pipes	626.05	metre	5	3,130.25
2.3	18.17	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :				
	18.17.1A	20 mm dia. nominal bore	461.75	each	2	923.50
	18.17.1	25 mm dia. nominal bore	532.35	each	2	1,064.70
	18.17.2	32 mm dia. nominal bore	589.90	each	0	-
	18.17.3	40 mm dia. nominal bore	707.30	each	0	-
	18.17.4	50 mm dia. nominal bore	878.25	each	0	-
2.4	18.18	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :				
	18.18.3	25 mm nominal bore	399.15	each		
2.5	NSI-13	Providing and fixing hand held ablution fitting (health faucet) with 1.2 meter long flexible tube and wall hook, all complete approved engineer-in-charge	1,691.00	each	2	3,382.00
2.6	NSI-14	Supply and fixing of 15mm CP brass 2 -Way Bib Cock with wall flange and suitable length CP brass extension pipe all of approved engineer-in-charge	1,871.00	each	2	3,742.00
2.7	18.48	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank	9.70	per litre	1,000	9,700.00
2.8	18.51	Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.				
	18.51.1	15 mm nominal bore	708.40	each		
2.9	18.52	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.				
	18.52.1	15 mm nominal bore	594.75			

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Guest House	
					Qty	Amount
					Qty.	Amount
2.10	18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931				
	18.53.1	15mm nominal bore	500.30	each	10	5,003.00
2.11	18.21	Providing and fixing uplasticised PVC connection pipe with brass unions :				
	18.21.2	45 cm length				
	18.21.2.1	15 mm nominal bore	85.20	each	10	852.00
2.12	18.22	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :				
	18.22.2	150 mm diameter	190.10	each	0	-
2.13	17.22B	Providing and fixing CP Brass Single lever telephonic wall mixer of quality & make as approved by Engineer in charge.				
		(a) 15 mm nominal dia	6,119.15	each	2	12,238.30
2.14	NSI-15	Providing , Fixing, testing and commissioning of CP Brass 150 mm x 150 mm Shower head with wall flange with all accessories as required and making good the walls wherever required. (MAKE-JAQUAR -Model No- OHS-35495 or EQUIVALENT.)	3,418.00	each	2	6,836.00
2.15	NSI-16	Supply ,Erection , Testing & Commissioning of Automatic water level control panel & related accessories for pumping automation with consisting of automatic water level controller , level sensor with stainless steel probe, motorized butterfly valve, motorized valve controller with complete in all respect.				
	a	upto 50 mm dia. nominal bore	26,947.00	each	1	26,947.00
		TOTAL				101,275.00
		DSR Items				67,204.00
		NS				34,071.00
		SUBHEAD – III Drainage				
3.1	NSI-17	Supply and fixing HDPE double wall corrugated (DWC) I.S 16098 (Part - 2) 3013 for soil / waste pipe under ground drainage system with jointed with rubber ring with good quality lubricant for fittings, inclusive of all necessary specials like bends, tees, offsets, junctions, re excavtion and refillig etc complete.				
	a	150 mm diameter	880.00	metre	0	-
	b	200 mm diameter	1,092.00	metre	0	-
3.2	19.4	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not lessthan 4.50 kg and frame to be not less than 2.70 kg as per standard design :				
	19.4.3	180x150 mm size P type				
	19.4.3.1	With fly ash bricks (non modular) bricks of class designation 7.5	2,534.00	each	0	-
3.3	19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				
	19.6.2	150 mm dia. R.C.C. pipe	493.10	metre	0	-
	19.6.3	250 mm dia. R.C.C. pipe	811.15	metre	0	-
	19.6.4	300 mm dia. R.C.C. pipe	902.05	metre	0	-

PLUMBING INTERNAL ESTIMATE						
NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)						
S.No.	DSR '21	Description	Rate	Unit	Guest House	
					Qty	Amount
					Qty.	Amount
3.4	19.7	Constructing brick masonry manhole in cement mortar 1:4 (1 cement :4 coarse sand) with RCC top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 stone aggregate 20 mm nominal size) , foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 stone aggregate 40 mm nominal size) inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation cocreate 1:3:6 mix (1 cement :3 coarse sand : 6 graded stone aggregate 40 mm norminal size),and making necessary channel in cement concrete 1:2:4 (1 cement :2 coarse sand :4 graded stone aggregate 20 mm norminal size) finished with a floating coat of neat cement complete as per standard design .				
	19.7.1	inside size 90x80 cms and 45 cms deep including CI cover with frame (light duty) 455x610 mm internal dimensions total weight of cover & frame to be not less than 38 kg (weight of cover 23 kg & weight of frame 15 kg)				
	19.7.1.1	with common brunt clay FPS (non modular) bricks of class designation 7.5	11,687.10	Each	-	-
3.5	19.8	Extra depth for manhole 90x80 cm				
	19.8.1.1	With FPS bricks class designation 7.5	8,127.45	Metre	-	-
3.6	19.16	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering esides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per pecifications and having manufacture's permanent identification mark to be visible even after fixing,including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	487.10	Each	-	-
3.7	19.27	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :				
	19.27.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	5,589.45	Each	-	-
		TOTAL				-
		DSR Items				-
		NS				-

CONSTRUCTION OF PHASE-A WORKS AT JNV Cooch Behar (West Bengal)					
ABSTRACT OF COST OF CAMPUS BOUNDARY WALL					
Sl. No	**Description**	**Qty**	**Unit**	**Rate (In Rs.)**	**Amount on DSR 2021 (In Rs.)**
1	CONSTRUCTION OF 1.8 Mtr High Brick Boundary Wall with 0.6 mtr dia Concertina coil Fencing				5,650,571.89
2	CONSTRUCTION OF FENCING WORK				2,855,559.74
				Total	**8,506,131.63**
				say in lacs	**85.06**

CONSTRUCTION OF PHASE-A WORKS AT JNV Cooch Behar (West Bengal)						
S.N.	**DESCRIPTION OF ITEM**	**DSR-2021**	**QUANTITY**	**UNIT**	**RATES**	**AMOUNT**
	CONSTRUCTION OF 1.8 Mtr High Brick Boundary Wall with 0.6 mtr dia Concertina coil Fencing, Length 392.4 Mtr					
A	**Earth Work**					
1	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.					
a.)	all kinds of soil	2.8.1	384.330	CUM	286.85	110,245.06
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.	2.25	251.400	cum	253.95	63,843.03
B	**Concrete Work**					**-**
3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	4.1.10	41.210	CUM	6050.65	249,347.29
C	**Reinforced Cement Concrete**					**-**
4	Centering and shuttering including strutting, propping etc. and removal of form for all heights :					
(a)	Foundations, footings, bases of columns, etc. for mass concrete.	5.9.1	200.290	SQM	307.95	61,679.31
(b)	Lintels, beams, plinth beams, girders, bressumers and cantilevers	5.9.5	529.750	SQM	608.35	322,273.41
(c)	Columns, Pillars, Piers, Abutments, Posts and Struts	5.9.6	365.260	SQM	804.25	293,760.36
(d)	Edges of slabs and breaks in floors and walls Under 20 cm wide	5.9.16.1	784.800	RM	181.90	142,755.12
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. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement. All works upto plinth level Concrete of M25 grade with minimum cement content of 330 kg /cum					
(a)	**Upto plinth level**					
	(i) R.C.C. work in Footing	5.33.1.1	60.880	CUM	8683.80	528,669.74
	(ii) R.C.C. work in Beam	5.33.1.1	41.210	CUM	8683.80	357,859.40
	(iii) R.C.C. work in Columns	5.33.1.1	22.140	CUM	8683.80	192,259.33
(b)	**All works above plinth level upto floor V level**					

	Concrete of M25 grade with minimum cement content of 330 kg /cum					
	(ii) R.C.C. work in Beam	5.33.2.1	20.610	CUM	10306.20	212,410.78
	(iii) R.C.C. work in Columns	5.33.2.1	5.300	CUM	10306.20	54,622.86
6	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.	5.22.6	15013.050	Kg	89.65	1,345,919.93
D	**Masonry Work**					**-**
7	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in: Cement mortar 1:6 (1 cement : 6 coarse sand).	6.1.2	83.280	CUM	6658.25	554,499.06
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 1:6 (1 cement : 6 coarse sand)	6.4.2	36.560	CUM	8288.35	303,022.08
						-
E	**Steel Work**					
9	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	10.2	1110.730	KG	111.95	124,346.22
F	**Finishing**					**-**
10	12 mm cement plaster on the fair side of single or half brick wall	13.1.2	1610.220	SQM	282.00	454,082.04
(a)	1:6(1 cement:6 fine sand).					
						-
11	Finishing walls with water proofing cement paint of required shade : New work (Two or more coats applied @ 3.84 kg/10 sqm)	13.44.1	1610.220	SQM	97.60	157,157.47
	Steel Painting:					
12	(b) Painting with synthetic enamel paint of approved brand and manufacture to give an even shade: Two or more coats on new work.	13.61.1	20.96	SQM	131.45	2,755.19
G	**ROAD WORK**					**-**
13	Providing and fixing concertina coil fencing with punched tape concertina coil 600 mm dia 10 metre openable length (total length 90 m), having 50 nos rounds per 6 metre length, upto 3 m height of wall with existing angle iron 'Y' shaped placed 2.4 m or 3.00 m apart and with 9 horizontal R.B.T. reinforced barbed wire, stud tied with G.I. staples and G.I. clips to retain horizontal, including necessary G.I. staples and G.I. clips to retain horizontal, including necessary bolts or G.I. barbed wire tied to angle iron, all complete as per direction of Engineer-in-charge, with reinforced barbed tape(R.B.T.) / Spring core (2.5mm thick) wire of high tensile strength of 165 kg/ sq.mm with tape (0.52 mm thick) and weight 43.478 gm/ metre (cost of M.S. angle, C.C. blocks shall be paid separately)	16.53	392.110	RM	303.65	119,064.20
					Total	**5,650,571.89**

CONSTRUCTION OF PHASE-A WORKS AT JNV Cooch Behar (West Bengal)							
S.N.	**DESCRIPTION OF ITEM**	**DSR-21**	**QUANTITY**	**UNIT**	**RATES**	**AMOUNT DSR-21**	**AMOUNT MR**
	Reparment of existing Boundary Wall with 0.6 mtr dia Concertina coil Fencing, Length 730.00 Mtr						
a)	**Reinforced Cement Concrete**						
1	Centering and shuttering including strutting, propping etc. and removal of form for all heights :						
a)	Lintels, beams, plinth beams, girders, bressumers and cantilevers.	5.9.5	306.690	SQM	608.35	186,574.86	
2	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. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.	5.33					
(b)	**Above plinth to floor-V lvl**	5.33.2					
	Concrete of M25 grade with minimum cement content of 330 kg /cum	5.33.2.1					
	(ii) R.C.C. work in Beam	5.33.2.1	38.360	CUM	10306.20	395,345.83	
3	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.	5.22.6	3836.340	Kg	89.65	343,927.88	
B	**Steel Work**						
4	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	10.2	2067.890	KG	111.95	231,500.29	
C	**Finishing**					-	
5	Repairs to plaster of thickness 12 mm to 20 mm in patches of area 2.5 sq.meters and under, including cutting the patch in proper shape, raking out joints and preparing and plastering the surface of the walls complete, including disposal of rubbish to the dumping ground, all complete as per direction of Engineer-in-Charge.	14.1.1	2628.000	SQM	462.30	1,214,924.40	
(a)	With cement mortar 1:4 (1 cement : 4 fine sand)						
6	Finishing walls with water proofing cement paint of required shade : New work (Two or more coats applied @ 3.84 kg/10 sqm)	13.44.1	2628.000	SQM	97.60	256,492.80	
	Steel Painting:						
7	(b) Painting with synthetic enamel paint of approved brand and manufacture to give an even shade: Two or more coats on new work.	13.61.1	39.02	SQM	131.45	5,129.18	

D	ROAD WORK					-	
8	Providing and fixing concertina coil fencing with punched tape concertina coil 600 mm dia 10 metre openable length (total length 90 m), having 50 nos rounds per 6 metre length, upto 3 m height of wall with existing angle iron 'Y' shaped placed 2.4 m or 3.00 m apart and with 9 horizontal R.B.T. reinforced barbed wire, stud tied with G.I. staples and G.I. clips to retain horizontal, including necessary G.I. staples and G.I. clips to retain horizontal, including necessary bolts or G.I. barbed wire tied to angle iron, all complete as per direction of Engineer-in-charge, with reinforced barbed tape(R.B.T.) / Spring core (2.5mm thick) wire of high tensile strength of 165 kg/ sq.mm with tape (0.52 mm thick) and weight 43.478 gm/ metre (cost of M.S. angle, C.C. blocks shall be paid separately)	16.53	730.000	RM	303.65	221,664.50	
					Total	**2,855,559.74**	**-**

Construction of Phase-A works at JNV Cooch Behar(WB)

ABSTRACT OF COST (ENTRANCE GATE)

[BASED ON D.S.R. 2021]

S.N.	DESCRIPTION OF ITEM	DSR.2021	QUANTITY	UNIT	RATES	AMOUNT DSR ITEM	AMOUNT [M.R. ITEM]
A	**Earth Work**						
1	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.**Ordinary rock**	2.9.1	37.30	CUM	523.50	19,526.55	
B	**Concrete Work**						
2	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)	4.1.8	3.03	CUM	6326.05	19,167.93	
3	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand (zone-III): 4 graded stone aggregate 12.5mm nominal size)	4.10	3.150	SQM	370.85	1,168.18	
4	Providing & applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	4.13	3.150	SQM	113.85	358.63	
C	**Reinforced Cement Concrete**						
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. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 1.10 times of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.						
(a)	**Upto plinth level**						
	(i) R.C.C. work in Footing	5.33.1.1	6.280	CUM	8683.80	54,534.26	
	(ii) R.C.C. work in Beam	5.33.1.1	1.210	CUM	8683.80	10,507.40	
	(iii) R.C.C. work in Columns	5.33.1.1	1.360	CUM	8683.80	11,809.97	
(b)	**Above plinth to floor-V lvl**						

	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. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 1.10 times of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.						
	(i) R.C.C. work in Beam	5.33.2.1	4.550	CUM	10306.20	46,893.21	
	(ii) R.C.C. work in Columns	5.33.2.1	4.540	CUM	10306.20	46,790.15	
	(iii) R.C.C. work in Slab	5.33.2.1	4.620	CUM	10306.20	47,614.64	
6	Centering and shuttering including strutting, propping etc. and removal of form for all heights :						
(a)	Foundations, footings, bases of columns, etc. for mass concrete.	5.9.1	20.730	SQM	307.95	6,383.80	
(b)	Columns,Pillars, Piers, Abutments, Posts and Struts.	5.9.6	79.440	SQM	804.25	63,889.62	
(c)	Suspended floors, roofs, landings, balconies and access platform. with water proof ply 12 mm thick	5.9.20	38.520	SQM	853.75	32,886.45	
(d)	Lintels, beams, plinth beams, girders, bressumers and cantilevers. with water proof ply 12 mm thick	5.9.21	58.530	SQM	699.45	40,938.81	
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.	5.22.6	9.500	QTL.	8965.00	85,167.50	
8	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete a**bove plinth level.** Thermo-Mechanically Treated bars of grade Fe-500 D or more.	5.22.A.6	19.680	QTL.	8965.00	176,431.20	
D	**Masonry Work**						
9	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 1:6 (1 cement : 6 coarse sand)	6.4.2	19.260	CUM	8288.35	159,633.62	
F	**Wood and PVC Work**						
10	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws.	9.21.1	1.58	SQM	2015.75	3,184.89	
11	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete. Fixed to steel windows by welding.	9.48.1	16.20	KG	181.00	2,932.20	
12	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete. Twin rubber stopper	9.101.2	1.00	NOS	62.25	62.25	
13	Providing and fixing bright /matt finished Stainless Steel handles of approved quality & make with necessary screws etc all complete(a) 125 mm.	9.165.1	2.00	NOS	100.45	200.90	
14	Providing & fixing Stainless steel sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with nuts and screws etc complete. (a) 250mm x 16mm .	M.R.	1.00	NOS	560.00		560.00

							-
15	Providing and fixing stainless steel towerbolts (barrel type) with necessary screws etc. complete.						-
	300 x 10mm	M.R.	1.00	NOS	448.00		448.00
	200 x 10mm	M.R.	1.00	NOS	392.00		392.00
							-
G	**Steel Work**						
16	Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side /top /centre hung, with beading and all members such as F7D, F4B, K11 B and K12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design, (sectional weight of only steel members shall be measured for payment). Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).	10.11.1	16.20	KG	175.65	2,845.53	
17	Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer						
	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size	10.13.1	32.850	KG	114.65	3,766.25	
18	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	10.25.2	1350.000	KG	142.30	192,105.00	
19	Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with : 4.0 mm thick glass panes.	10.30.1	0.540	SQM	940.30	507.76	
H	**Flooring**						
20	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :	11.26	4.240	SQM	1706.60	7,235.98	
21	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete	11.27	1.620	SQM	2038.55	3,302.45	
I	**Finishing**						
22	12 mm cement plaster on the fair side of single or half brick wall (a) 1:6 (1 cement: 6 coarse sand)	13.4.2	142.060	SQM	294.35	41,815.36	
23	15 mm cement plaster on rough side of single or half brick wall of mix : 1:4 (1 cement: 4 coarse sand).	13.5.1	5.350	SQM	354.50	1,896.58	
24	15 mm cement plaster on the rough side of single or half brick wall of mix : 1:6 (1 cement: 6 coarse sand)	13.5.2	84.000	SQM	339.10	28,484.40	
25	6 mm cement plaster on celling (a) 1:3(1 cement:3 fine sand)	13.16.1	27.05	SQM	253.05	6,845.00	
26	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer.	13.41.1	111.050	SQM	162.55	18,051.18	
27	Finishing walls with water proofing cement paint of required shade : New work (Two or more coats applied @ 3.84 kg/10 sqm)	13.44.1	142.060	SQM	97.60	13,865.06	
	Applying priming coat:						
28	With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	13.50.1	3.150	SQM	61.45	193.57	

29	With ready mixed red oxide zink chromate primer of approved brand and manufacture on steel galvanised iron/steel works.	13.50.3	37.49	SQM	55.50	2,080.70	
30	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade: Two or more coats on new work.	13.61.1	40.64	SQM	131.45	5,342.13	
31	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	13.80	258.460	SQM	123.85	32,010.27	
J	**Water Proofing**						
32	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations:						
	(a) Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300						
	(b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineerin- charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineerin- charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs.						
	(c) After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge.						
	(d) Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep.						
	(e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test.“All above operations to be done in order and as directed and specified by the Engineer-in-Charge :						
	With average thickness of 120 mm and minimum thickness at khurra as 65 mm.	22.7.1	54.570	SQM	1522.95	83,107.38	
					TOTAL	**1,273,536.76**	**1,400.00**
				SAY IN LACS		**12.74**	**0.01**

SUMMARY SHEET OF PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)			
Guard Room Electrical Work			
Sl.No.	Name of Work	TOTAL AMOUNT (IN RS.)	
		DSR-2022	MR
I	SUB HEAD - I: CIRCUIT CUM POINT WIRING	46,759.00	12,698.74
II	SUBHEAD -II - FITTINGS & FIXTURES	2,730.00	49,668.75
III	SUBHEAD - III - DISTRIBUTION BOARDS	7,466.00	-
	TOTAL	56,955.00	62,367.49
	Say in lacs	0.57	0.62

PROJECT :- PROPOSED CONSTRUCTION OF PHASE - A WORKS AT JAWAHAR NAVODAYA VIDYALAYA AT TUFANGANJ, COOCHBEHAR (WB)								
Detailed Estimate for ELECTRICAL Works MAIN GATE								
S.No.	DSR-2022/NSI	Description	Unit	Qty	Rate		Amount	
					DSR-2022	NSI	DSR-2022	NSI
		SUB HEAD - I: CIRCUIT CUM POINT WIRING						
		SWITCH CONTROL LIGHT POINTS						
1	**DSR 1.10**	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	**DSR 1.10.3**	Group C	Point	3	1,467.00		4,401	
2	**DSR-1.55**	**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 **PVC conduit**, **and earthing the point with 1.5 sq. mm** FRLS PVC insulated **copper conductor single core cable** etc as required. **(Switch Control Secondary Points)**	Point	0	858.00		-	
2.1	**DSR-1.55.3**	Group C						
3	**DSR-1.3**	**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 **steel 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. **(Switch Control Primary Points)**						
3.1	**DSR-1.3.3**	Group C	Point	0	1,845.00		-	
4	**DSR-1.54**	**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. **(Switch Control Secondary Points)**						
4.1	**DSR-1.54.3**	Group C	Point	0	1,094.00		-	
		MCB CONTROL LIGHT POINTS						
5	**NSI-1**	**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 **steel 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. **(Switch Control Primary Points)**						
5.1	**NSI-1.1**	**Primary point controlled by one MCB.**	Point	3		1,523.13		4,569
5.2	**NSI-1.2**	Same as item above but **Secondary point**. i.e. Points to be looped with Primary point with 2.5 sqmm wire and Point wiring	Point	6		1,354.89		8,129
6	**DSR 1.5**	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	10	433.00		4,330	
7	**DSR 1.7**	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.						
7.1	**DSR 1.7.1**	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Metre	0	327.00		-	
7.2	**DSR 1.7.2**	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	60	369.00		22,140	

7.3	**DSR 1.7.4**	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	0	589.00		-	
7.4	**DSR 1.7.5**	2 x 10 sq. mm + 1 x 10 sq.mm earth wire	Metre	20	710.00		14,200	
7.5	**DSR 1.7.10**	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	0	1,166.00		-	
7.6	**DSR 1.7.11**	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	0	1,645.00		-	
8	**DSR 1.31**	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 Amp modular socket outlet and 5/6 A modular switch, connection etc. as required.	Each	2	477.00		954	
9	**NSI-2**	Supply and Wiring for 250 volts single phase and neutral 2 Nos 6 amps socket outlate with control by 1 No switched with 2.5 sq.mm PVC insulated copper conductor 1100 volts grade stranded flexible FRLS wires in concealed or surface mounted 25 mm dia 2mm thick PVC conduit including providing and fixing of 6 amps 3 pin switch socket outlet of aprpoved make and design in 2 mm thick GI box with grid plate and earthing of third pin of the socket with 2.5 Sq. mm PVC insulated copper conductor stranded flexible FRLS wire.(maximum four no. of switches socket shall be connected on one circuit)	Each	0		1,782		-
10	**DSR 1.32**	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 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	Each	1	586.00		586.00	
11	**NSI-3**	Supplying and fixing 63 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 63 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		11,284.98		-
12	**NSI-4**	Supplying and fixing 80 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 80 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Each	0		17,343.23		-
13	**DSR-1.33**	Supplying and fixing **3 pin, 5 A ceiling rose** on the existing junction box/ wooden block including connections etc. as required.	Each	0	87		-	
14	**DSR-1.57**	Supplying & fixing suitable size GI box wih modular plate and cover in front on surface or in recess i/c providing and fixing 25 amp modular socket outlet and 25 Amps modular SP MCB, "C" curve including connection, painting etc. as required. (AC's & Gysers)	Each	0	727		-	
15	**DSR 1.24**	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.						
15.1	**DSR 1.24.6**	Telephone socket outlet	Nos	1	148.00		148.00	
16	**DSR 1.27**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
16.1	**DSR 1.27.1**	1 or 2 Module (75mmX75mm)	Nos	0	298.00		-	
16.2	**DSR 1.27.4**	6 module (78mm X 205 mm X 50 mm)	Nos	0	402.00		-	

17	**DSR 1.24**	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
17.1	**DSR 1.24.4**	3 pin , 5/6 amps socket outlet	Each	0	122.00		-	
17.1	**DSR 1.24.1**	5/6 amps switch	Each	0	103.00		-	
18	**DSR 1.21**	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.						
18.1	**DSR 1.21.2**	25 mm	Mtr	0	145.00		-	
18.2	**DSR 1.21.3**	32 mm	Mtr	0	184.00		-	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - I					**46,759.00**	**12,698.74**
		SUBHEAD -II - FITTINGS & FIXTURES						
1	**NSI-1**	Supply, Installation, Testing and Commissioning of 10 W Bulk head Light.	Each	0		1,158.20		-
2	**NSI-2**	Supply, Installation, Testing and Commissioning of 5W Mirror Light.	Each	0		445.46		-
3	**NSI-3**	Supply, Installation, Testing and Commissioning of 18W Surface/Recessed Mounted LED circular Downlighter.	Each	0		1,470.02		-
4	**NSI-4**	Supply, Installation, Testing and Commissioning of 18/20W Wall/Surface mouted 4 ft. LED	Each	1		1,336.38		1,336.38
5	**NSI-5**	Supply, Installation, Testing and Commissioning of 40W LED POST TOP LANTERN	Each	6		5,345.52		32,073.10
6	**NSI-6**	Supply, Installation, Testing and Commissioning of 40W LED GATE LIGHT	Each	3		5,345.52		16,036.55
7	**NSI-7**	Supply, Installation, Testing and Commissioning of 12/9W Recessed mounted LED circular Downlighter.	Each	0		1,069.10		-
8	**NSI-8**	Supply, Installation, Testing and Commissioning of 9W (Nominal) Wall Bracket Light	Each	1		222.73		222.73
9	**DSR 1.21**	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019),THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	Each	1	2,730.00		2,730.00	-
10	**NSI-9**	Supply Installation, Testing and Commissioning of 250 mm dia Domestic Exhaust Fan	Each	0		2,260.41		-
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - II					**2,730.00**	**49,668.75**

		SUBHEAD - III - DISTRIBUTION BOARDS						
1	**DSR 2.3**	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)						
1.1	**DSR 2.3.1**	6 way, Double door	Each	0	2206		-	
1.2	**DSR 2.3.2**	8 way, Double door	Each	0	2573		-	
1.3	**DSR 2.3.3**	12 way, Double door	Each	1	2315		2,315.00	
2	**DSR 2.4**	Supplying and fixing following way, three pole and neutral, sheet steel, MCB distribution board, 415 volts, on surface/ recess complete with tinned copper busbar, neutral busbar, earth bar, din bar, detachable gland plate, interconnections, phosphatized and powder painted including earthing etc. as required. (But without MCB/ RCCB/ Isolator)						
2.1	**DSR 2.4.1**	4 way (4 + 12), Double door	Each	0	4,091.00		-	
2.2	**DSR 2.4.2**	6 way (4 + 18), Double door	Each	0	4,974.00		-	
2.3	**DSR 2.4.3**	8 way (4 + 24), Double door	Each	0	5,967.00		-	
3	**DSR 2.5**	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note :Vertical type MCB TPDB is normally used where 3 phase outlets are required.)						
3.1	**DSR 2.5.3**	12 way (4 + 36), Double door	Each	0	12833		-	
4	**DSR 2.10**	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "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.						
4.1	**2.10.1**	Single Pole	Each	8	256		2,048.00	
4.2	**2.10.2**	Single Pole Neutral	Each	0	599		-	
5	**DSR 2.12**	Supplying and fixing following rating, double pole, 240 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
5.1	**DSR 2.12.1**	40 A	Each	1	435		435.00	
5.2	**DSR 2.12.2**	63 A	Each	0	527		-	
6	**DSR 2.13**	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
6.1	**DSR 2.13.1**	25 A	Each	0	970		-	
6.1	**DSR 2.13.1**	40 A	Each	0	970		-	
6.2	**DSR 2.13.2**	63 A	Each	0	1034		-	
7	**DSR 2.14**	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
7.1	**DSR 2.14.1**	25 A	Each	0	2028		-	
7.2	**DSR 2.14.2**	40 A	Each	1	2642		2,642.00	
7.3	**DSR 2.14.3**	63 A	Each	0	2722		-	
8	**DSR 2.11**	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	2	13		26.00	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - III					**7,466.00**	**-**

Construction of Phase-A works at JNV Cooch Behar(WB)						
FOOTPATH 2.00 MT. WIDE						
Sl. No.	**DESCRIPTION OF ITEM**	**DSR-2021**	**QTY**	**UNIT**	**RATE (In Rs.)**	**AMOUNT On DSR (In Rs.)**
1.	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-incharge					
	all kinds of soil	2.6.1	114.95	Cum	205.45	23,617.30
2	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering. All work upto plinth level.					
	1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	4.1.10				
			109.88	Cum	6050.65	664,860.55
3	Providing and laying 60mm thick faciory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction, of approved s;ze, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with line sand etc. all complete as per the direction of Engineer-in-charge.					
		16.68	1127.00	Sqm	951.00	1,071,777.00
4	Providing and laying at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), ncluding making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).	16.69	76.07	Cum	8613.55	655,254.28
5	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	13.62.1	169.05	Sqm	191.40	32,356.17
6	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.	2.25a				
			219.77	Cum	368.65	81,016.37

Sl. No.	DESCRIPTION OF ITEM	DSR-2021	QTY	UNIT	RATE (In Rs.)	AMOUNT On DSR (In Rs.)
7	Filling available excavated earth (excluding rock) in trenches, plinth, sides of oundations 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.	2.25				
			13.52	Cum	253.95	3,434.42
8	Centering and shuttering including strutting, propping etc. and removal of form for all heights :					
a	Foundations, footings, bases of columns, etc. for mass concrete.	5.9.1				
			180.32	Sqm	307.95	55,529.54
					Total=	**2,587,845.63**
					Say in Lacs	**25.88**

Construction of Phase-A works at JNV Cooch Behar(WB)						
FOR BITUMENUS ROAD FOR 3.50 Mt. WIDE						
S. N.	**DESCRIPTION OF ITEM**	**DSR-2021**	**QTY**	**UNIT**	**RATE**	**AMOUNT**
1.	Preparation of subgrade by excavating earth to an average of 22.5 cm depth, dressing to camber consolidating with road roller including making good the undulations etc. and disposal of surplus earth lead upto 50 meters.	16.1	3036.000	Sqm.	180.50	547,998.00
2.	Supplying and stacking of graded stone aggregate at site of size range					
(a)	90mm to 45 mm (As per CPWD specification qty. of metal required for 10cm thick WBM = 1.28 cum/10 Sqm.)	16.3.1	247.300	CUM	1937.60	479,168.48
(b)	63mm to 45 mm (As per CPWD specification qty. of metal required for 7.5cm thick WBM = 0.96 cum / 10 Sqm.)	16.3.2	185.470	CUM	1624.50	301,296.02
3.	Laying water bound macadam with specified stone aggregate stone screening and blinding material including screening, sorting, spreading to template and consolidation with power road roller of 8 to 10 ton capacity etc. complete (payment for stone aggregate, screenings, kankar, moorum and red bajri etc. to be made seperately):					
(a)	Subbase with stone aggregate 90mm to 45mm including stone screening 13.2mm size.	16.4	193.200	CUM	865.80	167,272.56
(b)	Base course with 63mm to 45mm size including stone screening 13.2mm size.	16.4	144.900	CUM	865.80	125,454.42
4.	Supplying and stacking of stone screenings / chippings at site					
(a)	13.2mm nominal size (Type-A) For sub base with stone aggregate 90mm to 45mm (As per CPWD specification qty. of screening required for 10cm thick WBM = 0.30 cum/10 Sqm.	16.3.6	57.960	CUM	1865.00	108,095.40
(b)	For base course with 63mm to 45mm size (As per CPWD specification qty. of screening required for 7.5cm thick WBM = 0.15 cum/10 Sqm.	16.3.7	28.980	CUM	2065.70	59,863.99
5.	Supplying and stacking of red bajri at site					
(a)	For sub base with stone aggregate 90mm to 45mm (As per CPWD specification qty. of screening required for 10cm thick WBM = 0.10 cum/10 Sqm.	16.3.8	19.320	CUM	1557.25	30,086.07
(b)	For base course with 63mm to 45mm size (As per CPWD specification qty. of screening required for 7.5cm thick WBM = 0.09 cum/10 Sqm.	16.3.10	17.390	CUM	888.30	15,447.54
6.	2.5 cm premix carpet carpet surfacing with 2.25cum and 1.12 cum. Of stone chippings of 13.2mm and 11.2mm size respectively per 100 sqm. And 52 kg. and 56kg. of hot bitumen per cum. of stone chippings of 13.2mm and 11.2mm size respectively including a tack coat with hot straight run bitumen including consolidation with road roller of 6 to 9 ton capacity etc. complete (tack coat to be paid for seperately)					
(a)	With paving asphalt 80/100 heated and then mixed with solvent at the rate of 70 grams per kg. of asphalt	16.33.1	1932.000	Sqm.	227.00	438,564.00

S. N.	DESCRIPTION OF ITEM	DSR-2021	QTY	UNIT	RATE	AMOUNT
7.	Providing and laying at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).	16.69	74.520	Cum	8613.55	641,881.75
8.	Providing and applying tack coat using hot straight run bitumen of grade 80/100 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.					
(a)	On W.B.M. @ 0.75 Kg/Sqm.	16.30.1	1932.000	Sqm.	45.20	87,326.40
9.	Providing and laying seal coat of premixed fine aggregate (passing 2.36mm and retained on 180 micron sieve) with bitumen using 128 Kg. of bitumen of grade 80 / 100 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.	16.40	1932.000	Sqm.	79.85	154,270.20
10.	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.	2.25(a)	386.400	Cum	368.65	142,446.36
					Total	**3,299,171.17**
					Say in lacs	**32.99**

Construction of Phase-A works at JNV Cooch Behar(WB)

Abstract of cost for providing of sport complex

Sl. No.		Description	No	Qty.	Unit	Rates	Total DSR-2021	Total Non DSR
1	16.1	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm depth, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earthwith lead upto 50 metres.	1	2400.00	Sqm	180.50	433,200.00	
							-	
2	16.3.2	Supplying and stacking at site 63 mm to 45 mm size stone aggregate	1	180.00	cum.	1624.50	292,410.00	
3	16.3.3	Supplying and stacking at site 53 mm to 22.4 mm size stone aggregate	1	180.00	cum.	1,837.25	330,705.00	
4	16.3.6	Supplying and stacking at site Stone screening 13.2 mm nominal size (Type A)	1	120.00	cum.	1,865.00	223,800.00	
5	16.3.7	Supplying and stacking at site Stone screening 11.2 mm nominal size (Type B)	1	120.00	cum.	2,065.70	247,884.00	
6	16.3.8	Supplying and stacking at site Red bajri	1	120.00	cum.	2,065.70	247,884.00	
7	16.3.10	Supplying and stacking at site Moorum	1	120.00	cum.	888.30	106,596.00	
8	16.4	Laying, spreading and compacting stone aggregate of specified sizes to WBM pecifications in uniform thickness, hand picking, rolling with 3 wheeled road/vibratory roller 8-10 tonne capacity in stages to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required densi						
		qty same item No.16.3.2		180.00				
		qty same item No.16.3.3		180.00				
		qty same item No.16.3.6		120.00				
		qty same item No.16.3.7		120.00				
		qty same item No.16.3.8		120.00				
		qty same item No.16.3.10		120.00				
				840.00	cum.	865.80	727,272.00	
9		ACRYLIC FLOORING CONSISTING OF 8 LAYERS SYSTEMS: Specifications: a) 1 layer of re-surfacer b) 5 layers of Cushion c) 2 layers of color Line marking as per international standards	2	1080.00	Sqm	753.20		813,456.00
10		Hand Operated Hydraulic Moveable Basketball System with 20 mm thick. Transparent Acrylic board wtih Double Die made frame Aluminium Anodized with built in brackets for mounting, Dunking Rims, 3.2 mtrs Proejction From the Base pole, Special non marking wheels, Hand operated Hydraulic System for East lifting and bringing down the Backboard in a folded position as shown in the picture, System as per BFI Specifications.	1	1.00	Pair	630,000.00		630,000.00
11		HANDBALL GOAL POST POLES (MOVEABLE): Handball Goal Post size (3 Mtrs width 2 MTRs Ht.) Front Fascia of 80 mm Diameter of M.S. Pipe 3.2 mm + 0.1 mm Wall thickness, with Rear Pipes of 40/mm Dia with Hooks for holding Nets at the rear along with wheels. All Premiered & Painted along with Handball net (Heavy Duty).	1	1.00	Pair	34,200.00		34,200.00
12		Volleyball poles Basic model with over lapping system for height adjustment. Volleyball Net Plastic Coated Steel Ware Net . Antenna for (Volley Ball Poles) Fiberglass, Detachable.	1	1.00	Pair	25,200.00		25,200.00
13		Volleyball poles Basic model with over lapping system for height adjustment. Volleyball Net Plastic Coated Steel Ware Net . Antenna for (Volley Ball Poles) Fiberglass, Detachable.	1	1.00	Pair	25,200.00		25,200.00
14		Line Marking of Badminton Court on Kota stone flooring, as per international rules with Paint (Asian, Berger or Equivalent)	1	1.00	Job	15,000.00		15,000.00
15		Installation Charges	1	1.00	Job	20,000.00		20,000.00
16	DSR-16.71	Providing and fixing G.I. chain link fabric fencing of required width in mesh size 25x25 mm made of G.I. wire of dia 3 mm including strengthening with 2 mm dia wire or nuts, bolts and washers as required complete as per the direction of Engineer-in-charge.	A	E				
		E=[A*(B+C)*2*D]	1	624.00	SQM	971.90	606,465.60	
						Total	**3,216,216.60**	**1,563,056.00**
						Say in lacs	**32.16**	**15.63**

Construction of Phase-A works at JNV Cooch Behar(WB)										
200 M RUNNING TRACK										
Sl. No.	**DSR-2021**	**Description of Item**	**No**	**L**	**B**	**H**	**Qty.**	**Unit**	**Rate (In Rs.)**	**Amount On DSR-21 (In Rs.)**
	For One No. PLAY GROUND (Size = 97.50x55.00Mtr)									
1	2.25a	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.								
			1	97.50	55.00	0.30	1608.75			
						Total	1608.75	Cum	368.65	593,065.69
									Total Cost Rs.	**593,065.69**
									Say in Lacs	**5.93**

Construction of Phase-A works at JNV Cooch Behar(WB)						
CUTTING & FILLING						
S NO	**DESCRIPTION**	**DSR-2021**	**QTY**	**Unit**	**RATE**	**AMOUNT (In Rs.)**
1	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed.	2.6				
	total cutting (all kinds of soil)	2.6.1	1202.00	cum	205.45	246,950.90
2	Banking excavated earth in layers not exceeding 20 cm in depth, breaking clods, watering, rolling each layer with ½ tonne roller, or wooden or steel rammers, and rolling every 3rd and top-most layer with power roller of minimum 8 tonnes and dressing up, in embankments for roads, flood banks, marginal banks, and guide banks etc., lead upto 50 m and lift upto 1.5 m :	2.3				
	all kinds of soil	2.3.1	180.30	cum	543.40	97,975.02
	Quantity @15% of total qty of filling (i.e-road area)					
3	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.					
	Toal QUANTITY OF Cutting @50%	2.25	601.00	cum	253.95	152,623.95
4	Spreading of sludge, dump manure and/or good earth in required thickness as per direction of officer-in-charge (cost of sludge, dump manure and/ or good earth to be paid separately).					
	QUANTITY OF Cutting @50%	Horticulture / 2.8	601.00	cum	46.15	27,736.15
5	Excavating, supplying and filling of local earth (including royalty)by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.	2.25a	4936.50	cum	368.65	1,819,840.73
					TOTAL AMOUNT (Rs.)	**2,345,126.75**
					TOTAL AMOUNT (lacs.)	**23.45**

Construction of Phase-A works at JNV Cooch Behar(WB)							
FOR WATER SUPPLY							
S. No	DSR-2021	DESCRIPTION	UNIT	TOTAL QTY	DSR-2021	NON-DSR	AMOUNT
	SUB HEAD (I) :- EXTERNAL WATER SUPPLY PIPES AND FITTINGS						
	SECTION I	DISTRIBUTION NETWORK FOR FRESH WATER SUPPLY					
1	18.12	Providing and fixing **G.I. pipes** complete with G.I. fittings including trenching and refilling etc.					
		External work					
	18.12.2	20 mm dia nominal bore	metre	0.00	315.35		-
	18.12.3	25 mm dia nominal bore	metre	228.00	417.95		95,292.60
	18.12.4	32 mm dia nominal bore	metre	211.50	457.70		96,803.55
	18.12.5	40 mm dia nominal bore	metre	160.00	558.35		89,336.00
	18.12.6	50 mm dia nominal bore	metre	171.50	654.20		112,195.30
	18.12.7	65 mm dia nominal bore	metre	74.50	768.60		57,260.70
	18.12.8	80 mm dia nominal bore	metre	157.50	919.10		144,758.25
2	18.40	Painting G.I. pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality :					
	18.40.2	20 mm diameter pipe	metre	0.00	12.00		-
	18.40.3	25 mm diameter pipe	metre	228.00	15.25		3,477.00
	18.40.4	32 mm diameter pipe	metre	211.50	18.40		3,891.60
	18.40.5	40 mm diameter pipe	metre	160.00	20.95		3,352.00
	18.40.6	50 mm diameter pipe	metre	171.50	25.25		4,330.38
	18.40.7	65 mm diameter pipe	metre	74.50	31.30		2,331.85
	18.40.8	80 mm diameter pipe	metre	157.50	36.40		5,733.00
	18.41	Providing and filling sand of grading zone V or coarser grade alround the GI pipes in external work.					
	18.41.2	20mm dia nominal bore	metre	0.00	159.85		-
	18.41.3	25mm dia nominal bore	metre	228.00	164.10		37,414.80
	18.41.4	32mm dia nominal bore	metre	211.50	168.35		35,606.03
	18.41.5	40mm dia nominal bore	metre	160.00	170.50		27,280.00
	18.41.6	50 mm diameter pipe	metre	171.50	176.90		30,338.35
	18.41.7	65 mm diameter pipe	metre	74.50	279.20		20,800.40
	18.41.8	80 mm diameter pipe	metre	157.50	287.70		45,312.75
3	18.59	Providing and fixing **C.I. double acting air valve** of approved quality with bolts, nuts, rubber insertions etc. complete (The tail pieces, tapers etc if required will be paid separately) :					
	18.59.1	50 mm dia	Each	4.00	5171.75		20,687.00

	18.59.2	80 mm dia	Each	4.00	6255.45		25,021.80
4	18.17	Providing and fixing **gun metal gate valve with C.I. wheel** of approved quality (screwed end) :					
	18.17.1	25 mm nominal bore	Each	16.00	532.35		8,517.60
	18.17.2	32 mm nominal bore	Each	16.00	589.90		9,438.40
	18.17.3	40 mm nominal bore	Each	18.00	707.30		12,731.40
	18.17.4	50 mm nominal bore	Each	16.00	878.25		14,052.00
	18.17.5	65 mm nominal bore	Each	12.00	1490.70		17,888.40
	18.17.6	80 mm nominal bore	Each	6.00	2227.60		13,365.60
5	4.1.3	1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	Cum	10.00	7365.15		73,651.50
6	18.46	Providing and fixing **G.I. Union** in GI pipe including cutting and threading the pipe and making long screws etc. complete(New work)					
	18.46.3	25 mm nominal bore	Each	16.00	369.35		5,909.60
	18.46.4	32 mm nominal bore	Each	16.00	409.45		6,551.20
	18.46.5	40 mm nominal bore	Each	18.00	523.20		9,417.60
	18.46.6	50 mm nominal bore	Each	16.00	706.70		11,307.20
	18.46.7	65 mm nominal bore	Each	12.00	994.35		11,932.20
	18.46.8	80 mm nominal bore	Each	6.00	1061.25		6,367.50
7	19.19	Providing and fixing in position pre-cast **R.C.C. manhole cover and frame** of required shape and approved quality					
	19.19.1	LD- 2.5					
	19.19.1.1	Rectangular shape 600*450 mm internal dimensions	Each	36.00	1255.25		45,189.00
8	18.32	Constructing masonry **gate valve Chamber 30x30x50 cm** inside, in brick work in cement mortar 1:4 (1 cement :4 coarse sand) for stop cock, with C. I. surface box 100x100 x75 mm (inside) with hinged cover fixed in cement concrete slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12mm thick, finished with a floating coat of neat cement complete as per standard design :					
	18.32.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	Each	30.00	1712.15		51,364.50

9	18.33	Constructing masonry **Chamber 60x45x50 cm inside**, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for water meter complete with C.I. double flap surface box 400x200x200 mm (inside) with locking arrangement and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) , i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand:10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :					
	18.33.1	with common burnt clay F.P.S.(non module) brick of class designation 7.5	Each	20.00	10102.50		202,050.00
		TOTAL SECTION (I)					**1,360,957.05**
		Say in Lacs					**13.61**

Construction of Phase-A works at JNV Cooch Behar(WB)

FOR BOREWELL

S.NO.	DSR 2021 /NDSR	DESCRIPTION OF ITEMS	UNIT	QTY	RATE DSR	AMOUNT	
						DSR	MR
	SUB HEAD (I) :- EXTERNAL WATER SUPPLY PIPES AND FITTINGS						
1	23.1	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 of Engineer -in-charge, up to 90 metre depth below ground level.					
	23.1.1	All Types of Soil					
	23.1.1.2	350mm dia	Metre	30.0	560.3	16,809.00	
	23.1.2	Rocky strata including Boulders					
	23.1.2.2	350mm dia	Metre	90.0	1,293.80	116,442.00	
2	23.2	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 of Engineer -in-charge, beyond 90 metre & upto 150 metre depth below ground level.					
	23.2.2	Rocky strata including Boulders					
	23.2.2.2	350mm dia	Metre	30.0	1,411.75	42,352.50	
3	**23.10**	Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 mild steel screwed and socketed/ plain ended casing pipes of required dia, conforming to IS: 4270, of reputed & approved make, including painted with outside surface with two coats of anticorrosive paint of approved brand and manufacture, including required hire & labour charges, fittings & accessories, all complete, for all depths, as per direction of Engineer-in-charge.					
	23.10.1	100 mm nominal size dia having minimum wall thickness 5.00 mm	Metre	120.0	1,187.95	142,554.00	
4	**23.11**	Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 plain slotted (having slot of size 1.6/3.2 mm) mild steel threaded and socketed/ plain bevel ended pipe (type A) of required dia, conforming to IS: 8110, of reputed and approved make, having wall thickness not less than 5.40 mm, including painted with outside surface with two coats of anticorrosive bitumestic paint of approved brand and manufacture, including hire & labour charges, fittings & accessories, all complete, for all depths, as per direction of Engineer -in-charge.					
	23.11.1	100 mm nominal size dia	Metre	30.0	1,268.75	38,062.50	
5	23.5	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	10.0	1,326.55	13,265.50	
6	23.6	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	20.0	1,326.55	26,531.00	
7	23.8	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.	cum	10.0	1,797.70	17,977.00	
8	23.12	Development of tube well in accordance with IS : 2800 (part I) and IS: 11189, to establish maximum rate of usable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by "V" notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water samples & getting tested in approved laboratory, i/c disinfection of tubewell, all complete, including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in-charge.	Hr.	168.0	857.60	144,076.80	
9	**23.13**	Providing and fixing suitable size threaded mild steel cap or spot welded plate to the top of bore well housing/ casing pipe, removable as per requirement, all complete for borewell of:					
	23.13.1	100 mm dia	Each	1.0	189.65	189.65	
10	23.14.3	Providing and fixing M.S. clamp of required dia to the top of casing/ housing pipe of tubewell as per IS: 2800 (part I), including necessary bolts & nuts of required size complete.					

		200 mm clamp.	Each	1.0	1,691.15	1,691.15	
11	23.15.3	Providing and fixing Bail plug/ Bottom plug of required dia to the bottom of pipe assembly of tubewell as per IS:2800 (part I).					
		200 mm dia	Each	1.0	307.75	307.75	
12	Based on E &M 2018 16.11.2	Providing & fixing of following sizes of CI non return valve conforming to API-594 with C.I. body, SS Disc, SS stem, EPDM seal, complete with companion flanges, bolts, nuts, washers & inserted rubber gasket complete as required and as per enclosed specification.					
	16.11.2.4	100 mm dia	Each	1.0	4,581.00	4,581.00	
13	**NDSR**	Supplying & installation submersible pumping motor pumpsets making connection suitable for tube-well/D.C.B. The job includes screwing and welding of flanges on G.I. riser pipes (65 mm dia minimum) installation, complete fittings accessories with riser pipes jointing of electrical cables other connections making switch board electrical connections, all labour for testing of submersible pump and supply of water to water mains complete in all respects					
		Discharge 250 LPM.					
		Head 120 m					
		HP/Load 7.5 (Approx)	Each	1.0	163,780.00		163,780.00
14	**NDSR**	Provding and fixing heavy duty 65mm G.I. pipe confiming to IS. 1239 upto 150 mm and IS 3589 for dia 200 mm and above with reducers, tees, flanges, elbow, crosses, union etc. and fixing the pipes on wall / ceiling / beam / floor including Clamping/Supporting the same, including painting with 2 coats of synthetic enamel paint as per the site requirement and shall be duly painted with two coats of approved quality synthetic enamel paint & shade over a readymix primer coat complete as required & as per directions of the engineer-in-charge for the following sizes:	Mtr.	150.0	1,050.00		157,500.00
		TOTAL OF SUB HEAD (I) - BOREWELL (1 Nos.)				**564,839.85**	**321,280.00**
					Say in lacs	**5.65**	**3.21**

Construction of Phase-A works at JNV Cooch Behar(WB)							
FOR WATER SUPPLY							
S. No	**DSR-2021**	**DESCRIPTION**	**UNIT**	**TOTAL QTY**	**DSR-2021**	**NON-DSR**	**AMOUNT**
9	**NDSR-1**	**Domestic Water Supply Submersible Pump**					
		Supply, installation, testing and commissioning of continuous duty submersible centrifugal non-clogging Water supply pumps to be placed in the underground water storage tank, complete with 3 phase motor with all necessary protection and mechanical seal etc. complete with all ancillaries including float type level controllers, electrical control panels (weather proof-IP67) fabricated from 14 gauge CRCA sheet volt meter ammeter with selector switch, TPMCB, 5 VA CL : CTs, phase indicating lamps protected by 2 amp SP MCB, DOL starter, necessary wiring, cable alleys, earthing, interlocking, starter with Automatic float type level controller, providion of high level alarm, sequence timer, potential free contact to starter for connection to BAS, both pumps may run simultaneously at pre determind level complete with electrical panel.					
		MOC: Body, Impellar and casing complete in SS 304 (Solid Handling of 20-25mm)					
		DOMASTIC WATER TRANSFER PUMPS FOR OHT TANK FILLING					
		No. of Pumps: 1 (1 Working + 1 Stand by)					
		Capacity : 200lpm					
		Head : 35m					
			Set	1.00		235,000.00	235,000.00
						TOTAL SECTION (I)	**235,000.00**
						Say in Lacs	**2.35**

Construction of Phase-A works at JNV Cooch Behar(WB)						
FOR SEWERAGE SYSTEM						
S. No	**DSR-2021**	**DESCRIPTION**	**UNIT**	**TOTAL QTY**	**RATE**	**AMOUNT**
	SUB HEAD (I) :- EXTERNAL SEWERAGE SYSTEM					
1	2.10	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :				
	2.10.1	All kinds of soil				
	2.10.1.2	Pipes, cables etc. exceeding 80 mm dia but not exceeding 300 mm dia	metre	1088.50	417.35	454,285.48
2	2.11	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).	metre	466.50	127.00	59,245.50
		250 mm dia. R.C.C. pipe				
3	19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				
	19.6.2	150 mm dia. R.C.C. pipe	metre	622.00	493.10	306,708.20
	19.6.3	250 mm dia. R.C.C. pipe	metre	466.50	811.15	378,401.48
4	4.1.10	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shttering - All work up to plinth level 1:5:10 (1 cement : 5 coarse sand (zone-III): 10 graded stone aggregate 40 mm nominal size).				
		150 mm diameter S.W.Pipe (LX0.350X0.10)	metre	21.77	6050.65	131,722.65
		250 mm diameter S.W.Pipe (LX0.450X0.10)	metre	20.99	6050.65	127,003.14

S. No	DSR-2021	DESCRIPTION	UNIT	TOTAL QTY	RATE	AMOUNT
5	19.7	Constructing **brick masonry manhole** in cement mortar 1 : 4 (1 cement : 4 coarse sand) with RCC top slab with 1 : 2 : 4 mix (1 cement : 2 coarse sand : 4 grade stone aggregate 20mm nominal size); foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size) inside plastering 12 mm thick with cement mortar 1:3 (1cement 3 coarse sand) finished with a floating coat of neat cement and making channels in cement concrete 1:2:4 (1cement : 2 coarse sand: 4 graded stone aggregate 20 mm nominal size) finishd with a floating coat of neat cement complete as per standard design				
	19.7.1	Inside size **90 x 80 cm & 45 cm** deep including CI cover with frame (light duty) 455 x 610mm internal dimensions, total weight of cover & frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg)				
	19.7.1.1	With common burnt clay F.P.S.(non modular) bricks of classic designation 7.5	each	45.00	11687.10	525,919.50
6	19.8	**Extra for depth** for manholes:				
	19.8.1	size 90 X 80 cm				
	19.8.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	metre	13.50	8127.45	109,720.58
7	19.9	Constructing Brick Masonry circular type manhole 0.91 m internal dia at bottom and 0.56m dia at top with FPS bricks class designation 75 in cement mortar 1:4 (1 cement : 4 Coarse sand), inside cement plaster 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size) and making necessary channel in Cement Concrete 1:2:4 (1 Cement : 2 Coarse Sand : 4 Graded Stone Aggregate 20mm nominal size) finished with a floating coat of neat cement complete as per standard design.				
	19.9.1	0.91m deep with SFRC cover and frame (heavy duty HD-20 grade designation) 560mm internal diameter conforming to I.S:12592, total weight of cover and frame to be not less than 182Kg. fixed in cement concrete 1:2:4 mix (1cement: 2 coarse sand: 4 graded stone aggregate 20mm nominal size) including centering, shuttering all complete.(Excavation foot rests and 12mm thick cement plaster at the external surface shall be paid for separately)				
	19.9.1.1	with common burnt clay F.P.S.(non module) brick of class designation 7.5	Each	37	11886.45	439,798.65
8	19.10	Extra depth for circuler type manholes 0.91 m internal dia (at bottom) beyond 0.91m to 1.67 m .				
	19.10.1	with common burnt clay F.P.S.(non module) brick of class designation 7.5	Meter	11	6986.80	77,553.48

S. No	DSR-2021	DESCRIPTION	UNIT	TOTAL QTY	RATE	AMOUNT
9	19.11	Constructing Brick Masonry circular type manhole 1.22 m internal dia at bottom and 0.56m dia at top with FPS bricks class designation 75 in cement mortar 1:4 (1 cement : 4 Coarse sand), inside cement plaster 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size) and making necessary channel in Cement Concrete 1:2:4 (1 Cement : 2 Coarse Sand : 4 Graded Stone Aggregate 20mm nominal size) finished with a floating coat of neat cement complete as per standard design.				
	19.11.1	1.68m deep with SFRC cover and frame (heavy duty HD-20 grade designation) 560mm internal diameter conforming to I.S:12592, total weight of cover and frame to be not less than 182Kg. fixed in cement concrete 1:2:4 mix (1cement: 2 coarse sand: 4 graded stone aggregate 20mm nominal size) including centering, shuttering all complete.(Excavation foot rests and 12mm thick cement plaster at the external surface shall be paid for separately)				
	19.11.1.1	with common burnt clay F.P.S.(non module) brick of class designation 7.5	Each	7	21235.65	148,649.55
10	19.12	Extra depth for circuler type manholes 1.22 m internal dia (at bottom) beyond 1.68m to 2.29 m .				
	19.12.1	with common burnt clay F.P.S.(non module) brick of class designation 7.5	Meter	4	8368.40	35,147.28
11	19.13	Constructing Brick Masonry circular type manhole 1.52 m internal dia at bottom and 0.56m dia at top with FPS bricks class designation 75 in cement mortar 1:4 (1 cement : 4 Coarse sand), inside cement plaster 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size) and making necessary channel in Cement Concrete 1:2:4 (1 Cement : 2 Coarse Sand : 4 Graded Stone Aggregate 20mm nominal size) finished with a floating coat of neat cement complete as per standard design.				
	19.13	Constructing brick masonry circular manhole 1.52 m internal dia at bottom and 0.56 m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand) inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :				

S. No	DSR-2021	DESCRIPTION	UNIT	TOTAL QTY	RATE	AMOUNT
	19.13.1	2.30m deep with SFRC cover and frame (heavy duty HD-20 grade designation) 560mm internal diameter conforming to I.S:12592, total weight of cover and frame to be not less than 182Kg. fixed in cement concrete 1:2:4 mix (1cement: 2 coarse sand: 4 graded stone aggregate 20mm nominal size) including centering, shuttering all complete.(Excavation foot rests and 12mm thick cement plaster at the external surface shall be paid for separately)				
	19.13.1.1	with common burnt clay F.P.S.(non module) brick of class designation 7.5	Each	28	45459.15	1,272,856.20
12	19.14	Extra depth for circuler type manholes 1.52 m internal dia (at bottom) beyond 2.30m .				
	19.14.1	with common burnt clay F.P.S.(non module) brick of class designation 7.5	Meter	17	19514.30	327,840.24
13	19.4	Providing and fixing square mouth **S. W. Gully trap** class SP-1 complete with C.I. grating brick masonry chamber with water tight CI cover with frame of 300 x 300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design				
	19.4.3	180 x 150 mm. size P type				
	19.4.3.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	each	65.00	2534.00	164,710.00
14	19.15	Providing **M.S. foot rests** including fixing in manholes with 20x20x10 cm cement concrete blocks 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) as per standard design :				
	19.15.2	With 20 mm diameter round bar	each	254.00	420.00	106,680.00
					TOTAL	**4,666,241.92**
					Say in Lacs	**46.66**

Construction of Phase-A works at JNV Cooch Behar(WB)						
FOR 250 MM WIDE SURFACE DRAIN (150MM AVERAGE DEPTH)						
Sl. No.	**DESCRIPITION OF ITEM**	**DSR-2021**	**QTY.**	**UNIT**	**RATE (In Rs.)**	**AMOUNT (In Rs.)**
	Take 1.00 Mtr Length					
1	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.					
	all kinds of soil	2.6.1				
			331.63	cum	205.45	68,133.38
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 up to 1.5 m.	2.25				
	Qty. = 25% of them no 1		79.590	cum	253.95	20,211.88
3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shttering - All work up to plinth level 1:5:10 (1 cement : 5 coarse sand (zone-III): 10 graded stone aggregate 40 mm nominal size).	4.1.10				
			119.39	cum	6050.65	722,387.10
4	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shttering - All work up to plinth level 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	4.1.3				
			39.80	cum	7365.15	293,132.97
5	Centering and shuttering including strutting, propping etc. and removal of form for all heights :					
	Foundations, footings, bases of columns, etc. for mass concrete	5.9.1	265.30	Sqm	307.95	81,699.14
6	Brick work with F.P.S. bricks of class designation 75 in foundation and plinth in :Cement mortar 1:6 (1 cement : 6 coarse sand)					
		6.1.2				
			92.86	Cum	6658.25	618,285.10
7	12 mm cement plaster finished with a floating coat of neat cement of mix :	13.7				
	1:4 (1 cement: 4 fine sand)	13.7.2				
			1008.14	Sqm	361.30	364,240.98
			0.00			
8	Neat cement punning	13.18				
			1339.77	Sqm	67.80	90,836.41
					Total :-	**2,258,926.96**
					Say in Lacs	**22.59**

Construction of Phase-A works at JNV Cooch Behar(WB)							
CONSTRUCTION OF 300 MM WIDE BRICK DRAINS							
							DRAIN -1
		L	**B**	**Av. Depth**			
A	**DRAIN SIZE**	**401.50**	**0.300**	**X**	**0.300**		
S.No.	**Description of Item**	**DSR 2021**	**Measurement No.**	**Qty.**	**Unit**	Rate	**Amount**
1	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-incharge. **All kinds of soil**						
	Lvl 0.00 to 1.5	2.6.1	1	**169.59**	**Cum**	205.45	34,842.27
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.	2.25		**50.88**	**Cum**	253.95	12,920.98
	@ 30% of Item No. 1						-
3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shttering - All work up to plinth level 1:5:10 (1 cement : 5 coarse sand (zone-III): 10 graded stone aggregate 40 mm nominal size).	4.1.10	1	**38.54**	**Cum**	6050.65	233,192.05
4	Brick work with F.P.S. bricks of class designation 75 in foundation and plinth in :Cement mortar 1:6 (1 cement : 6 coarse sand)						-
	Wall	6.1.2	2	55.41			-
				55.41	**Cum**	**6658.25**	368,933.63
5	"Providing and laying in position cement concrete of specified grade excluding the cost of centering and shttering - All work up to plinth level 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)"						-
	Wall	4.1.3	2	7.39			-
			1	4.82			
				12.21	**QTL**	7365.15	89,928.48
6	Centering and shuttering including strutting, propping etc. and removal of form for						-
(i)	Foundations, footings, bases of columns, etc. for mass concrete	5.9.1	2	80.30			-
				80.30	**Sqm**	307.95	24,728.39
7	12 mm cement plaster finished with a floating coat of neat cement of mix :	**13.7**	2	184.69	Sqm		
	1:4 (1 cement: 4 fine sand)	**13.7.2**	2	240.90	"		
			1	120.45			
				546.04	**Sqm**	**361.30**	**197,284.25**
							-
						TOTAL	**961,830.05**
						Say in lacs	**9.62**

Construction of Phase-A works at JNV Cooch Behar(WB)					
ABSTRACT OF COST FOR RAINWATER HARVESTING					
Sl. No	**DSR-2021**	**Description**	**Qty**	**Unit**	**Amount (In Rs.)**
A	Analysis	COST OF RAIN WATER HARVESTING Disilting Chamber (4000x2000x2000) with Recharge Pit (2000x2000)			
		School Building	1.00		
		Boys Dormitory.	1.00		
		Type 3 Residence(3 Block), vice Principal resi.	1.00		
		Total	**3.00**	**Nos**	1,168,356.44
B	Analysis	COST OF RAIN WATER HARVESTING Disilting Chamber (2000x1000x1000) with Recharge Pit (1000x1000)			
		Kitchen Dining Hall	1.00		
		Type 2 Residence	1.00		
		Girls Dormitory	1.00		
		Total	**3.00**	**Nos**	660,720.94
				Total	**1,829,077.38**
				say in lacs	**18.29**

Construction of Phase-A works at JNV Cooch Behar(WB)

RAIN WATER HARVESTING, 3 Nos

	PIT DIA	1.00	MTR.			
	DEPTH	1.00	MTR.			
	DESILTING CHAMBER LENGTH	2.00	MTR.			
	DESILTING CHAMBER WIDTH	1.00	MTR.			
	DESILTING CHAMBER DEPTH	1.00	MTR.			
Sl. No.	**Description**	**DSR- 2021**	**Qty**	**Unit**	**Rate (In Rs.)**	**Amount (In Rs.)**
	PART A					
1	Excavation work by mechanical means (Hydraulic excavator)/ manual means in foundation trenches or drains (not exceeding 1.5m 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 soils as directed, within a lead of 50 m.					
	all kinds soil	2.8.1	20.010	Cum	286.85	5,739.87
	In all kinds soil upto 1.5m to 3.0m. depth	2.8.1+ 2.26.1	20.010	Cum	391.35	7,830.91
	In all kinds soil upto 1.5m to 3.0m. depth	2.8.1+ 2*2.26.1	7.350	Cum	495.85	3,644.50
2	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering -All work up to plinth level:	4.1				
	1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	4.1.10	4.050	Cum	6,050.65	24,505.13
3	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:	6.1				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	6.1.2	22.680	Cum	6,658.25	151,009.11
4	Reinforced cement concrete work inbeams, suspended floors, roofs having slope up to 15º landings, balconies, shelves, chajjas, intels, bands plain window sills, staircases and spiral stair cases up to floor five level excluding the cost of centering, shuttering, finishing and reinforcement with 1:1.5:3 (1 cement :1.5 coarse sand :3 graded stone aggregate 20mm nominal size)	5.3	0.660	Cum	10,719.30	7,074.74
5	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.					
	Mild steel and Medium Tnsile steel bars.	5.22.1	66.000	Kg	88.95	5,870.70
6	Centring and shuttering including struting , proping etc and removal of form for :					
	Suspended floors, roofs, landings, balconies and access platform.	5.9.3	3.570	Sqm	766.55	2,736.58
7	Edges of slabs and breaks in floors and walls	5.9.16.1	11.580	Mtr	181.90	2,106.40
8	12 mm cement plaster on rough side of single or half brick wall mix	13.4				
	1:6 (1 cement : 6 coarse sand)	13.4.2	29.190	Sqm	294.35	8,592.08
9	Providing and fixing in position precast RCC manhole cover and frame of required shape and approved quality.					
	H.D. -20- Circular shape 560mm internal diameter	19.19.3.1	6.000	No.	1,494.20	8,965.20
10	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 of Engineer-in-charge, upto 90 metre depth below ground level.	23.1				
	All types of soil					
	300 mm dia	23.1.1.1	120.000	M	592.05	71,046.00

11	Supplying, assembling, lowering and fixing in vertical position in bore well unplasticized PVC medium well screen (RMS) pipes with ribs, conforming to IS: 12818, including hire & labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer-in-charge.	23.4				
	150 mm nominal size dia	23.4.2	120.000	M	681.90	81,828.00
12	Supplying, filling, spreading & leveling stone boulders of size range 5 cm to 20cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	23.5	1.170	cum	1,302.30	1,523.69
13	Supplying, filling, spreading & leveling gravels of size range 5 mm to 10mm, 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.	23.6	1.170	cum	1,309.00	1,531.53
14	Supplying, filling, spreading & leveling coarase sand of size range 1.5 mm to 2mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer-in-charge.	23.7	1.170	cum	1,309.00	1,531.53
15	Gravel packing in tubewell construction in accordance with IS: 4097, including providing gravel fine/medium/coarse, in required grading & size as per actual requirement, all complete as per direction of Engineer-in-charge.	23.8	3.000	Cum	1,479.25	4,437.75
	TOTAL [A]					**389,973.72**
	DESILTING CHAMBER					
1	Excavation work by mechanical means (Hydraulic excavator)/ manual means in foundation trenches or drains (not exceeding 1.5m 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 soils as directed, within a lead of 50 m.					
	all kinds soil	2.8.1	24.570	Cum	286.85	7,047.90
	In all kinds soil upto 1.5m to 3.0m. depth	2.8.1+ 2.26.1	11.460	Cum	391.35	4,484.87
2	Providing and laying in position cement concrete of specified grade excluding the ccost of centering and shuttering -All work up to plinth level:	4.1				
	1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	4.1.10	9.870	Cum	6,050.65	59,719.92
3	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:	6.1				
	Cement mortar 1:6 (1 cement : 6coarse sand)	6.1.2	14.400	Cum	6,658.25	95,878.80
4	Reinforced cement concrete work inbeams, suspended floors, roofs having slope up to 15º landings, balconies, shelves, chajjas, intels, bands plain window sills, staircases and spiral stair cases up to floor five level excluding the cost of centering, shuttering, finishing and reinforcement with 1:1.5:3 (1 cement :1.5 coarse sand :3 graded stone aggregate 20mm nominal size)	5.3	0.930	Cum	10,719.30	9,968.95
5	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.					
	Mild steel and Medium Tnsile steel bars.	5.22.1	93.000	Kg	88.95	8,272.35
6	Centring and shuttering including struting , proping etc and removal of form for :					
	Suspended floors, roofs, landings, balconies and access platform.	5.9.3	6.000	Sqm	766.55	4,599.30
7	Edges of slabs and breaks in floors and walls					
	Under 20 cm wide	5.9.16.1	23.520	Mtr	181.90	4,278.29
8	12 mm cement plaster on rough side of single or half brick wall mix	13.4				
	1:6 (1 cement : 6 coarse sand)	13.4.2	56.100	Sqm	294.35	16,513.04
9	Providing M.S. foot rests including fixing in manoholes with 20x20x10 cm cement concrete blocks 1:3:6 (1cement : 3 coarse sand : 6 graded stone aggregate 20mm nominal size) as per standard design:	19.15				
	With 20x20mm square bar	19.15.1	48.000	Nos.	461.35	22,144.80

10	Providing and fixing in position precast RCC manhole cover and frame of required shape and approved quality.					
	L D- 2.5 Rectangular shape 600x450mm internal dimensions .	19.19.1.1	6.000	No.	1,255.25	7,531.50
11	Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) , i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design : With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	18.33.1	3.000	No.	10102.50	30,307.50
	TOTAL [B]					**270,747.22**
	TOTAL -PART(A)+PART(B)					**660,720.94**

	Construction of Phase-A works at JNV Cooch Behar(WB)					
	RAIN WATER HARVESTING, 3 Nos					
	PIT DIA	2.0	MT.			
	DEPTH	2.0	MT.			
	DESILTING CHAMBER LENGTH	4.0	MT.			
	DESILTING CHAMBER WIDTH	2.0	MT.			
	DESILTING CHAMBER DEPTH	2.0	MT.			
S.N.	**Description**	**D.S.R. -2021**	**Qty.**	**Unit**	**Rate (Rs.)**	**Amount (Rs.)**
	PART A					
1	Earth work in excavation by mechanical means (Hydraulic excavation)/manual means over areas(exceeding 30cm in depth. 1.5m in width as well as 10sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed.					
a	upto 1.5m depth					
	all kinds soil	2.8.1	40.350	Cum	286.85	11,574.40
b	In all kind of soil upto 1.5m to 3.0m. depth					-
	all kinds soil	2.8.1+ 2.26.1	40.350	Cum	391.35	15,790.97
c	In all kind of soil upto 3.0m to 4.5m. depth					-
	all kinds soil	2.9.1+ 2*2.26.2	40.350	Cum	495.85	20,007.55
d	In all kind of soil upto 3.0m to 4.5m. depth					-
	all kinds soil	2.9.1+ 3*2.26.2	1.350	Cum	600.35	810.47
2	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering -All work up to plinth level: 1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	4.1				-
		4.1.10	4.410	Cum	6050.65	26,683.37
3	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:	6.1				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	6.1.2	39.420	Cum	6658.25	262,468.22
4	Reinforced cement concrete work inbeams, suspended floors, roofs having slope up to 15º landings, balconies, shelves, chajjas, intels, bands plain window sills, staircases and spiral stair cases up to floor five level excluding the cost of centering, shuttering, finishing and reinforcement with 1:1.5:3 (1 cement :1.5 coarse sand :3 graded stone aggregate 20mm nominal size)	5.3	1.890	Cum	10719.30	20,259.48
5	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.					
	Mild steel and Medium Tnsile steel bars.	5.22.1	189.000	Kg	88.95	16,811.55
6	Centring and shuttering including struting , proping etc and removal of form for :					
	Suspended floors, roofs, landings, balconies and access platform.	5.9.3	11.700	Sqm	766.55	8,968.64
7	Edges of slabs and breaks in floors and walls					
	Under 20 cm wide	5.9.16.1	11.310	Mtr	181.90	2,057.29
8	12 mm cement plaster on rough side of single or half brick wall mix	13.4				
	1:6 (1 cement : 6 coarse sand)	13.4.2	77.244	Sqm	294.35	22,736.77
			0.000			
9	Providing and fixing in position precast RCC manhole cover and frame of required shape and approved quality.					
	HD-20- Circular shape 560mm internal diameter	19.19.3.1	6.000	No.	1494.20	8,965.20

10	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 of Engineer-incharge, upto 90 metre depth below ground level.	23.1				
	Rockey strata including Boulders (300 mm dia	23.1.1.1	60.000	M	592.05	35,523.00
11	Supplying, assembling, lowering and fixing in vertical position in bore well unplasticized PVC medium well screen (RMS) pipes with ribs, conforming to IS: 12818, including hire & labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer-in-charge.	23.4				
	150 mm nominal size dia	23.4.2	60.000	M	681.90	40,914.00
12	Supplying, filling, spreading & leveling stone boulders of size range 5 cm to 20cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	23.5	4.710	cum	1,302.30	6,133.83
13	Supplying, filling, spreading & leveling gravels of size range 5 mm to 10mm, 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.	23.6	4.710	cum	1309.00	6,165.39
14	Supplying, filling, spreading & leveling coarase sand of size range 1.5 mm to 2mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer-in-charge.	23.7	4.710	cum	1309.00	6,165.39
15	Gravel packing in tubewell construction in accordance with IS: 4097, including providing gravel fine/medium/coarse, in required grading & size as per actual requirement, all complete as per direction of Engineer-in-charge.	23.8	3.000	Cum	1479.25	4,437.75
	TOTAL [A]					**516,473.27**
	DESILTING CHAMBER					
1	Earth work in excavation by mechanical means (Hydraulic excavatior)/manual means over areas(exceeding 30cm in depth. 1.5m in width as well as 10sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed.					
a	upto 1.5m depth					
	all kinds soil	2.8.1	61.860	Cum	286.85	17,744.54
b	upto 1.5m to 3.0m. depth					-
	all kinds soil	2.8.1+2.26.1	56.910	Cum	391.350	22,271.73
c	upto 3.0m to 4.5m. depth					-
	all kinds soil	2.8.1+2.26.1*2	10.320	Cum	495.850	5,117.17
2	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering -All work up to plinth level: 1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	4.1				-
		4.1.10	23.670	Cum	6050.65	143,218.89
3	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:	6.1				
	Cement mortar 1:6 (1 cement : 6coarse sand)	6.1.2	37.440	Cum	6658.25	249,284.88

4	Reinforced cement concrete work inbeams, suspended floors, roofs having slope up to 15º landings, balconies, shelves, chajjas, intels, bands plain window sills, staircases and spiral stair cases up to floor five level excluding the cost of centering, shuttering, finishing and reinforcement with 1:1.5:3 (1 cement :1.5 coarse sand :3 graded stone aggregate 20mm nominal size)	5.3	3.420	Cum	10719.30	36,660.01
5	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.					
	Mild steel and Medium Tnsile steel bars.	5.22.1	342.000	Kg	88.95	30,420.90
6	Centring and shuttering including struting , proping etc and removal of form for :					
	Suspended floors, roofs, landings, balconies and access platform.	5.9.3	32.910	Sqm	766.55	25,227.16
7	Edges of slabs and breaks in floors and walls					
	Under 20 cm wide	5.9.16.1	47.040	Mtr	181.90	8,556.58
8	12 mm cement plaster on rough side of single or half brick wall mix	13.4				
	1:6 (1 cement : 6 coarse sand)	13.4.2	162.600	Sqm	294.35	47,861.31
9	Providing M.S. foot rests including fixing in manoholes with 20x20x10 cm cement concrete blocks 1:3:6 (1cement : 3 coarse sand : 6 graded stone aggregate 20mm nominal size) as per standard design:	19.15				
	With 20x20mm square bar	19.15.1	60.000	Nos.	461.35	27,681.00
10	Providing and fixing in position precast RCC manhole cover and frame of required shape and approved quality.					
	LD-2.5 Rectangular shape 600x450mm internal dimensions	19.19.1.1	6.000	No.	1255.25	7,531.50
11	Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) , i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design : With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	18.33.1	3.000	No.	10102.50	30,307.50
	TOTAL [B]					**651,883.17**
	TOTAL -PART(A)+PART(B)					**1,168,356.44**

Construction of Phase-A works at JNV Cooch Behar(WB)							
HUME PIPE							
S. No	**DSR-2021**	**DESCRIPTION**	**No**	**QTY**	**UNIT**	**RATE**	**AMOUNT**
		Hume pipe					
1	2.10	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :					
	2.10.1	All kinds of soil					
	2.10.1.3	Pipes, cables etc. exceeding 300 mm dia but not exceeding 600 mm	15.00	97.50	metre		
				97.50	**Total**	**651.55**	**63,526.13**
2	19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :					
	19.6.5	450 mm dia. R.C.C. pipe	15.00	97.50	metre		
				97.50	**Total**	**1481.55**	**144,451.13**
3	4.1.10	Providing and laying **cement concrete** 1 : 5 : 10 (1 cement : 5 coarse sand : 10 gradded stone aggregate 40 mm nominal size) **alround S.W. Pipes** including bed concrete as per standard design.					
		450 mm diameter S.W.Pipe					
		150mm thick base(15*6.5*.85*.15)		12.43	cum		
		100 mm both side[(.75*.55)-(3.14*.45*.45/4)]*15*6.5		24.72			
				37.15	**Total**	6050.65	**224,788.64**
						TOTAL	**432,765.89**
						Say in lacs	**4.33**

Detailed Estimate of Construction of Phase-A works at JNV Cooch Behar(WB)

ABSTRACT OF COST

PROJECT: 100 KLD SEWAGE TREATMENT PLANT AT JNV COOCH BIHAR

		AMOUNT, Rs.	
Sl. No.	**DESCRIPTION OF WORKS**	**DSR 2021**	**NDSR**
A	**CIVIL WORKS** - SUPPLY, PROCUREMENT, ERECTION, CONSTRUCTION AND COMMISSIONING OF 70KL MAIN PUMPING STATION, 100 KLD SEWAGE TREATMENT PLANT AND 30KL TREATED EFFLUENT SUMP CUM PUMP HOUSE	5,406,588.21	943,593.19
B	**E&M WORKS** - PUMPS, PIPING, FITTINGS, MEP, AND ALLIED WORKS		725,900.00
C	LAB EQUIPMENTS, CHEMICALS AND GLASS WARE		326,025.00
	TOTAL	**5,406,588.21**	**1,995,518.19**
	say in lacs	**54.07**	**19.96**

BILL OF QUANTITIES FOR CIVIL WORKS							
PROJECT : 70 KL MPS, 100 KLD STP AND 30 KL TREATED EFFLUENT SUMP HOUSE AT JNV COOCH BIHAR							
S. NO.	**DSR-2021**	**DESCRIPTION**	**QTY**	**UNIT**	**RATE, RS.**	**AMOUNT ON DSR-2021, Rs.**	**AMOUNT ON NON DSR, Rs.**
1	2.8	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 up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.					
	2.8.1	All kinds of soil.	443.46	Cum	286.85	127,206.50	
2	2.25	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 up to 1.5 m.	215.12	Cum	253.95	54,629.72	
3	2.26	Extra for every additional lift of 1.5 m or part thereof in excavation / banking excavated or stacked materials.	33.81	Cum	104.50	3,533.15	
4	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :					
	4.1.6	1:3:6 (1 Cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 40 mm nominal size derived from natural sources)	66.05	Cum	6,670.25	440,570.01	
5	5.33	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.					
		Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.					
	5.33.1	All works upto plinth level					
a	5.33.1.2	Concrete of M30 grade with minimum cement content of 350 kg /cum	17.57	Cum	8,599.35	151,090.58	
	5.33.2	All works above plinth level upto floor V level					
b	5.33.2.2	Concrete of M30 grade with minimum cement content of 350 kg /cum	58.50	Cum	10,221.70	597,969.45	
6		Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete up to plinth level.					
	5.22.6	Thermo-Mechanically Treated bars of grade Fe-500 D or more.	17.26	qtl	8,965.00	154,735.90	
7		Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.					
	5.22A.6	Thermo-Mechanically Treated bars of grade Fe-500 D or more.	57.48	qtl	8,965.00	515,308.20	
8	5.9	Centering and shuttering including strutting, propping etc. and removal of form for :					
a	5.9.1	Foundations, footings, bases of columns, etc. for mass concrete.	58.20	Sqm	307.95	17,922.69	
b	5.9.2	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	371.13	Sqm	669.55	248,490.09	
c	5.9.20	Suspended floors, roofs, landings, balconies and access platform. with water proof ply 12 mm thick	58.56	Sqm	853.75	49,995.60	
d	5.9.21	Lintels, beams, plinth beams, girders, bressumers and cantilevers. with water proof ply 12 mm thick	22.49	Sqm	699.45	15,730.63	
e	5.9.6	Columns, Pillars, Piers, Abutments, Posts and Struts.	14.40	Sqm	804.25	11,581.20	
f	5.9.16.1	Edges of slabs and breaks in floors and walls Under 20 cm wide	46.00	Rmt	181.90	8,367.40	
9	6.1.2	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in: Cement mortar 1:6 (1 cement : 6 coarse sand)	77.72	cum	6,658.25	517,479.19	
10	6.4.2	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 1:6 (1 cement : 6 coarse sand)	3.75	cum	8,288.35	31,081.31	
11	13.5.1	15 mm cement plaster on rough side of single or half brick wall of mix: 1:4 (1 cement: 4 coarse sand)	105.60	sqm	354.50	37,435.20	
12	13.18	Neat cement punning	465.22	sqm	67.80	31,541.92	
13	MR	125 Micron Thickness polythene sheet 7 sqm /kg	60.97	Kg	215.00		13,107.63
14	Analysis	Supply and Filling of washed Stone gravel including all labour and T&P etc complete. as per Direction of Engineer-in-Charge.					
		Stone screening 11.2 mm nominal size (Type B).	137.71	Cum	3,566.00	491,073.86	
15	Analysis	Supplying, filling, spreading & leveling of washed 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.	163.96	cum	2,688.00	440,724.48	

S. NO.	DSR-2021	DESCRIPTION	QTY	UNIT	RATE, RS.	AMOUNT ON DSR-2021, Rs.	AMOUNT ON NON DSR, Rs.
16	10.28	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge.(for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.)	75.00	Kg	612.25	45,918.75	
17	18.9	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings. This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge : External work					
a	18.9.1	15 mm nominal outer dia. Pipes.	0.00	metre	221.35	-	
b	18.9.2	20 mm nominal outer dia. Pipes.	14.90	metre	275.25	4,101.23	
c	18.9.3	25 mm nominal dia Pipes	14.90	metre	370.65	5,522.69	
d	18.9.4	32 mm nominal outer dia. Pipes.	14.90	metre	435.05	6,482.25	
e	18.9.5	40 mm nominal outer dia. Pipes.	14.90	metre	559.20	8,332.08	
f	18.9.6	50 mm nominal outer dia. Pipes.	7.45	metre	811.85	6,048.28	
g	18.9.7	65 mm nominal inner dia. Pipes.	20.90	metre	1,576.90	32,957.21	
h	18.9.8	80 mm nominal inner dia. Pipes.	6.00	metre	1,990.40	11,942.40	
i	18.9.9	100mm nominal inner dia. Pipes.	60.00	metre	2,811.75	168,705.00	
j	18.9.10	150 mm nominal inner dia. Pipes.	60.00	metre	5,871.25	352,275.00	
18	16.91	Providing and laying factory made chamfered edge Cement Concrete paver blocks In foot path, park & lawns driveway or light & traffic parking etc. of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of course sand, compacting and proper embedding/ laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand, all complete as per manufacturer's specifications & direction of Engineer in-Charge.					
	16.91.1	60mm thick Cement concrete paver block of M-35 grade with approved colour, design & pattern	122.17	Sqm	932.35	113,905.20	
19	18.48	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.					
	18.48A	Circular tank	1000.00	Ltr	9.70	9,700.00	
20	MR	Geo Membrane 800 Micron liner Below Media	720.00	Sqm	60.40		43,486.56
21	NS	Plantation and Watering	1.00	LS	460,999.00		460,999.00
22	MR	SLUICE GATE	1.00	No	176,000.00		176,000.00
23	MR	The structural drawings shall be got vetted from any Concern Authority before issuance for execution of works at site	1.00	Job	250,000.00		250,000.00
24	18.77	Cutting holes up to 15x15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including finishing complete so as to make it leak proof.					
			40.00	Nos	377.10	15,084.00	
25	19.18.3	Supplying and fixing C.I. cover without frame for manholes : 560 mm diameter C.I. cover (heavy duty) the weight of the cover to be not less than 108 kg	4.00	Nos	6,972.75	27,891.00	
		Design and construction of R.C.C. circular Seweage Collection Tank of 70 KL capacity.					
26		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.**					
(i)	2.8.1	From Lvl. 0.00 Mt. to 1.50 mt	149.46	Cum	286.85	42,872.60	
(ii)	2.26.1	From Lvl. 1.5 Mt. to 3.0 mt	112.70	Cum	104.50	11,777.57	
27	2.25	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.	29.892	CUM	253.95	7,591.07	
28	4.1.8	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) : 8 graded stone aggregate 40 mm nominal size)	1.53	Cum	6326.05	9,678.86	
29		Centering and shuttering including strutting, propping etc. and removal of form for all heights :				-	
(a)	5.9.1	Foundations, footings, bases of columns, etc. for mass concrete.	3.20	SQM	307.95	985.44	

S. NO.	DSR-2021	DESCRIPTION	QTY	UNIT	RATE, RS.	AMOUNT ON DSR-2021, Rs.	AMOUNT ON NON DSR, Rs.
b)	5.9.2	Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	187.36	SQM	669.55	125,446.89	
		Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge.				-	
30	5.33.1.1	All works upto plinth level (foundation)	4.080	Cum	8683.80	35,429.90	
31	5.33.1.1	All works above plinth level upto floor V level (wall)	18.740	Cum	8683.80	162,734.41	
32	5.33.1.1	All works above plinth level upto floor V level (slab)	2.040	Cum	8683.80	17,714.95	
						-	
33	5.22.6	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.**	19.51	Qtl.	8965.00	174,907.15	
34	11.3.1	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete. 40 mm thick with 20 mm nominal size stone aggregate	15.900	Sqm	545.00	8,665.50	
K		**Water Proofing**				**-**	
35		Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservior, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-				-	
		212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guaranteed for 10 years against any leakage.				-	
(a)	22.23.1	For vertical surface two coats @ 0.70 kg per sqm per coat.	93.680	SQM	406.25	38,057.50	
(b)	22.23.2	For horizontal surface one coat @ 1.10 kg per sqm.	15.900	SQM	311.50	4,952.85	
						-	
36	19.18.3	560 mm diameter C.I. cover (heavy duty) the weight of the cover to be not less than 108 kg.	1.000	NOS	6972.75	6,972.75	
37	Hotriculture / 2.3	Supplying and stacking sludge at site including royalty and carriage upto 5 km complete (sludge measured in stacks will be reduced by 8% for payment).	2.93	cum	294.00	861.42	
38	Hotriculture / 2.9	Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (50 mm thick layer)	2.93	cum	36.55	107.09	
39	Hotriculture/10005	Bermuda Grass or Doob Grass	58.55	sqm	25.00	1,463.75	
40	Hotriculture/2.1	Grassing with 'Doob' grass includ-ing watering and maintenance of the lawn for 30 days or more till the grass forms a thick lawn free from weeds and fit for mowing including supplying good earth if needed (the good earth shall be paid for separately).					
	2.10.1	In rows 5 cm apart in both directions.	58.55	sqm	17.70	1,036.34	
					TOTAL , RS.	**5,406,588.21**	**943,593.19**

		Item Description	**Qty**	**Unit**	**Unit Rate, Rs.**	**TOTAL COST**
						Rs.
	A	**Main Pump House and Treated Effluent Sump**				
	1	Non-Clog Submersible and Centrifugal Pumps of capacity 55-7.5 HP Kirloskar make, Discharge range upto 4800 LPM Power Rating 0.75 to 15 kW, Voltage range 380-440 Volts Three Phase etc complete.				
	i	(1W+1Standby)	2	Nos.	105,000.00	210,000.00
	2	C.I.D.F. riser pipes, delivery piping, distance pipes, dismantling joints and Tee of size and of required length complete as per IS:1538.	1	Lot	140,000.00	140,000.00
	3	Valves and Fittings	2	Lot	70,000.00	140,000.00
	4	SS V-Notch for Flow Measurement	1	No.	24,500.00	24,500.00
	5	Pessure gauge 0-7kg/cm^2	2	Nos.	4,200.00	8,400.00
	6	Mono-rail traveling trolley complete with 0.5T capacity chain pulley block with required length of SS chain.	1	No	21,000.00	21,000.00
	7	Auto-Level controller with all arrangements for pumping plant	2	No.	21,000.00	42,000.00
	8	MEP, Cables, and Instrumentation	1	Lot	140,000.00	140,000.00
						725,900.00

LAB EQUIPMENTS, CHEMICALS AND GLASS WARE

ITEM / SPECIFICATIONS	Qty	Unit	Rate Rs.	Amount Rs.
Oil free diaphragm type vacuum cum pressure pump improved model, Free air displacement	1.00	Nos		
Laboratory hot air oven, double walled inner made of stainless steel, outer of MS duly painted, glass wool insulation, Digital controller cum indicator with safety cum timer & alarm system Memmert German Type with three sides heaters for quick and uniform heating thermostatically controlled built-in `L' shape thermometer complete with shelves, plug, cord and connector. Size of inside chamber 18" x 18" x 18".	1	Nos		
Muffle furnace, quick heating type Light weight, Digital controller cum indicator with safety alarm fibre wool insulation to keep heat loss too low. Heating chamber made of Ceramic Fibre muffle, surrounding with canthal wire, max. Temp. 950o C, continuous working temp. 900o C Outer casing made of mild steel duly painted with heat resistant paint, with plug & cord. size of inner chamber 5" x 5" x 10".	1			
Single Pan Digital Balance, electrically operated with built-in weights, latest Model super sensitive with pre-weighing facility, cap. 20 gm, Platform size 80 mm dia least count 0.1 mg. Accuracy 0.1mg. It should be supplied alongwith the voltage stabilizer of required capacity.	1	Nos		
Laboratory thermometer Mercury in glass yellow back.				
- 10 to 50o C	1	Nos		
- 10 to 110o C	1	Nos		
Digital pH Meter electronic indicator.	1	Nos		
Soxhlet Extraction Apparatus with six Hot plates operation, with individual sunvic energy regulator control, indicator light, maximum surface temperature: 350o C with horizontal rods and gut keys.		Nos		
Digital Display electronic hand held stop watch with extra facility for day date and time reading 1/100 sec.		Nos		

ITEM / SPECIFICATIONS	Qty	Unit	Rate Rs.	Amount Rs.
Digital fully automatic electronically controlled BOD incubator with digital indicators cum controllers temp. range 5-50 c, accuracy 0.5c. volume: 280 liters with working space 875x570x550(mm.), with three removable and adjustable shelves, Stainless steel chamber. It should be supplied with the voltage stabiliser of required capacity.	1	Nos		
Laboratory report stand rectangular heavy type with rod , base size - 7 X 5' duly painted.	1	Nos		
Pippette stand plastic	2	Nos		
Set of clamp and boss head made of brass.	2	Nos		
Burrette clamp fischered type made of brass.	2	Nos		
hhand gloves size 14'	2	Dozen		
Bottle cleaning brush Nylon	4	Nos		
Stainless steel, 47 mm dia filter apparatus with glass conical flask of 500 ml capacity.	2	Nos		
Soxhlet Extraction Apparatus with six Hot plates operation, with individual sunvic energy regulator control, indicator light, maximum surface temperature: 350o C with horizontal rods and gut keys.	2	Nos		
Digital Display electronic hand held stop watch with extra facility for day date and time reading 1/100 sec.	1	Nos		
Digital fully automatic electronically controlled BOD incubator with digital indicators cum controllers temp. range 5-50 c, accuracy 0.5c. volume: 280 liters with working space 875x570x550(mm.), with three removable and adjustable shelves, Stainless steel chamber. It should be supplied with the voltage stabiliser of required capacity.	1	Nos		
Water still complete from inside &outside made of stainless steel sheet for pyrogen free distilled water, complete with self ejecting type heating elements, wall hanging arrangements , plug and cords outputs 4 l/h.	1	Nos		
Laboratory report stand rectangular heavy type with rod , base size - 7 X 5' duly painted.				
Pippette stand plastic	3	Nos		
Set of clamp and boss head made of brass.				
Burrette clamp fischered type made of brass.	1	Nos		
Stainless steel tongs. 6 inch 8 inch	2	Set		

ITEM / SPECIFICATIONS	Qty	Unit	Rate Rs.	Amount Rs.
10 inch	3	Nos		
Asbestos hand gloves size 14'.				
Bottle cleaning brush Nylon				
	2	Nos		
Stainless steel, 47 mm dia filter apparatus with	2	Nos		
glass conical flask of 500 ml capacity.	2	Nos		
	2	Pair		
Chemicals, Laboratory Glassware	4	Nos		
Gooch crucibles disc dia. 40 mm, porosity G-3,	2	Nos		
Borosil R 50 ml				
Vacuum flask i.e. filtration flask capacity 500				
ml. with side tubular Borosil R.	2	Nos		
Desiccator large with cover size 250 mm.				
	2	Nos		
Buchner funnel capacity 80 ml. disc dia 40 mm.	6	Nos		
porosity G3.				
Measuring cylinder graduated				
1000 ml capacity.				
500 ml capacity.	2	Nos		
100 ml capacity.	4	Nos		
Burette with straight bore stop cock Borosil R.	6	Nos		
100 ml capacity.				
50 ml capacity				
Conical flask Borosil R	2	Nos		
	2	Nos		
1000 ml capacity.				
500 ml capacity.				
100 ml capacity.				
50 ml capacity.	2	Nos		
	10	Nos		
Volumetric flask	15	Nos		
	8	Nos		
1000 ml. Capacity				
500 ml. "				
100 ml. "				
50 ml ".	4	Nos		
	8	Nos		
Reflux flask i.e., COD flask capacity 250 ml	8	Nos		
with B-24 joining Borosil R.	4	Nos		
Volumetric pipettes i.e., Bulb pipette Borosil R				
	16	Nos		
50 ml. Capacity				
20 ml. "				
10 ml. "				
5 ml. "				
2 ml. "				
	2	Nos		
Serological pipettes ie., graduated pipette	2	Nos		
	2	Nos		
25 ml. Capacity				
10 ml. "	2	Nos		

ITEM / SPECIFICATIONS	Qty	Unit	Rate Rs.	Amount Rs.
10 ml.				
5 ml. "	2	Nos		
2 ml. ".				
Beaker	2	Nos		
	4	Nos		
1000 ml. Capacity	4	Nos		
500 ml. "	2	Nos		
250 ml. "				
100 ml. "				
50 ml "				
Glass beads	1	kg		
Sample bottle with screw cap. Borosil R cap. 30 ml.				
	2	Nos		
BOD bottles cap. 300 ml.				
	10	Nos		
LABORATORY CHEMICALS AND REAGENTS				
pH tablets	5	Nos		
pH = 4 (10 tablets)	5			
pH = 7 (10 tablets)				
	10	Nos		
Filter papers (12.5 cm. dia) no. 40.(100 papers in one packet)				
	10	Nos		
Filter papers (0.45cm dia) 47 mm dia (100 filters in one pocket)				
	2	Nos		
Concentrated sulphuric acid bottle with 500 ml acid.				
	2	Nos		
Mercuric sulphate (Hg2SO4) 250 gms				
Potassium Dichromate (K2Cr207), 500 gms	2	Nos		
Silver sulphate (Ag2SO4), 25 gms	2	Nos		
Ferrous Sulphate (FeSO4.7H2O), 500 gms	2	Nos		
1,10 PhenanthrolineMonohydrate GR., 5 gms	2	Nos		
Alkaline Pyrogalial Reagent, 100 gms				
	2	Nos		
Hydrochloric acid (N/10) in ampules pkg., 3 AMP				
	2	Nos		
Sodium hydroxide (N/10) in ampules pkg., 3 AMP				
	2	Nos		
Potassium Hydroxide, 500 gms				
	2	Nos		
Potassium phosphate dibasic anhydrous, 500 gms				
Potassium phosphate monobasic, 500 gms	2	Nos		

ITEM / SPECIFICATIONS	Qty	Unit	Rate Rs.	Amount Rs.
Disodium hydrogen phosphate, 500 gms	1	Nos		
Ammonium solution, 500 ml	1	Nos		
Magnesium sulphate, 500 gms	2	Nos		
Calcium Chloride, 500 gms	2	Nos		
Ferric Chloride, 500 gms	1	Nos		
Sodium Sulphite, 500 gms	1	Nos		
2 Chloro 6 pyridine, 250 gms	1	Nos		
Glucose reagent grade, 500 gms	1	Nos		
Gluconic acid reagent grade, 250 gms	1	Nos		
Methylene Blue indicator solution, 250 ml				
			Cost for Complete one job	**3,26,025.00**

Detailed Estimate of Construction of Phase-A works at JNV Cooch Behar(WB)							
FOR CLEAR WATER SUPPLY LINE & CWR TANK							
Sl. No.	**DSR-2021**	**Description**	**Qty**	**Unit**	**Rate (In Rs)**	**Amount on DSR-21 (In Rs.)**	**Amount on Non-DSR (In Rs.)**
		CWR					
1		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.**					
(i)	2.8.1	From Lvl. 0.00 Mt. to 1.50 mt	42.04	Cum	286.85	12,059.17	
(ii)	2.26.1	From Lvl. 1.5 Mt. to 3.0 mt	13.38	Cum	104.50	1,398.21	
(ii)	2.26.1*2	From Lvl. 3.0 Mt. to 4.5 mt	8.41	Cum	209.00	1,757.27	
2	2.25	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.	8.408	CUM	253.95	2,135.21	
3	4.1.8	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) : 8 graded stone aggregate 40 mm nominal size)	1.43	Cum	6326.05	9,046.25	
4		Centering and shuttering including strutting, propping etc. and removal of form for all heights :				-	
(a)	5.9.1	Foundations, footings, bases of columns, etc. for mass concrete.	3.36	SQM	307.95	1,034.71	
b)	5.9.2	Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	33.60	SQM	669.55	22,496.88	
		Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge.				-	
5	5.33.1.1	All works upto plinth level (foundation)	3.480	Cum	8683.80	30,219.62	
6	5.33.1.1	All works above plinth level upto floor V level (wall)	10.080	Cum	8683.80	87,532.70	
7	5.33.1.1	All works above plinth level upto floor V level (slab)	1.740	Cum	8683.80	15,109.81	
						-	
8	5.22.6	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.**	12.01	Qtl.	8965.00	107,669.65	
9	11.3.1	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete. 40 mm thick with 20 mm nominal size stone aggregate	12.710	Sqm	545.00	6,926.95	
K		**Water Proofing**				**-**	
10		Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservior, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-				-	

Sl. No.	DSR-2021	Description	Qty	Unit	Rate (In Rs)	Amount on DSR-21 (In Rs.)	Amount on Non-DSR (In Rs.)
		212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guaranteed for 10 years against any leakage.				-	
(a)	22.23.1	For vertical surface two coats @ 0.70 kg per sqm per coat.	28.800	SQM	406.25	11,700.00	
(b)	22.23.2	For horizontal surface one coat @ 1.10 kg per sqm.	12.710	SQM	311.50	3,959.17	
						-	
11	19.18.3	560 mm diameter C.I. cover (heavy duty) the weight of the cover to be not less than 108 kg.	2.000	NOS	6972.75	13,945.50	
12	MR	Providing and fixing of Monoblock Pump 7.5 Hp including installation testing and commisioning etc complete as per direction of Engineer-in-charge.					
			2.00	No	100300.00		200,600.00
					TOTAL "A"	**326,991.10**	**200,600.00**
		CLEAR WATER SUPPLY LINE					
1	18.9	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge.					
	18.9.3	25 mm nominal outer dia Pipes	0.00	Mtr	370.65	-	
	18.9.4	32 mm nominal outer dia Pipes	91.00	Mtr	435.05	39,589.55	
	18.9.5	40 mm nominal outer dia Pipes	176.50	Mtr	559.20	98,698.80	
	18.9.6	50 mm nominal outer dia Pipes	94.50	Mtr	811.85	76,719.83	
	18.9.7	62.5 mm nominal outer dia Pipes	188.50	Mtr	1576.90	297,245.65	
2	18.17	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :					
	18.7.1	25 mm nominal bore	10.00	Each	532.35	5,323.50	
	18.17.2	32 mm nominal bore.	29.00	Each	589.90	17,107.10	
	18.17.3	40 mm nominal bore	4.00	Each	707.30	2,829.20	
	18.17.4	50 mm nominal bore	2.00	Each	878.25	1,756.50	
3	18.33	Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) , i/c necessary xcavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :					
	18.33.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	2.00	Each	10102.50	20,205.00	
4	18.51	Providing and fixing C.P. brass long body bib cock of approved quality weighing not less than 690 gms.					
	18.51.1	15 mm nominal bore	2.00	Each	708.40	1,416.80	
5	2.8.1	Earth work in excavation by mechanical means (Hydraulic excavator) /manual means in foundation trenches or drains (not exceeding 1.5 m inwidth or 10 sqm on plan), including dressing of sides and ramming ofbottoms, 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.	1.08	Cum	286.85	309.80	

Sl. No.	DSR-2021	Description	Qty	Unit	Rate (In Rs)	Amount on DSR-21 (In Rs.)	Amount on Non-DSR (In Rs.)
6	4.1.10	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	0.54	Cum	6050.65	3,267.35	
7	6.1	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:					
	6.1.1	Cement mortar 1:4 (1 cement : 4 coarse sand)	1.26	Cum	6882.00	8,671.32	
8	13.5	15 mm cement plaster on rough side of single or half brick wall of mix:					
	13.5.1	1:4 (1 cement : 4 coarse sand)	8.55	Sqm	354.50	3,030.98	
					TOTAL "B"	**576,171.38**	**-**
					GRAND TOTAL (A+B)	**903,162.48**	**200,600.00**
					Say in Lacs	**9.03**	**2.01**

Detailed Estimate of Construction of Phase-A works at JNV Cooch Behar(WB)

BILL OF QUANTITY

Sl. No.	DSR-2020/ HORTIC.	Description	Qty	Unit	Rate (In Rs.)	Amount on DSR-20 (In Rs.)	Amount on Non- DSR (In Rs.)
		LANDSCAPING					
1	2.1	Trenching in ordinary soil up to a depth of 60 cm including removal and stacking of serviceable materials and then disposing of surplus soil, by spreading and neatly levelling within a lead of 50 m and making up the trenched area to proper levels by filling with earth or earth mixed with sludge or / and manure before and after flooding trench with water (excluding cost of imported earth, sludge or manure).	28.84	Cum	78.10	2,252.40	
2	2.3	Supplying and stacking sludge at site including royalty and carriage upto 5 km lead complete (sludge measured in stacks will be reduced by 8% for payment).	109.35	Cum	294.00	32,148.90	
3	2.4	Supplying and stacking at site dump manure from approved source, including carriage upto 5 km lead complete (manure measured in stacks will be reduced by 8% for payment) :					
	2.4.2	Screened through sieve of I.S. designation 16 mm	109.35	Cum	290.70	31,788.05	
4	2.9	Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge	109.35	Cum	36.55	3,996.74	
5	2.10	Grassing with selection No. 1/ Doob grass including watering and maintenance of the lawn for 30 days or more till the grass forms a thick lawn, free from weeds and fit for mowing including supplying good earth, if needed (the grass and good earth shall be paid for separately).					
	2.10.1	In rows 5 cm apart in both directions	2187.00	Sqm	17.70	38,709.90	
6	2.12	Uprooting rank vegetation and weeds by digging the area to a depth of 60 cm, removing all weeds and other growth with roots by forking repeatedly, breaking clods, rough dressing, flooding with water, uprooting fresh growths after 10 to 15 days and then fine dressing for planting new grass, including disposal of all rubbish with all leads and lifts.	2187.00	Sqm	60.95	133,297.65	

Sl. No.	DSR-2020/ HORTIC.	Description	Qty	Unit	Rate (In Rs.)	Amount on DSR-20 (In Rs.)	Amount on Non- DSR (In Rs.)
7	2.13	Preparation of beds for hedging and shrubbery by excavating 60 cm deep and trenching the excavated base to a further depth of 30 cm, refilling the excavated earth after breaking clods and mixing with sludge or manure in the ratio of 8:1 (8 parts of stacked volume of earth after reduction by 20% : one part of stacked volume of sludge or manure after reduction by 8%), flooding with water, filling with earth if necessary, watering and finally fine dressing, leveling etc. including stacking and disposal of materials declared unserviceable and surplus earth by spreading and leveling as directed, within a lead of 50 m, lift up to 1.5 m complete (cost of sludge, manure or extra earth to be paid for separately)	109.35	Cum	222.85	24,368.65	
8	2.14	Digging holes in ordinary soil and refilling the same with the excavated earth mixed with manure or sludge in the ratio of 2:1 by volume (2 parts of stacked volume of earth after reduction by 20% : 1 part of stacked volume of manure after reduction by 8%) flooding with water, dressing including removal of rubbish and surplus earth, if any, with all leads and lifts (cost of manure, sludge or extra good earth if needed to be paid for separately)					
	2.14.1	Holes 1.2 m dia and 1.2 m deep	128.00	Each	335.50	42,944.00	
9	2.19	Edging with bricks laid dry length wise, including required excavation, refilling, consolidating with hand packing and spreading surplus earth neatly within a lead of 50 m :					
	2.19.1	Common burnt clay F.P.S (non modular) bricks of Class designation 7.5	320.00	Mtr	396.90	127,008.00	
10	2.24	Flooding the ground with water including making kiaries and dismantling the same.	2187.00	Sqm	2.10	4,592.70	
11	2.57	Plantation of Trees, Shrubs, and Hedge at site i/c watering and removal of unserveiceable material's as per direction of officer in charge (excluding cast of plant & water)					
	2.57.3	Hedge Plant /Ground cover	160.00	Each	2.45	392.00	
12	7.16	Providing and stacking of Cassia fistula (Amaltash) of height 120-135 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge.	10.00	Each	65.00	650.00	
13	7.74	Supply and stacking of Polyalthia longifolia (Ashok) plant of height 150- 165 cm. in earthen pots of size 25 cm as per direction of the officer-in charge.	10.00	Each	80.00	800.00	

Sl. No.	DSR-2020/ HORTIC.	Description	Qty	Unit	Rate (In Rs.)	Amount on DSR-20 (In Rs.)	Amount on Non- DSR (In Rs.)
14	8.35	Providing and stacking of Hibiscus rosasinensis of height 45-60 cm. with 3-4 branches in earthen pots of size 20 cm as per direction of the officer-in-charge.	10.00	Each	35.00	350.00	
15	7.24	Providing and stacking of Delonix regia (Gulmohar) of height 150-165 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge.v	10.00	Each	60.00	600.00	
16	7.5	Supply and stacking of Azadirachta indica (Neem) plant of height 120- 130cm in big polybag of size 25 cm as per direction of the officer-in-charge	20.00	Each	65.00	1,300.00	
17	7.53	Providing and stacking of Mangifera indica (Mango-grafted) of height 60-75 cm. in big poly bag of size 25 cm as per direction of the officer-in-charge.	10.00	Each	55.00	550.00	
						-	
18	3.18	Providing and displaying of Areca Palm having ht. 90 cm to 1.20 m with 4 to 5 suckers, well developed, fresh and healthy with lush green foliage in 25 cm size of Earthen pot/Plastic pot & as per direction of the officer-in-charge.	18.00	Each	157.85	2,841.30	
						-	
19	3.22	Providing and displaying of Areca Palm having ht. 2.40 m to 2.70 m with 12 to 14 suckers, well developed, fresh and healthy with lush green foliage in 35 cm size of Bucket type cement pots & as per direction of the officer-in-charge.	10.00	Each	592.45	5,924.50	
						-	
20	7.11	Providing and stacking of Bottle palm of ht. 270-300 cm bottom girth 40-50 cm well developed in big HDPE bags as per direction of the officer-in-charge.Each	6.00	Each	350.00	2,100.00	
						-	
21	7.12	Providing and stacking of Bottle palm of ht. 210-240 cm bottom girth 30-35 cm well developed in big HDPE bags.	6.00	Each	550.00	3,300.00	
22	7.53	Providing and stacking of Mangifera indica (Mango-grafted) of height 60-75 cm. in big poly bag of size 25 cm as per direction of the officer-in-charge.	6.00	Each	55.00	330.00	
23	7.4	Providing and stacking of Alstonia scholaris of height 150-165 cm. in bag of size 25 cm as per direction of the officer-in-charge.	6.00	Each	65.00	390.00	
24	7.5	Providing and stacking of Azadirachta indica (Neem) of height 120-130cm in big polybag of size 25 cm as per direction of the officer-in-charge.	6.00	Each	65.00	390.00	
25	MR	Providing and fixing of Precast RCC Garden Bench including all labour and T&P etc complete as per Direction of Engineer-In-Charge.	4.00	Each	9500.00		38,000.00
					TOTAL	**461,024.79**	**38,000.00**
					say in lacs	**4.61**	**0.38**

DETAILED ESTIMATE OF CONSTRUCTION OF JNV TUFANGANJ , COOCH BEHAR (WEST BENGAL)				
ABSTRACT OF COST				
S.NO.	DESCRIPTION		DSR-2022	NSI
I	SUB HEAD - I - HT EQUIPMENT & TRANSFORMER	RS.	121,355.00	2,339,436.44
II	SUB HEAD - II - SUPPLY, INSTALLATION, TESTING AND COMMISIONING OF DG SET INCLUDING ALL ACCESSORIES	RS.	-	317,679.92
III	SUBHEAD - III - MAIN BOARDS	RS.	-	2,788,060.75
IV	SUBHEAD - IV - EARTHING	RS.	397,664.00	-
V	SUBHEAD - V - SUPPLYING & LAYING OF CABLE	RS.	3,019,583.00	5,104,342.40
VI	SUB HEAD -VI :EXTERNAL LIGHTING	RS.	241,425.00	1,457,798.94
VII	Provisionfor Obtaning Electric connetction (11 Kv HT connection) from local authority (AISCOM)			1,000,000.00
	TOTAL	RS.	3,780,027.00	13,007,318.45
	Say in Lacs	RS.	37.80	130.07

DETAILED ESTIMATE OF CONSTRUCTION OF JNV TUFANGANJ , COOCH BEHAR (WEST BENGAL)								
ESTIMATE OF ELECTRICAL WORKS								
S.No.	**Code No.**	**Description of items**	**Unit**	**Qty**	**DSR-2022**	**NSI**	**DSR-2022**	**NSI**
		SUB HEAD - I - HT EQUIPMENT & TRANSFORMER						
1	**DSR-2.21**	**P/ F MV Danger Notice Plate**						
		Providing and fixing MV Danger Notice Plate of 200 mm x 150 mm, made of mild steel, at least 2 mm thick, and vitreous enamelled white on both sides and with inscription in single red colour on front side as required.	Each	2.00	269.00		538.00	
2	**DSR-2.22**	**P/ F HT Danger Notice Plate**						
		Providing and fixing HT danger notice plate of 250 mm x 200 mm, made of mild steel, at least 2 mm thick, and vitreous enamelled white on both sides and with inscription in single red colour on front side as required.	Each	2.00	292.00		584.00	
3	**NSI-1**	**11 KV HT DP STRUCTURE**						
		Supply, Installation, testing and commissioning of 11 KV DP structure as per CEI & HPSEB norms & comprising of the following, but not limited to it for completion of works						
	1.1	RSJ pole of 9.15 mt length of size 175 x 90 mm complete with suitable M.S. base plate welded at bottombase plate - 2 Nos.						
	1.2	MS Channel of size 100 x 50 mm, length 4 mts (approx)						
	1.3	11 KV AB switch - 1 set						
	1.4	11 KV Horn Gap fuse Unit - 1 set						
	1.5	11 KV Lightning Arrestor						
	1.6	11 KV Disc insulator						
	1.7	11 KV Pin insulator						
	1.8	6 SWG copper wire for jumpering						
	1.9	Supply and erection of Stay set complete with necessary foundation, excavation and refilling of earth etc. as required.						
	1.10	Concrete foundation for RSJ poles burrioed upto a depth of 1830 mm in ground in a pit of size 450X450 mm in CC 1:3:6 along with 200 mm copping above ground inclusive of earth work.						
	1.11	Necessary Nut, Bolts, clamps, operating handle for AB switch, clamping welding etc. complete as required.						
	1.12	Painting the RSJ poles complete with two coat of Red Oxide and two coats of GI enamel paints complete as required.						
		Transpotation of all materials and accessories at site						
		Complete erection, testing and commissioning.	Set	1.00		241,380.01		241,380.01
4	**NSI-2**	**11 KV H.T. METERING PANEL (INDOOR TYPE):**						

S.No.	Code No.	Description of items	Unit	Qty	DSR-2022	NSI	DSR-2022	NSI
	2.1	Supply, Receiving, Unloading, Storing, Shifting, Installation, Testing & Commissioning of indoor type floor mounted, dust, damp and vermin proof, cubicle HT. Metering Panel made out of 14 gauge CRCA sheet steel complete with 5 Amp electronic trivector meter, C.T.'s of 20/5 Amp, 0.5 Class, 10 VA Burden, and P.T's of 11 KV / √3, 110V / √3, 100 VA conforming to relevant IS Standards and complete as required. H.T. Metering cubicle along with C.T.'s, P.T.'s and trivector meter shall be got tested and approved from local electricity supply authority**.** The GA drawing shall be got approved by SEB**/** local statutory authorities before fabrication.	Each	1.00		256,129.43		256,129.43
5	**NSI-3**	**11 KV HT SWITCHBOARD (SINGLE PANEL) - INDOOR DUTY**						
	3.1	Supply, installation , testing and commissioning of a Two panel (One Incomer/ Outgoing) **indoor duty** totally enclosed sheet steel clad floor mounting, vermin proof, fully interlocked vertical isolation, extensible, horizontal draw out, air insulated, metal clad switchboard having double isolation features complete with circuits as detailed below. The switchboard would be complete with necessary PVC insulated copper busbars, small wiring, labels, cable eyes, cable termination to receive XLPE cables, foundation bolts and suitable for operation on 11 kV 3 phase, 50 cycle, earthed system with a rupturing capacity of 350 MVA .This HT panel must be extendable for future requirement in such a manner not to disrupt ongoing services at the point of use during extension.						
		All Incoming and outgoing feeders shall have fault trip auxiliiary contacts for wiring to annunciation fault trip indication panel						
		One Incoming panel equipped with :						
		1- Air insulated metal clad housing						
		1- set of 3 phase PVC insulated copper busbars 630 amps rating						
		6- single pole cluster type isolating contacts i.e. plug and switches						
		1- Triple pole draw out truck mounted 11kV, 350 MVA, 630 Amps Vacuum Circuit Breaker fitted with arc control devices.						
		6 NO/NC contacts for remote ON/OFF/TRIP status at BMS						
		1- Trip free 230 V AC, motor charged spring release closing mechanism complete with necessary auxiliary switches, emergency hand trip device and mechanical 'OFF' & 'ON' indicator.						
		1 - 24 Volt DC shunt trip coil						
		1 set-Dual Core Cast Resin Current transformers of ratio 40/20/5A Class 5P10 and Class 0.5, 15 VA burden for protection & metering.						
		1- 3 Phase cast resin horizontal draw out line potential transformer ratio 11 KV/√3:110/√3 Volt, class 0.5, 200 VA connected with H.V. and L.V. connections, H.V.fuses and LV MPCB of adequate rating to withstand fault level in PT circuit, isolating plugs for H.V. and L.V. connection.						
		1- Strip heater to prevent absorption of moisture						

S.No.	Code No.	Description of items	Unit	Qty	DSR-2022	NSI	DSR-2022	NSI
		The instrument and relay panel fitted with :						
		1- Square voltmeter of 96 x 96 mm scaled 0-15000 volt with 3 way and OFF selector switch.						
		1- Square Ammeter of 96 x 96 mm scaled 0-200 amps with 3 way and OFF selector switch.						
		1 no. energy analyser to measure voltage, current, power factor, frequency,kW/kVA, kWh, kVArh, kVAh,Real time,date with communication module.						
		1 - no. circuit breaker control switch for electrical (T/N/C)						
		1- Triple pole numerical I.D.M.T. overcurrent & earth fault relay with two outer elements connected for overcurrent protection and the middle element for earth fault protection overcurrent setting 50% - 200% Earth fault setting 20% - 80% (51 and 51N)						
		1 - Electro mechanical Master trip relay (86)						
		1 - Electro mechanical Anti pumping relay (94)						
		1 - Trip Circuit supervision relay.						
		1- set of Red/Green indicating lamps for close and open position						
		1- Amber indicating lamp for auto trip						
		1- clear indicating lamp for trip circuit healthy						
		1- set of white indicating lamps one per phase						
		1 - blue indicating lamp for spring charged						
		1 - push button on front door for emergency trip						
		1- Four window annunciation display to indicate fault trip of incoming and outgoing feeders including audio alarm hooter with accept push button, internal wiring,protection fuses etc. complete.						
		1- cable box suitable for cable termination to receive 11 KV XLPE Cable 3 Core 240 sqmm.						
		1 Set of Power Pack 220 Volt A.C. / 24 Volt D.C. complete & suitable as required for th complete item.						
		Supplying, Installation, Testing & Commissioning Rate for 11 kV HT Panel as described above	Set	1.00		408,445.61		408,445.61
6	**NSI-4**	Supply, erection, testing and commissioning of 230V, single phase 2 wire AC to 24V DC Batteries charger (SMPS Based) with semiconductor/IGBT fullwave rectifier with auto /manual float cum boost facility complete with 24V DC, 120 AH sealed maintenance free batteries including one no. distribution board having 63 Amps DP MCCB as incomer and 12 Nos. 20/16A DP MCB's (D.C. duty) as outgoing complete as required and as directed by Engineer Incharge.	Set	1.00		119,129.97		119,129.97
7	**NSI-5**	**DISTRIBUTION TRANSFORMERS**						

S.No.	Code No.	Description of items	Unit	Qty	DSR-2022	NSI	DSR-2022	NSI
		Supply, installation, testing and commissioning of **250 kVA 11000/433 volts Deta/Star, vector group DY11, outdoor mounting,** oil cooled, ONAN transformer with ON Load Tap Changer (OLTC) AVS relay and RTCC for automatic sensing of incoming voltage, automatic operation of OLTC and facility for remote manual operation of On Load Tap changer, suitable for incoming voltage variation of +5% to - 15% in steps of 1.25% 17 steps to give a constant secondary voltage. The transformer shall be provided with fittings, accessories, protection, first filing of oil etc. including Buchholz oil temperature alarm/trip protection and space for mounting differential protection CT's in LV chamber complete as per specifications and as required. The transformer shall be provided with arrangement to terminate XLPE cable on HT side and to connect XLPE Cable on LT side, complete as required and conforming to **IS:1180 EEL II (Revised in July 2017)**, **IEC 60726 & IS 2026, ECBC-2017,** ANSI, NEMA standards & as per specification complete in alli vibration pads, drip trays,						
	5.1	Transformer described as above.	Set	1.00		1,000,000.00		1,000,000.00
8	**NSI-6**	Supplying of following size of aluminum conductor, XLPE insulated armoured and over all PVC sheathed, 11 KV (E) grade earthed cable as per relevant IS code and technical specifications						
	6.1	3C x 240 sq.mm. XLPE insulated Aluminium. Armored. Cable	RM	100.00		2,275.00		227,500.00
9	**DSR-8.1**	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required.						
	8.1.1	Above 120 sq. mm and upto 400 sq. mm.	RM	100.00	577.00		57,700.00	
10	**DSR-10.4**	supplying and making indoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required :						
	10.4.2	240 sq. mm	Each	2.00	16,249.00		32,498.00	
11	**DSR-10.5**	Supplying and making outdoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required :						
	10.5.2	120 sq. mm	Each	1.00	22,795.00		22,795.00	
		P/ F RCC Hume Pipe						
12	**DSR-14.14**	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.						
	14.14.2	150 mm dia ID	RM	10.00	724.00		7,240.00	

S.No.	Code No.	Description of items	Unit	Qty	DSR-2022	NSI	DSR-2022	NSI
13	NSI-7	Supply of fire buckets 4 No. in each set duly filled with fine sand and fixed on an angle iron frame as per requirement of local authorities. Fire buckets shall be painted red from outside and white from inside with additional handle at the bottom and suitable for outdoor installation.	Sets.	2.00		3,517.17		7,034.34
14	NSI-8	Supply and fixing on position the approved Single Line Diagram framed in 1000 x 800 mm size glass frame and installed in main switch room as directed by Engineer Incharge	No.	2.00		1,701.86		3,403.71
15	NSI-9	Supply of First Aid box as directed by Engineer Incharge	No.	1.00		4,027.73		4,027.73
16	NSI-10	Supply of tool kit with 1 pair 11 KV rubber hand gloves as directed by Engineer Incharge.	Set	1.00		1,418.21		1,418.21
17	NSI-11	Supplying & fixing standard shock treatment charts in English & Hindi duly framed and covered with glass as directed by Engineer Incharge.	No.	1.00		1,191.30		1,191.30
18	NSI-12	Providing Safety mat made of elastomeric polymers Material (Class B) 1.2 M wide with thickness 2.5 mm to withstand 11KV dielectric strength AS PER relevant IS Code	RM	10.00		2,042.23		20,422.28
19	NSI-13	Providing a mat made of elastomeric polymers Material (Class A)1.2 M wide with 2 mm thickness to withstand 1.1 KV dielectric strength AS PER relevant IS Code	RM	30.00		1,645.13		49,353.84
		TOTAL CARRIED TO SUMMARY SHEET FOR SUBHEAD I					**121,355.00**	**2,339,436.44**
		SUB HEAD - II - SUPPLY, INSTALLATION, TESTING AND COMMISIONING OF DG SET INCLUDING ALL ACCESSORIES						

S.No.	Code No.	Description of items	Unit	Qty	DSR-2022	NSI	DSR-2022	NSI
1	NSI-1	Design, manufacture, supply, erection, testing & commissioning of following rating of DG Sets in Accoustic Enclosure, having self excited & self regulated 415 V, 3 Phase, 4-Wire, 50 Hz, 0.8 p.f. Alternator coupled with multi-cylinder, turbo-charged/ turbo-charged after cooled as called for, Diesel Engine capable to generate the power not less than the required BHP to achieve the alternator capacity as given below, with radiator Cooled, Residential type silencers and Electronic governer (G3 Governing System), DG set controller suitable for Auto Synchronization & Auto Load Sharing with microprocessor based Synchronization relay like Woodward/Dief/ Deepsea or equivalent including providing of Engine control panel, 24V batteries of suitable rating, battery-charger with battery leads, inbuilt oil fuel tank of capacity as per OEM standards and complete with all standard accessories & protection as required and as per specifications, including first filling of lube oil, fuel tank, providing common base plate, anti vibration pads, drip trays, foundation bolts, nuts, bolts, cable termination/adopter box sutiable to terminate upto 1 nos. of 3.5Cx50 sq.mm. XLPE cables as required for a complete installation including RCC/PCC foundation for DG set as per the structural detail for Dynamic Load submitted by the Vendor and approve by the Client. DG set should comply relevant Indian standards. DG shall have Remote Monitoring System.						
		25 KVA (With Acoustic Enclosure) With AMF Panel	Set	1.00		317,679.92		317,679.92
		TOTAL CARRIED TO SUMMARY SHEET FOR SUBHEAD II					-	**317,679.92**
		SUBHEAD - III - MAIN BOARDS						
		Design, fabrication, assembly, wiring and supply of front operated dead front cubicle type compartmentalised as per Form 3B, rear access free standing, dust and vermin proof (IP 42 ingress protection) main switchboards suitable for use at 415 volts, 3 phase 4 wire 50 Hertz system suitable for a symmetrical fault level of 50 kA at 415 volts, fabricated from 2 mm thick CRCA MS sheets with hinged, gasketted (metal based neoprene) and lockable doors having structural reinforcement with suitable angle/channel/T/flat sections including 3 mm thick gland plates on top and bottom and including lifting hooks and including GI earth strip of required size with 2 nos earthing terminals and including powder coated paint finish of approved shade over metal surface cleaned and treated with seven tank process complete with interconnections etc as per specifications, as required and as below.						
		(Note:The contractor may select the next higher fault rating of MCCB if it is not readily available ,without any extra cost ,as the figure indicated within the bracket are required maxmum fault level of the panel.)						
1	NS-1	**MAIN LT PANEL**						
		INCOMER FROM LT CONNECTION FROM (250 KVA TRANSFORMER)						
		1 Nos. 400A 4P MCCB, 36 kA breaking capacity with Microprocessor release and rotatry handle.						
		METERING & INDICATION						

S.No.	Code No.	Description of items	Unit	Qty	DSR-2022	NSI	DSR-2022	NSI
		1 sets of R,Y,B phase indicating lamps each with 3 nos. 2A SP MCBs.						
		Digital Multifunction meter for Voltage, Current & KW with selector switch. Each with 1nos. of 2A SP MCB & 3nos 400/5A CTs (400A/500V) rating, 1 Nos.						
		1 Set- of ON/OFF/Trip/ Spring Charged & Trip circuit healthy indicating lamps.						
		Surge protection device , Type 1, spark gap type for 10/350us wave, 3 Nos phase to neutral, one No neutral to earth ,(minimum 3+1 mode) with minimum discharge capacity 50KA along with necessary fuses - Model AG 50/440 T1 (Argos) or equivalent, 1 Nos.						
		BUS BARS						
		1 Set of 500A TPN Aluminum bus bars with colour coded PVC sleeves						
		PLC						
		1 no. 32-bit microprocessor based PLC with MMI for electrically & mechanically interlocking & auto load Management of DG Sets.						
		OUTGOINGS						
		1 No. 250A TPN MCCB, 50 kA breaking capacity with microprocessor release and rotatry handle with adjustable settings, ON/ OFF/ Trip indication lamp including control MCB's.						
		3 Nos. 160A TPN MCCB, 50 kA breaking capacity with thermal release and rotatry handle with adjustable settings, ON/ OFF/ Trip indication lamp including control MCB's.						
		2 Nos. 100A TPN MCCB, 25 kA breaking capacity with thermal release and rotatry handle with adjustable settings, ON/ OFF/ Trip indication lamp including control MCB's, inserted energy meter with 1 outgoing .						
		3 Nos. 63A TPN MCCB, 25 kA breaking capacity with thermal release and rotatry handle with adjustable settings, ON/ OFF/ Trip indication lamp including control MCB's, inserted energy meter with 1 outgoing.						
		2 Nos. 40A TPN MCCB, 25 kA breaking capacity with thermal release and rotatry handle with adjustable settings, ON/ OFF/ Trip indication lamp including control MCB's, inserted energy meter with 1 outgoing.						
		2 Nos. 63A TPN MCB, 10 kA breaking capacity						
		Supplying,Receiving, fixing, testing & commissioning of above described Panel	Set	1.00		447,307.51		447,307.51
		Note: Incomer for Transformer, D.G. sets & Bus couplers shall be electrically & mechanically interlocked.						
2	**NS-2**	**LT PANEL EMERGENCY PANEL**						
		AMF PANEL						
		Supply, installation, Testing and Commissioning of 25 KVA DG set AMF Panel including power Contactor (Main & DG) and all Panel accessories with AUTO/MANUAL Selector Switch alongwith cost of materials, labour, T&P and transportation etc. complete as per the direction of the Engineer-in-Charge.						
		INCOMER FROM DG SET-1 (25 KVA)						
		1 Nos. 63A 4P MCCB, 25 kA breaking capacity with thermal release and rotatry handle.						

S.No.	Code No.	Description of items	Unit	Qty	DSR-2022	NSI	DSR-2022	NSI
		METERING & INDICATION						
		1 sets of R,Y,B phase indicating lamps each with 3 nos. 2A SP MCBs.						
		Digital Multifunction meter for Voltage, Current & KW with selector switch. Each with 3nos. of 2A SP MCB & 3nos 100/5A CTs (100A/500V) rating, 1 Nos.						
		1 Sets- of ON/OFF/Trip/ Spring Charged & Trip circuit healthy indicating lamps.						
		BUS BARS						
		1 Set of 125A TPN Aluminum bus bars with colour coded PVC sleeves						
		OUTGOINGS						
		5 Nos. 63A TPN MCCB, 25 kA breaking capacity with thermal release and rotatry handle with adjustable settings, ON/ OFF/ Trip indication lamp including control MCB's, inserted energy meter with 1 outgoing.						
		3 Nos. 40A TPN MCCB, 25 kA breaking capacity with thermal release and rotatry handle with adjustable settings, ON/ OFF/ Trip indication lamp including control MCB's, inserted energy meter with 1 outgoing.						
		2 Nos. 63A TPN MCB, 10 kA breaking capacity						
		Supplying,Receiving, fixing, testing & commissioning of above described Panel	Set	1.00		150,000.00		150,000.00
3	**NSI-3**	**Capacitor Panel (100 KVAR)**						
		INCOMER						
		1 No. 160 Amp FP MCCB, 25 KA breaking capacity with microprocessor release and rotatry handle.						
		METERING & INDICATION						
		1 set of phase indicating lamps						
		1 No. 11 stage Microprocessor APFC controller/Relay shall continuously monitor all three phases and LCD displays for various Electrical Parameters like voltage, input current, capacitive current, KVA demand,KW, Power Factor, self diagnostic error code indication with printout facility of the above with RS 232 C port. Controller should mounted on the front side of the panel.						
		BUS-BAR						
		1 Set of 200A TPN Aluminium Bus Bar with colour coded PVC Sleeves						
		OUTGOINGS						
		2 Nos. of 80A TP MCCB with suitable AC -3 duty contactor						
		5 Nos. of 32A TP MCCB with suitable AC -3 duty contactor						
		4 No. of 20A TP MCCB with suitable AC -3 duty contactor						
		2 Nos. 25 KVAR capacitor Bank each with 7% harmonic & discharge resistor suitable capacity to carry expected current continuosly.						
		5 Nos. 10 KVAR capacitor Bank each with 7% harmonic & discharge resistor suitable capacity to carry expected current continuosly.						
		4 No. 5 KVAR capacitor Bank each with 7% harmonic & discharge resistor suitable capacity to carry expected current continuosly.						
		Supplying,Receiving, fixing, testing & commissioning of above described Panel	Set	1.00		150,000.00		150,000.00
		FEEDER PILLAR						

S.No.	Code No.	Description of items	Unit	Qty	DSR-2022	NSI	DSR-2022	NSI
		Design, Manufacturing, supplying, fixing in position, testing and commissioning of the following front operated front access 2mm thick CRCA steel enclosure free standing, water, dust and vermin proof outdoor type **Feeder pillars** with IP-55 protection hinged and lockable doors complete with interconnections copper crimping lugs, brass glands bonding to earth and painting, suitable for use at 415 volts, 3 phase 4 wire 50 Hz system . The panels fault withstanding capacity shall be of 25 MVA at 415 volts. All live accessories part shall be shrouded and all equipment shall be finger touch proof. The bus bars shall be of colure coded with Heat shrinkable PVC insulated sleeves.						
4	**NSI-4**	**FEEDER PILLAR-1 FOR KITCHEN, PRINCIPLE RESIDENCE, GUEST HOUSE,VICE PRINCIPLE RESIDENCE, BOYS DORMITORY, UGT WITH PUMP ROOM**						
		INCOMER						
		1 No. 250A, 415V, Ics=25kA, 4P MCCB with thermal magnetic trip unit.						
		1 No. Digital multifunction meter (V+A+Hz) with a set of cast resin CTs 250/5A.						
		1 Set of Phase indicating lamp with MCB						
		BUS BARS-I :						
		300A TPN bus bars of aluminium alloy.						
		For emergency supply						
		1 No. 63A, 415V, Ics=25kA, 4P MCCB with thermal magnetic trip unit.						
		1 Set of On indicating lamp with MCB						
		BUS BARS-II :						
		100A TPN bus bars of aluminium alloy.						
		OUT GOING BUS-I :						
		8 Nos. 63A 415V, 4P MCCB of 15kA .						
		1 No. 100A 415V, 4P MCCB of 15kA .						
		1 No. MCB Space.						
		OUT GOING BUS-II :						
		2 Nos. 63A 415V, 4P MCB of 10kA .						
		1 No. 40A 415V, 4P MCB of 10kA with 40A 4P Contactor & timer switch .						
		2 Nos. 25A 415V, 4P MCB of 10kA .						
		1 No. MCB Space.	Set	1.00		287,188.32		287,188.32
5	**NSI-5**	**FEEDER PILLAR -2 FOR TYPE -II, GIRLS DORMITORY,TYPE-III**						
		INCOMER						
		1 No. 250A, 415V, Ics=25kA, 4P MCCB with thermal magnetic trip unit.						
		1 No. Digital multifunction meter (V+A+Hz) with a set of cast resin CTs 250/5A.						
		1 Set of Phase indicating lamp with MCB						
		BUS BARS-I :						
		300A TPN bus bars of aluminium alloy.						
		For emergency supply						
		1 No. 63A, 415V, Ics=25kA, 4P MCCB with thermal magnetic trip unit.						

S.No.	Code No.	Description of items	Unit	Qty	DSR-2022	NSI	DSR-2022	NSI
		1 Set of On indicating lamp with MCB						
		BUS BARS-II :						
		100A TPN bus bars of aluminium alloy.						
		OUT GOING BUS-I :						
		8 Nos. 63A 415V, 4P MCCB of 15kA .						
		1 No. 100A 415V, 4P MCCB of 15kA .						
		1 No. MCB Space.						
		OUT GOING BUS-II :						
		2 Nos. 63A 415V, 4P MCB of 10kA .						
		1 No. 40A 415V, 4P MCB of 10kA with 40A 4P Contactor & timer switch .						
		2 Nos. 25A 415V, 4P MCB of 10kA .						
		1 No. MCB Space.						
		1 No. MCB Space.	Set	1.00		281,870.02		281,870.02
6	**NSI-6**	**FEEDER PILLAR -3**						
		INCOMER						
		1 No. 250A, 415V, Ics=25kA, 4P MCCB with thermal magnetic trip unit.						
		1 No. Digital multifunction meter (V+A+Hz) with a set of cast resin CTs 250/5A.						
		1 Set of Phase indicating lamp with MCB						
		BUS BARS-I :						
		315A TPN bus bars of aluminium alloy.						
		For emergency supply						
		1 No. 63A, 415V, Ics=25kA, 4P MCCB with thermal magnetic trip unit.						
		1 set of On indicating lamp with MCB						
		BUS BARS-II :						
		100A TPN bus bars of aluminium alloy.						
		OUT GOING BUS-I :						
		5 Nos. 63A 415V, 4P MCCB of 16kA .						
		1 Nos. 100A 415V, 4P MCCB of 16kA .						
		1 Nos. 100A 415V, 4P MCCB of 16kA .(SPARE)						
		1 No. 63A 415V, 4P MCB of 10kA .(SPARE)						
		1 No. MCB Space.						
		OUT GOING BUS-II :						
		2 Nos. 63A 415V, 4P MCB of 10kA .						
		1 No. 40A 415V, 4P MCB of 10kA with 40A 4P Contactor & timer switch .						
		2 Nos. 25A 415V, 4P MCB of 10kA .						
		1 No. MCB Space.	Set	1.00		281,870.02		281,870.02
7		**METER BOARDS**						

S.No.	Code No.	Description of items	Unit	Qty	DSR-2022	NSI	DSR-2022	NSI
		Supply, installation, testing and commissioning of M.V. cubical type totally enclosed dust, dump and vermin proof Meter Bords complete with bus bars, MV danger notice plate, on surface ISI marked Electronic kWh meter, indication lamps, CT's, Interconnection with suitable capacity aluminium strips / rods, door covers, seperate compartment for each meter, glass inspection window, connection of incoming and outgoing cables with thimbles, powder coated having following incoming and outgoing MCBs MCCBs and kWh meters complete as required.						
7.1	**NSI-7**	**Panel - KITCHEN DINING**						
		1 No. 63A, 415V, Ics= 16kA, 4P MCCB with O/C, S/C protection & on indication lamp.						
		BUS BARS:						
		100A TPN bus bars of aluminium alloy.						
		OUT GOING:						
		2 Nos. 40A TPN MCB of 10kA with space for electronic direct kWh energy meter complete with all necessary wiring as per the Meter vendor requirement.						
		1 No. 40A DP MCB of 10kA.	Set	1.00		69,137.93		69,137.93
7.2	**NSI-8**	**METER BOARDS - TYPE-III (G+2)**						
		1 No. 63A, 415V, Ics= 16kA, 4P MCCB with O/C, S/C protection & on indication lamp.						
		BUS BARS:						
		100A TPN bus bars of aluminium alloy.						
		OUT GOING:						
		4 Nos. 40A TPN MCB of 10kA with space for electronic direct kWh energy meter complete with all necessary wiring as per the Meter vendor requirement.						
		1 No. 40A DP MCB of 10kA.	Set	3.00		104,238.72		312,716.17
7.3	**NSI-9**	**Panel -DORMITORY BOYS & GIRLS**						
		1 No. 63A, 415V, Ics= 16kA, 4P MCCB with O/C, S/C protection & on indication lamp.						
		BUS BARS:						
		100A TPN bus bars of aluminium alloy.						
		OUT GOING:						
		2 Nos. 40A DP MCB of 10kA with space for electronic direct kWh energy meter complete with all necessary wiring as per the Meter vendor requirement.						
		7 Nos. 40A DP MCB of 10kA.	Set	3.00		117,002.65		351,007.94
7.4	**NSI-10**	**METER BOARDS - PRINCIPLE RESIDENCE, VICE PRINCIPLE RESIDENCE**						
		1 No. 63A, 415V, Ics= 16kA, 4P MCCB with O/C, S/C protection & on indication lamp.						
		BUS BARS:						
		100A TPN bus bars of aluminium alloy.						
		OUT GOING:						

S.No.	Code No.	Description of items	Unit	Qty	DSR-2022	NSI	DSR-2022	NSI
		4 Nos. 40A DP MCB of 10kA with space for electronic direct kWh energy meter complete with all necessary wiring as per the Meter vendor requirement.						
		1 No. 40A DP MCB of 10kA.	Set	2.00		20,000.00		40,000.00
7.5	**NSI-11**	**METER BOARDS - TYPE-2**						
		1 No. 100A, 415V, Ics= 16kA, 4P MCCB with O/C, S/C protection & on indication lamp.						
		BUS BARS:						
		125A TPN bus bars of aluminium alloy.						
		OUT GOING:						
		4 Nos. 40A DP MCB of 10kA with space for electronic direct kWh energy meter complete with all necessary wiring as per the Meter vendor requirement.						
		1 No. 40A DP MCB of 10kA.	Set	2.00		122,320.95		244,641.90
7.6	**NSI-12**	**Panel - SCHOOL BUILDING**						
		1 Nos. 100A, 415V, Ics= 16kA, 4P MCCB with O/C, S/C protection & on indication lamp.						
		BUS BARS:						
		125A TPN bus bars of aluminium alloy.						
		OUT GOING:						
		2 Nos. 40A DP MCB of 10kA with space for electronic direct kWh energy meter complete with all necessary wiring as per the Meter vendor requirement.						
		7 Nos. 40A DP MCB of 10kA.	Set	1.00		122,320.95		122,320.95
8.0	**NSI-13**	**Eco friendly STP PANEL**	Set	1.00		50,000.00		50,000.00
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - III					-	**2,788,060.75**
		SUBHEAD - IV - EARTHING						
1	**DSR 5.2**	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.	Sets	12.00	6,855.00		82,260.00	
2	**DSR 5.4**	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonary enclosure with cover plate having locking arrangement and watering watering pipe 2.7 metre long etc. with charcoal/ coke and salt as required.	Sets	16.00	7,472.00		119,552.00	
3	**DSR 5.6**	Earthing with Cu. earth Plate 600mm x 600mm x 3mm thick including accesssories, and providing masonary enclosure with cover plate (CI heavy duty) having locking arrangement and watering pipe pipe of 2.7 mtr long etc. with charcoal or coke and salt) as required.	Sets	4.00	13,838.00		55,352.00	

S.No.	Code No.	Description of items	Unit	Qty	DSR-2022	NSI	DSR-2022	NSI
4	DSR 5.11	Supplying and laying 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 refilling etc. as required.	Mtrs.	120.00	706.00	S	84,720.00	
5	DSR-5.14	Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required. 2 nos used for 50 x 5 for the Neutral earthing of euipments)	Mtrs.	20.00	1,009.00		20,180.00	
6	DSR 5.15	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	Mtrs.	100.00	244.00		24,400.00	
7	DSR 5.16	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing etc. as required.	Mtrs.	160.00	70.00		11,200.00	
8	NSI-1	Supplying, fixing, testing and commissioning of following bare Copper/ GI flat including all necessary fixing accessories and effecting connections.						-
8.1	NSI-1.1	50 mm x 6 mm thick Cu flat	Metre	-		2,074.14		-
8.2	NSI-1.2	50 mm x 6 m thick GI flat	Metre	-		345.69		-
								-
9	NSI-2	Supply and laying medium class GI pipe under road/paved areas/wall crossing etc. including earth excavations refilling, ramming and making good as approved.						-
9.1	NSI-2.1	150 mm dia GI pipe Class B	Mtrs.	-		1,588.40		-
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - IV					**397,664.00**	**-**
		SUBHEAD - V - SUPPLYING & LAYING OF CABLE						
		L.T. CABLES						
1	DSR 7.1	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.						
1.1	DSR-7.1.1	Upto 35 sq. mm	Mtrs.	3,930.00	387.00		1,520,910.00	
1.2	DSR-7.1.2	Above 35 sq. mm and upto 95 sq. mm	Mtrs.	1,610.00	405.00		652,050.00	
1.3	DSR-7.1.3	Above 95 sq. mm and upto 185 sq. mm	Mtrs.	340.00	422.00		143,480.00	
1.4	DSR-7.1.4	Above 185 sq. mm and upto 400 sq. mm	Mtrs.	1,020.00	474.00		483,480.00	
2	DSR 7.2	Laying of one number additional PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground in the same trench in one tier horizontal formation including excavation, sand cushioning, protective covering and refilling the trench etc. as required.						
2.1	DSR-7.2.2	Above 35 sq. mm and upto 95 sq. mm	Mtrs.	100.00	286.00		28,600.00	
2.2	DSR-7.2.3	Above 95 sq. mm and upto 185 sq. mm	Mtrs.	40.00	304.00		12,160.00	
2.3	DSR-7.2.4	Above 185 sq. mm and upto 400 sq. mm	Mtrs.	40.00	356.00		14,240.00	

S.No.	Code No.	Description of items	Unit	Qty	DSR-2022	NSI	DSR-2022	NSI
3	**DSR 7.5**	Laying of one number PVC insulated & PVC sheathed/ XLPE Power cable of 1.1 KV grade of following size in the existing RCC/HUME/METAL pipe as required.						
3.1	**DSR-7.5.1**	Upto 35 sq.mm	Mtrs.	50.00	37.00		1,850.00	
3.2	**DSR-7.5.2**	Above 35 sq. mm and upto 95 sq. mm	Mtrs.	50.00	57.00		2,850.00	
3.3	**DSR-7.5.3**	Above 95 sq.mm and upto 185 sq.mm	Mtrs.	40.00	77.00		3,080.00	
3.4	**DSR-7.5.4**	Above 185 sq.mm and upto 400 sq.mm	Mtrs.	180.00	134.00		24,120.00	
4	**NSI**	Supply of following sizes of XLPE insulated Aluminum conductor strip/ wire Armoured, overall PVC sheathed 1.1 KV grade cables conforming to relevant IS-7098 Code and technical specifications.						
4.1	**NSI-1**	4 X 6 sq. mm	Mtrs.	2,450.00		218.50		535,335.85
4.2	**NSI-2**	4 X 10 sq. mm (28mm)	Mtrs.	850.00		250.15		212,624.66
4.3	**NSI-3**	4 X 16 sq. mm (28mm)	Mtrs.	410.00		288.41		118,248.78
4.4	**NSI-4**	3½ X 25 sq. mm (28mm)	Mtrs.	330.00		344.34		113,631.36
4.5	**NSI-5**	3½ X 35 sq. mm (32mm)	Mtrs.	350.00		416.45		145,758.31
4.6	**NSI-6**	3½ X 50 sq. mm (35mm)	Mtrs.	1,350.00		539.34		728,111.53
4.7	**NSI-7**	3½ X 150 sq. mm (50mm)	Mtrs.	420.00		1,256.08		527,551.53
4.8	**NSI-8**	3½ X 240 sq. mm (62mm)	Mtrs.	680.00		2,000.77		1,360,524.40
4.9	**NSI-9**	3½ X 300 sq. mm (70mm)	Mtrs.	560.00		2,426.10		1,358,616.87
5	**DSR 9.1**	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.						
5.1	**NSI-1**	4 X 6 sq. mm (28mm)	Each	18.00		218.84		3,939.10
5.2	**9.1.32**	4 X 10 sq. mm (28mm)	Each	12.00	269.00		3,228.00	
5.3	**9.1.33**	4 X 16 sq. mm (28mm)	Each	4.00	309.00		1,236.00	
5.4	**9.1.20**	3½ X 25 sq. mm (28mm)	Each	10.00	313.00		3,130.00	
5.5	**9.1.21**	3½ X 35 sq. mm (32mm)	Each	4.00	369.00		1,476.00	
5.6	**9.1.22**	3½ X 50 sq. mm (35mm)	Each	16.00	413.00		6,608.00	
5.7	**9.1.26**	3½ X 150 sq. mm (50mm)	Each	4.00	697.00		2,788.00	
5.8	**9.1.29**	3½ X 240 sq. mm (62mm)	Each	6.00	1,027.00		6,162.00	
5.9	**9.1.30**	3½ X 300 sq. mm (70mm)	Each	6.00	1,195.00		7,170.00	
6	**DSR14.14**	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.						
6.1	**14.14.2**	150 mm dia	Mtrs.	60.00	724.00		43,440.00	
6.2	**14.14.3**	250 mm dia	Mtrs.	59.00	975.00		57,525.00	

S.No.	Code No.	Description of items	Unit	Qty	DSR-2022	NSI	DSR-2022	NSI
7	DSR 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.						
7.1	DSR 4.1.2	150 mm width X 50 mm depth X 1.6 mm thickness	Mtrs.	-	604.00		-	
7.2	DSR 4.1.4	300 mm width X 50 mm depth X 1.6 mm thickness	Mtrs.	-	777.00		-	
7.3	DSR 4.1.6	450 mm width X 50 mm depth X 2 mm thickness	Mtrs.	-	1,137.00		-	
							-	
8	DSR 4.2	Supplying and installing following size of perforated painted with powder coating M.S. cable trays bends with perforation not more than 17.5%,, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.					-	
8.1	DSR 4.2.2	150 mm width X 50 mm depth X 1.6 mm thickness	Each	-	1,018.00		-	
8.2	DSR 4.2.4	300 mm width X 50 mm depth X 1.6 mm thickness	Each	-	1,438.00		-	
							-	
9	DSR 4.3	Supplying and installing following size of perforated painted with powder coating M.S. cable trays Tee with perforation not more than 17.5%, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.					-	
9.1	DSR 4.3.2	150 mm width X 50 mm depth X 1.6 mm thickness	Each	-	1,186.00		-	
9.2	DSR 4.3.4	300 mm width X 50 mm depth X 1.6 mm thickness	Each	-	1,708.00		-	
							-	
10	DSR 4.4	Supplying and installing following size of perforated painted with powder coating M.S. cable trays Cross Member with perforation not more than 17.5%, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.					-	
10.1	DSR 4.4.2	150 mm width X 50 mm depth X 1.6 mm thickness	Each	-	1,356.00		-	
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - V					**3,019,583.00**	**5,104,342.40**
		SUB HEAD -VI :EXTERNAL LIGHTING						
1	DSR-11.3	Erection of metallic pole of following length in cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation and refilling etc. as required.						
	DSR-11.3.2	Above 6.5 metre and upto 8.0 metre	Nos.	45.00	5,365.00		241,425.00	
2.	NSI-1	Supplying, installation, testing and commissioning of Gate **light** fitting suitable for 42 **watt IP 65LED** having system lumen output of minimum 4200 lumens complete with all accessories and lamp	Nos.	2.00		5,510.05		11,020.10

S.No.	Code No.	Description of items	Unit	Qty	DSR-2022	NSI	DSR-2022	NSI
3	NSI-2	Supplying, installation, testing and commissioning of45 **W LED Street Light IP66 LED** with High performance having system lumen output of minimum 9900 lumens, contemporary designed housing made of die-cast aluminium, with street optic LENS for uniform light distribution. PF better than 0.9, CRI better than 70 complete with all accessories.	Nos.	33.00		6,000.00		198,000.00
4	NSI-3	Supplying, installation, testing and commissioning of 45**W LED Solar Street Light On 6 Meter GI octagonal Pole** having Compact, Aesthetic, Eco friendly & modern integrated Solar street light in extruted Aluminum construction with high efficiency monocrystalline silicon photo voltaic panel, high efficacy SMD LED 6500K having secondary lens optics for street lighting distribution, high performance lithium battery, MPPT charge controller & Intelligent control module/sensor with higher reliability, long service life, suitable for easy & quick installation.	Nos.	12.00		50,000.00		600,000.00
5	NSI-4	Supply, testing & commissioning of 6.0 meter high G.I octagonal pole (Above Ground Level) with single/double arm as per requirement of suitable length with inbuilt junction box with 10A SP MCB, connectors for incoming/outgoing cable connection and 300mm x 300mm x 20 mm thick base plate and bracket (double arm/single arm whichever required) complete in all respect.	Nos.	33.00		18,000.00		594,000.00
6	NSI-5	Providing, installation of 200 x 150 x 125 mm polycarbonate weather proof (IP-55) junction box and SP MCB's and terminal block. Supplying and laying cable through GI pipe upto junction box including excavation and back filling, wiring with 2 x 2.5 sq.mm PVC insulated 1100 volts grade copper conductor wires from junction box to lighting fixture complete.	Nos.	5.00		2,680.42		13,402.12
7	NSI-6	Supplying and laying cable through GI pipe upto junction box including excavation and back filling, wiring with 2 x 2.5 sq.mm PVC insulated 1100 volts grade copper conductor wires from junction box to lighting fixture complete.	RM	400.00		103.44		41,376.72
		TOTAL CARRIED TO SUMMARY FOR SUBHEAD - VI					**241,425.00**	**1,457,798.94**