



**Bharat Heavy Electricals Limited**  
**ELECTRONICS DIVISION**  
**Mysore Road, Bangalore – 560026**

Phone No.080-26989253  
SC&PV - ENGG. DEPT.

**NOTICE INVITING TENDERS**

TENDER NUMBER(RFQ) :

**EDN: SCPV:CIVIL:SANTALDIH:17-18:003 dated 12.11.17**

1. NAME OF WORK : Tender for civil foundations works of switchyard, for equipment of Solar array field (SMBs, LA, other), laying of cables, HT cable trench, Fencing works of switchyards, supply-fabrication of specified structural steel works, supply-installation of hume pipes, laying of GI steel strip and other earthing works in solar array field, earth mat laying and other associated works for 10 MW (AC) solar power plant at Santaldih site.
2. ESTIMATED COST : Rs.74 Lakhs (APPROX.)
3. EARNEST MONEY DEPOSIT : **Rs. 1.50 Lakhs (Rupees One lakh and Fifty thousand only)**
4. SECURITY DEPOSIT : SD value will be 5 % of Contract value.  
50% of SD including EMD shall be submitted before start of work. Balance will be recovered from running bills at a rate of 10%. (SD does not carry any interest)
5. Completion period : 4 months
6. LAST DATE AND TIME FOR THE SUBMISSION OF DULY FILLED IN TENDER DOCUMENT : **Before 01:00 P.M on 27.11.2017**
7. PLACE OF SUBMISSION OF TENDER DOCUMENT : V Radhakrishnan, AGM (SC&PV- ENGG.)  
5th Floor, New Engineering Building,  
BHEL- Electronics Division  
Mysore Road, Bangalore -560 026.
8. ADDRESS TO BE SUPERSCRIBED: ON TENDER ENVELOPE : V Radhakrishnan, AGM(SC&PV- ENGG.)  
5<sup>th</sup> Floor, New Engineering Building,  
BHEL- Electronics Division,  
Mysore Road, Bangalore-560026.
9. DATE AND TIME OF TECHNICAL BID OPENING : **ON 27.11.2017 AT 01:30 PM**

NOTE: **The Tenderer shall return the duly filled in Tender document after signing on all pages & submit.**



Bharat Heavy Electricals Ltd  
Electronics Division  
Mysore Road, Bangalore – 560026

**Tender Document for Tender for civil foundations works of switchyard, for equipment of solar array field (SMBs, LA, other), laying of cables, HT cable trench, Fencing works of switchyards, supply-fabrication of specified structural steel works, supply-installation of hume pipes, laying of GI steel strip and other earthing works in solar array field, earth mat laying and other associated works for 10 MW (AC) solar power plant at Santaldih site.**

**TENDER/RFQ NO.: EDN: SCPV:CIVIL:SANTALDIH:17-18:003 dated 12.11.17**

#### **TECHNICAL BID**

Part – I Technical cum Commercial Bid  
Unpriced bid for vendor confirmation  
BHEL General Conditions of Contract  
Technical Specifications and drawings

Part – II Price Bid

Note:

1. Part – I: To be submitted in a separate sealed cover.
2. Part – II: To be submitted in a separate sealed cover.
3. Earnest Money Deposit of Rupees 1.50 Lakhs through sbicollect (procedure as per Annexure-A) or in the form of DD in favor of BHEL-EDN should be submitted in a separate sealed cover.
4. Tenders will be liable for rejection if the above DD is not submitted.
5. Part-I, Part-II, Tender EMD sealed covers should be put in outer envelope and super scribing the Name of work and Name & Address of the Tenderer.
6. **Vendor to sign and seal on each page of the Tender document.**
7. **For Price bid, vendor to indicate %age above or below in Price bid sheet only.**
8. **In Unpriced bid, vendor only to confirm having indicate %age in Price bid as per instruction no 7.**

PART-I TECHNICAL-CUM-COMMERCIAL BID  
(To be furnished by the Bidders)

NAME OF THE WORK : Civil foundations works of switchyard, for equipment of solar array field (SMBs, LA, other), laying of cables, HT cable trench, Fencing works of switchyards, supply-fabrication of specified structural steel works, supply-installation of hume pipes, laying of GI steel strip and other earthing works in solar array field, earth mat laying and other associated works for 10 MW (AC) solar power plant at Santaldih site. (All listed works shall be undertaken and executed)

- 1 ESTIMATED PRICE : **Rs. 74 Lakhs (approx)**
- 2 COMPLETION PERIOD/DURATION : **4 months**  
(From site handing over)
- 3 NAME OF THE CONTRACTOR :
- 4 ADDRESS
- (A) OFFICE :
- E-mail :
- TEL. PH. NO. :
- (B) RESIDENCE :
- TEL.PH NO :
- 5 STAFF STRENGTH :
- (A) Supervisory :
- (B) Labour to be deployed :
- 6 a) SCOPE OF WORK : **UNDERSTOOD/ NOT UNDERSTOOD**  
(As per schedule of items)
- b) Accept to execute all activities:  
in total
- c) Accept to execute construction : YES/ NO  
Activities mentioned above  
In parallel as required.

d) In order to complete the project in the 4 months schedule, vendor to deploy separate teams for individual activities along with tools and machineries. :YES/ NO

**Minimum works to be executed at site:**

<b>Sl No</b>	<b>Description of works</b>	<b>Compliance</b>	<b>Qty &amp; type of machines to be deployed, minimum to be committed by vendor</b>	<b>Minimum labour to be deployed for the work</b>
1	Design mix to be submitted for BHEL approval	Accepted Yes / Not accepted		
2	Development of yards - Levelling grading works in switchyard areas only	Accepted Yes / Not accepted		
3	Supply and grouting of 4-pole structure in IR switchyards, Qty: 2 Nos (8 poles)	Accepted Yes / Not accepted		
4	Supply and grouting of 2-pole structure in IR / CR switchyards, Qty: 8 Nos (16 poles)	Accepted Yes / Not accepted		
5	SMB Foundations, Qty: 80 Nos	Accepted Yes / Not accepted		
6	Incomer VCB foundations, Qty: 6 Nos	Accepted Yes / Not accepted		
7	Outgoer VCB foundations, Qty: 3 Nos	Accepted Yes / Not accepted		
8	Laying of DC cables in trench including laying of bricks, sand and back-filling of soil for 3000 running metres	Accepted Yes / Not accepted		
9	Foundations of 2800 kVA transformer as per BHEL drawing, Qty: 4 Nos	Accepted Yes / Not accepted		
10	Foundations of 100 kVA Auxiliary transformer as per BHEL drawing, Qty: 2 Nos	Accepted Yes / Not accepted		
11	Fencing for IR-1, IR-2 (BOTH SIDES) and CR switchyards as per BHEL drawing	Accepted Yes Not accepted		
12	Construction of HT cable trench 300m, Control cables trench (100 m) and 100 nos of earth pit chambers	Accepted Yes Not accepted		

13	Supply and Fabrication of structural steel for poles of switchyard, Mounting structures for CT, PT, GOS, LA, cable support structures and cable ladders including painting	Accepted Yes Not accepted		
14	Supply, installation of $\phi$ 300 mm RCC hume pipes and PVC pipes $\phi$ 150mm	Accepted Yes / Not accepted		
15	Development works of switchyards – including levelling grading and stone jelly spreading	Accepted Yes / Not accepted		
16	Solar array earthing works-laying of periphery GI strips 50x6 for 8000 m running length, connecting to chemical electrodes, MMS-to-MMS strips bolting for 1750 structures	Accepted Yes / Not accepted		
17	Installation of GI earth mat grid at 1 m depth	Accepted Yes / Not accepted		
18	LA (ESE) foundations, Qty: 10 nos as per BHEL drawing	Accepted Yes / Not accepted		
19	Concreting with AJAX MACHINE with printer	Accepted Yes Not accepted		

7 EMD PARTICULARS :

8 Electronic Funds Transfer (EFT) form enclosed : Please fill up the form in ANNEXURE-II

9 Penalty of 1.0% per week or part thereof on delay of contract value of work subject to ceiling of 10% of the contract value.

10 ACCEPTANCE TO BE INDICATED:

(A) DRAWING(S) : : Acceptable/ Not acceptable

(B) QUALITY CONTROL : Acceptable/ Not acceptable

(CI no.40 of Instructions to tenderer & Technical spec)

(C) REVERSE AUCTION : Acceptable/ Not acceptable

(BHEL reserves right to conduct Reverse auction OR price bid opening method among technical qualified Bidders, in case of Reverse auction price bid submitted by bidders will not be opened)

11 Whether agreeable to make necessary : YES/NO  
statutory payments as per BHEL EDN terms

12 **Note: Entire order quantity and types will be placed on L1 vendor.**

**13 Pre-Qualification criteria - essential:**

1. Experience of having successfully completed **similar works** during last 7 years from the date of tender notice should be either of the following:

**Note: Similar works means bidders should have executed civil works such as “Civil foundation works, Structural steel fabrication works and other civil works”. Bidder should submit the similar work experience certificates.**

a) Three similar completed works each costing not less than Rs. 30/- lakhs

**OR**

b) Two similar completed works each costing not less than Rs. 37 lakhs

**OR**

c) One similar completed work each costing not less than Rs. 60 lakhs

**2. PF Registration**

**3.** Average annual financial turn over during the last 3 years, ending 31st March of the previous financial year, should be Rs 22 Lakhs.

**4. BHEL Payment terms acceptance.**

**5. HSN and SAC code:- (details to be furnished)**

**Note: Offers of the Tenderers not meeting the above all requirements are liable to be rejected.**

Unpriced bid

ITEM NO.	NAME OF WORK	PRICE in Rs.
1	FOUR RSJ POLES (for 4-pole structure) 2 Nos.	22572.59
2	6-POLE STRUCTURE Foundations 1 No.	16932.05
3	2 POLE STRUCTURE 8 Nos.	45166.06
4	AUX. TRANSFORMER FOUNDATION 2 Nos.	30317.91
5	SMB FOUNDATION 80 Nos.	336296.75
6	INCOMER VCB FOUNDATION 6 Nos.	224263.47
7	OUTGOER VCB FOUNDATION 3 Nos.	135254.37
8	LAYING OF DC CABLE IN TRENCH 3000 Rmt.	982800.00
9	MAIN TRANSFORMER FOUNDATION 4 Nos.	186629.62
10	FENCING NEAR CONTROL ROOM 1 No.	248141.17
11	BIG FENCING NEAR INVERTER ROOM 2 Nos.	496622.97
12	SMALL FENCING NEAR INVERTER ROOM 2 Nos.	235844.03
13	TRENCH AND EARTH PIT CHAMBER CONSTRUCTION 500 Mtrs.	1678960.79
14	SUPPLY AND FABRICATION OF STRUCTURAL STEEL	623591.83
15	L A (ESE) FOUNDATIONS 10Nos.	36745.62
16	SUPPLY & FIXING OF HUME/ PVC PIPE & PAINT FINISH	145454.63
17	DEVELOPMENT OF YARD	182519.91
18	EARTHING WORK	1454850.00
19	EARTH MAT IN 33KV YARDS	311810.57
TOTAL COST OF ABOVE WORKS (without applicable GST)		7394774.34
BIDDER HAS TO INDICATE overall percentage or below or at par with respect to total tender value of Rs. 73,94,774.34		****TO CONFIRM  YES / NO
BIDDER HAS TO INDICATE TOTAL AMOUNT AFTER APPLICATION OF PERCENTAGE (%)		****TO CONFIRM  YES / NO

\*\*\* PERCENTAGE NOT TO BE INDICATED IN TECHNICAL BID, BUT SEPARATELY IN PART-II OF PRICE BID

\*\*\*\* QUOTED IN PRICE BID PART II

## TECHNICAL DETAILS OF WORKS TO BE EXECUTED

### Bidder to note:

(A) Drawings of the works are attached in the tender, however minor changes may be there at the time of actual execution, based on actual site conditions.

(B) Only BHEL / WBSEDCL-approved makes of steel, cement, approved quality of bricks to be used in construction.

1. BHEL Payment terms acceptance.

2. Bidders to submit the unpriced copy of the price schedule for compliance to the terms and quantities indicated in the price schedule along with the technical bid duly stamped according their acceptance.(Mandatory requirement).

### **Techno Commercial bid to be filled by the bidder:**

S.no	Description	Confirmation	Remarks
1	Work Cycle time of 4 months	YES/NO	
2	Resources/Organization Chart	YES/NO	To be furnished separately
3	Machineries to be deployed	YES/NO	List to be furnished.(BHEL Indicative list available in the tender)
4	Concurrent Commitment	YES/NO	If Yes furnish details and give details for addressing requirements for this tender
5	Providing experience of Similar works	YES/NO	Bidders to support with credentials separately like completion certificate/Work experience certificate
6	Signed unpriced copy of price bid format is included in the techno commercial bid	YES/NO	Bidder to sign and give the concurrence of understanding the unpriced price bid.

Note: Offers of the Tenderers not meeting the above requirements are liable to be rejected.

### **Documents required to be submitted:**

- 1) Copy of PAN/GIR No. Registration Certificate issued by Income Tax Authority
- 2) GST Registration Certificate
- 3) Registration Certificate with ESI and PF Authority
- 4) Income Tax Returns for last Three years
- 5) Balance Sheet and Profit & Loss Account for the last Three years
- 6) Annual Turnover for the last Three years duly certified by auditor
- 7) Work on hand (required for bid capacity also)
- 8) Availability of Technical personnel.
- 9) Registration with BHEL/CPWD/other Govt. organization if any.
- 10) Any other statutory requirement as per the local government body if applicable.

**Special Conditions:**

- (i) Successful Bidder should establish their Site office at Construction site, including common facilities such as toilet, water, electricity etc. in consultation with BHEL. Contractor has to arrange water and power as required for completing the job in the stipulated time frame at their own cost.
- (ii) The bidders should furnish "Site Inspection Certificate" in Annexure-III enclosed herewith.
- (iii) Bidders should study the prevailing Market trend of Construction materials/labourers/other relevant requirement before quote and submit the competitive price.
- (iv) The bidders should carry out preliminary survey at proposed construction site before submission of offer to ensure that the rate quoted for the relevant schedule of items are correct.

**(v) Contractor to note BHEL reserves the right to get any part of the work done through other agency or deploy BHEL's own/hired/otherwise arranged resources, at the risk and cost of the contractor after due notice of a period of two weeks by BHEL, in the event of:-**

- a) Contractors continued poor progress
  - b) Withdrawal from or abandonment of the work before completion of the work.
  - c) Contractor's inability to progress the work for completion as stipulated in the contract
  - d) Poor quality of work
  - e) Corrupt act of Contractor
  - f) Insolvency of the contractor
  - g) Persistent disregard to the instructions of BHEL
  - h) Assignment, transfer, sub-letting of contract without BHEL's written permission
  - i) Non fulfillment of any contractual obligations
  - j) In the opinion of BHEL, the contractor is overloaded and is not in a position to execute job as per required schedule.
- (vi) The liquidated damages/penalties arising out of Risk and Cost as explained under Sl.no (v). BHEL shall recover the amount from any money due from Contractor, or from any money due to the contractor including security deposit, or by forfeiting any T & P or material of the contractor under this contract or any other contract of BHEL or by any other means or any combination thereof.

**(vii) Documents to be submitted on award of work (as applicable):**

- a) Contract Agreement in stamp paper of Rs.200/- denomination
- b) Security deposit in the form of Cash/DD/ NSC's / Kisan Vikas Patra / FDR / Bank Guarantee in favour of BHEL
- (c) Electronic Fund Transfer Form duly signed & sealed by banker along with cancelled cheque copy
- (d) Labour license of the workmen engaged valid for contract period
- (e) Workmen Compensation Insurance Policy for the workmen engaged valid for contract period
- (f) Deduction of GST AS APPLICABLE at source would be enforced from the running bills at the rates prescribed unless exemption certificate is produced from the concerned authorities.
- (g) BOCW certificate of registration for construction workers.

**(vii) The following documents are to be submitted along with the Running Account Bills for process of payment:**

- a) Tax Invoice with details of TIN number of BHEL and contractor.
- b) Measurement books duly filled and signed officials of BHEL and contractor**
- c) Provident Fund Remittance challan of previous month.
- d) ESI Remittance challan of previous month.
- e) Invoice submitted along with running bills to indicate the service tax amount charged and bear the Service tax Number. (f) BOCW remittance challan

Bill submitted subsequently to be accompanied with a declaration that service tax liability on the earlier bill has been discharged

- i. by paying money to the Government (along with Tax paid Challan Copy)
  - ii. by utilization of Input Service tax Credit
- f) Letter of undertaking declaring inclusion of GST Monthly return, duly incorporating the erection income from BHEL as turnover. Copy of such returns should be submitted to BHEL at regular intervals with all annexure and details of payment.

**(viii) The following documents to be submitted to site office of BHEL for review on every 5<sup>th</sup> day of the month:**

- a) Form of Register of Workmen. ( Regulation 7)
- b) Form of Employment Card. ( Regulation 8)
- c) Form of Wage Slip.(Regulation 9)
- d) Form of Registration of Wages-Cum Muster Roll. ( Regulation 9)
- e) Form of Register of Deductions for damage or loss caused to the BHEL by neglect or default of the employed persons. ( Regulation no. 10 (vii))
- f) Form of Register of Fines ( Regulation no. 10 (VII))
- g) Any addition and deletion in formats as per statutory requirement shall be responsibility of contractor.

These forms are available along with the GCC of this NIT.

**Additional Clauses for GST:**

1. BHEL GST Number of Nodal Agency:  
Nodal Unit Registered as Supplier of Goods/Services in GST: BHEL- PSER  
GSTIN of Nodal Unit: PSER, West Bengal: 19AAACB4146P1ZC
2. HSN (Harmonized System of Nomenclature) / SAC (Services Accounting Code) to be mandatorily mentioned in all quotations & invoices submitted.
3. Invoice submitted should be in the format as specified under GST Laws viz. all details as mentioned in Invoice Rules like GSTN registration number, invoice number, quantity, rate, value, taxes with nomenclature – CGST, SGST, IGST mentioned separately, HSN Code / SAC Code etc.,
4. Payment of GST to vendors as applicable will be made only if it is matching with data uploaded by Vendors
5. Vendors to give undertaking that GST as mentioned in the Invoice has been paid/will be paid either through cash or admissible input credit and also file the returns
6. For invoices paid on Reverse charge basis – that it is “payable on reverse charge basis” to be mentioned in the invoice.
7. With respect to supplies, vendor should intimate BHEL immediately on dispatch for parallel billing on customer
8. Vendor should get GST registration, if not available, in the state of West Bengal immediately after placement of order.

**Bharat Heavy Electricals Limited**  
**ELECTRONICS DIVISION**  
MYSORE ROAD- BANGALORE-26

**INSTRUCTIONS TO TENDERERS**

1. Sealed Tender for the above noted work is hereby invited from Contractors experienced in civil construction, minor mechanical works by manual means.
2. Scope of work for 10MW: a) Location and Approach

District	Santaldih site, Purulia district, West Bengal
Nearest Railway Station	Santaldih
Nearest Commercial Airport	Kolkata 350 Kms

3. Tenders should be **addressed to V. RADHAKRISHNAN, AGM/SC&PV-ENGG.**, NEB 5<sup>th</sup> Floor, Electronics Division, Bharat Heavy Electricals Limited, Mysore Road, Bangalore – 560 026. In three separate sealed cover for “Technical cum Commercial Bid”, Price Bid and EMD duly super scribed and put in an outer envelope, super scribing the Name of work and Name and address of the Tenderer.
4. The local address of the Contractors, the name of the person to whom all the Correspondence to be addressed with contact numbers (both office and residence), should be indicated.
5. All entries in tender documents should be in one ink (preferably blue ink). Erasing and overwriting is not permitted. All corrections should be duly signed by tenderer concerned.
6. Tenderers shall fill in all the required particular in the blank space provided for this purpose in the tender documents and also sign in each and every page of the tender document including the drawings attached there to before submitting tender.
7. Unit rate should be quoted in figures as well as in words in Indian Currency only i.e. Rupees and Paisa with reference to each item and for the items shown in the attached schedule. These rates shall be for the finished work at site. The rate shall exclude all applicable taxes. Amount of each item and total on each sheet as also the grand total amount of the whole contract shall be filled by the Tenderers.
8. In case the rate quoted in figures differs from those quoted in words, the lower of the rates quoted will be taken as the tendered rate and shall be binding on the tenderer.
9. The rate to be quoted by the tenderer shall be firm.

10. (a) The rate quoted in the tender shall remain valid for a period of **'THREE MONTHS'** from the date of opening tender.  
(b) Tenderer shall not increase quoted rates, once the tenderer has submitted offers/quotation/price and during execution of contract in case tender is accepted.  
(c) Successful bidder should execute the work strictly in accordance with Tender schedule quoted rates as accepted by BHEL.  
(d) **PRICE VARIATION clause not applicable.**
11. The rates quoted should be exclusive of all taxes arising on the transaction. If BHEL is required to discharge the liability of any taxes on the transaction like TDS(IT), TDS(WCT), under reverse charge mechanism or any other similar taxes, which is or becomes payable by BHEL, the same shall be deducted from the bills of the contractor. **The rate quoted by bidder shall be exclusive of GST which shall be shown separately in price bid.**
12. Quantities shown in the schedule are only approximate and are liable to variation without entitling the Contractors to any compensation, provided the total value of the contract does not vary by more than 20% (Twenty percent).
13. Before tendering, the tenderer are advised to inspect the site of work and its environments and be well acquainted with the actual working and other prevailing conditions, position of material and labour. They should be well versed with BHEL General Conditions of Contract instruction to the tenderers, drawing and specification and all other documents which form part of the agreement to be entered into subsequent to award of work. The tenderer should be specially note that it is tenderers responsibility to provide any items which is not specifically mentioned in the specifications and drawing, but which is necessary to complete the work.
14. Details and quantities of each item of work shown in the bill of quantities attached here to only approximate. They are given as a guide for the purpose of tendering only and are liable for variation and alteration at the discretion of the competent authority. The work under each item as executed shall be measured and price at the corresponding rates to be quoted by the Contractor in the bill of quantities attached hereto.
15. Should a tenderer find discrepancies or omission in the drawing attached to the tender documents or should be in doubt as to their meaning he should at once address to the authority inviting the tender for clarifications. Every endeavor is made to avoid any error which can materially affect the basis of

the tender but successful tenderer shall take upon himself to provide for the risk of any error which may be subsequently discovered and shall make no subsequent claim on account thereof.

16. In the event of the tender being submitted by a firm the tender must be signed separately and legibly by each partner or member of the firm or in their absence, by the person holding the power of Attorney on behalf of firm concerned. In the latter case, a copy of the power of Attorney duly attested by a Gazetted Officer must accompany the tender.
17. If in any case, the date of Tender Opening falls on holiday, the Tender will be opened on the next working day.
18. **A.** Every tender must be accompanied by Earnest Money Deposit. This earnest money will be refunded to the unsuccessful tenderer after finalization of the award of work. In the case of successful tenderer, the earnest money will be retained as a part of Security Deposit for satisfactory completion of the work in accordance with Clause-16 of BHEL General Conditions of the Contract. Tenders without Earnest Money Deposit receipt are liable to reject. No interest will be paid on the earnest money deposit.  
**B. MSE suppliers can avail the intended benefits** only if they submit along with the offer, attested copies of either EM II certificate having deemed validity (Five years from the date of issue of acknowledgement in EM II) or valid NSIC certificate or EM II certificate along with attested copy of a CA certificate (Format enclosed at Annexure -1 where deemed validity of EM II certificate of five years has expired) applicable for the relevant financial year (latest audited). Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 in case of two part bid). Non submission of such documents will lead to consideration of their bid at par with other bidders. No benefits shall be applicable for this enquiry if any deficiency in the above required documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or attested by a Gazetted officer.
19. The Earnest money deposit may be furnished
  - a) Demand Draft in favour of BHEL EDN, Bangalore – 560026 **or through**
  - b) SBICOLLECT, procedure attached in Annexure A (last sheet of tender document)
20. For reimbursement of Earnest Money Deposit, the tenderer should fill the enclosed EFT form, obtain the Banker's signature and also enclose a photocopy of cancelled cheque leaf.
21. Unless the bidder whose tender is accepted signs contract agreement within fifteen days (15 days) of the date of the order directing to do so, the amount of Earnest Money already deposited by bidder will be forfeited and acceptance of the tender withdrawn.

22. If after opening of tenders a tenderer revokes the tender or increase of earlier quoted rates or after acceptance of his tender does not commence the work in accordance with the instruction of Engineer-in-charge, the Earnest Money Deposited by bidder will be forfeited and acceptance of bidder's tender withdrawn.
- If only a part of work included in the tender had been awarded to the tenderer, the amount of Earnest Money to be retained will be based on value of the contract so awarded.
23. The BHARAT HEAVY ELECTRICALS LIMITED reserve the right to reject any or all the tenders received or accept any tender or part thereof without assigning reason thereof. In the case of acceptance of a part of tender, the time for completion may also be reduced to the extent considered necessary by the accepting authority.
24. Conditional and Unsigned tenders, tenders which are incomplete or otherwise considered defective, tenders which are not in accordance with the tender conditions laid down by the accepting officer and tenders not submitted in the prescribed forms are liable to be rejected.
25. The tenderers should enclose relevant documents regarding constitution of firm i.e. Individual / Sole Proprietorship Concern / Partnership Firm / Public Limited Company / Private Limited Company to satisfy Clause 17(b) , Part –I of NIT
26. The tenders should be enclosed with a list of contracts already held by the tenderer at the time of submitting the tender and giving the following particulars:
- a) Name of the work, value and address.
  - b) The balance work remaining to be done on the same.
27. a) The filled in tender sealed cover should be dropped in the Tender box kept in the reception of BHEL-EDN, in case the sealed tender document is large and not possible to drop the same in the Tender box, it should be handed over at office of V. RADHAKRISHNAN, AGM ,SC&PV- ENGG NEB 5<sup>th</sup> Floor, Electronics Division, Bharat Heavy Electricals Limited, Mysore Road, Bangalore – 560 026 before the time fixed for submission of tender.
- b) Tenders received after the due date & time of opening of tenders will be rejected.
28. The Contractors responsibility under this contract shall commence from date of receipt of the order or acceptance of tender.
29. Tenders submitted by speed post or courier service shall be posted with due consideration of any delay in postal delivery. Tenders received after the due date of opening tenders are liable to be rejected.

30. If proprietor or partner of a firm expires after the submission of tender or after the acceptance of tender, BHEL reserves the right to cancel the contract if the character of the firm undergoes a substantial change.
31. THE BHARAT HEAVY ELECTRICALS LIMITED will not be bound by any power of Attorney granted by the tenderer or changes in the composition of firm made subsequent to signing of the contract. They may however recognize such power of Attorney and changes after obtaining proper legal advice.
32. If the tenderer deliberately gives wrong information on tender regarding past unsatisfactory performance with BHEL sister units, BHEL reserves the right to reject such tender at any stage including contract execution period.
33. Words imparting the singular number shall also be deemed to include the plural number and vice-versa where the context so require.
34. The General and Special Conditions are complementary to each other and where they are in conflict, the special condition shall prevail.
35. The expenses for completing the stamping agreement shall be paid by the contractor.
36. Unless or otherwise stated above tendered work includes men, material, machine and commissioning of equipment as agreed to in the contract.
37. After completing of the job, the contractor has to furnish actual drawings of work done in consultation with Engineer-in-charge.
38. Any covering letter and comments of the tenderer should be submitted along with the offer.
39. Cement and steel for carrying out Civil Works will have to be procured by the Contractor. Materials shall be accompanied with Test certificates and connected dispatch documents for proof of source from approved manufacturer's works or stockyard. The Contractor shall provide all the materials needed for trial run, testing including chemicals, consumables etc. In quoting their rates, the Contractors are advised to take into account the cost of the above materials.
40. Contractor are required to follow Field Quality Plan (FQP) for Civil construction as approved by BHEL/customer in respect of Tests to be carried out and reports and documents to be furnished.
41. Should a tenderer or a contractor has a relative or in the case of firm or company, any of its shareholders relative is employed in Bharat Heavy Electricals Limited, the authority inviting tenders shall be informed of this fact at the time of submission of the tender, failing which tender may be disqualified or if such fact subsequently comes to light.

42. These 'INSTRUCTIONS TO TENDERER' & GENERAL CONDITIONS OF CONTRACT OF BHEL' shall be deemed to form an integral part of the Contract agreement for the work to be entered into. The Contractor has to scrutinize the same, and when submitting his tender, indicate his acceptance of both. In cases of variation between the two in any matter, the conditions in the 'THE INSTRUCTIONS TO TENDERER' shall prevail. (Extracts of important clauses of BHEL GCC are enclosed).
43. **All operations to be carried out by the Contractor during the execution of the contract such as drilling, welding etc., shall be done with proper equipment to be brought by the tenderer. Contractor shall make his own power and water supply.**
44. The Contractor shall comply with the provision of Employees Provident Fund's and miscellaneous Provisions Act 1952 and rules, regulations and other orders issued there under. He as an employer shall be liable to pay employer's contribution/deductions towards PF under the PF Act in respect of all labour employed by him for the execution of the contract in accordance with the provisions of the Employees' Provident Funds and Miscellaneous Provisions Act, 1952 as amended from time to time. For this purpose he shall indicate the code number obtained from the Regional Provident Fund Commissioner or he should obtain a code number if he has not and produce the Photostat copy of the challan receipt of monthly remittance of the contribution made by him to the Commissioner. He shall also furnish such returns such returns as are due, under the Act, to be sent to the appropriate authorities through the Principal Employer".
45. The Contractor should get himself registered with the E.S.I Authorities as an independent Employer, obtain a separate code number and remit the dues in respect of the Labour employed by him for the work and produce the challans/Receipts of remittance of the ESI contributions due under the E.S.I Act to the Company authorities. He shall also furnish such returns, as are due, under the Act, to be sent to the appropriate authorities' through the Principal Employer. The contractor can remit their ESI & PF through a sub-agent who processes the ESI & PF code and agrees to enter an MOU with the contractor.
45. If any action is brought in by P.F. Commissioner/ESI authorities on BHEL for the work done by the Contractor for his labourers regarding PF/ESI amount due, short remittances, non-remittances etc., the Contractor shall defend the case on behalf of BHEL and / or reimburse BHEL the expenses so incurred.
46. The Contractor shall apply and obtain license under Contract labour (R&A) Act 1970 and comply the relevant provisions of this Act in respect of the labour employed by him for executing this contract. The contractor shall furnish necessary returns to the authority through the Principal Employer.

47. Contractor shall insure all his labourers and material. Any claim by his Employees for damages shall be settled by the Contractor even if action is against BHEL or to reimburse the legal expenses incurred by BHEL.
48. Any action brought in by anybody on BHEL regarding patent, right etc., used by Contractor in execution of work shall be defended by the Contractor and / or reimburse BHEL the cost of the same.
49. Contractor shall produce necessary records, documents; explanation whenever he is called upon to do by any Government Agencies.
50. Contractor should obtain "Workmen Compensation Policy" for their Employees.

51. LEAD, LIFT, DEWATERING ETC.,

- a) Unless otherwise specified in the tender schedule, the rates for all items will be deemed to include all leads, lifts and descents involved in the work.
- b) No separate payment will be made for dewatering (including seepage, surface drainage and monsoon water) desludging and allied operations at any stage of the work, and the cost of such operations will be deemed to be included in the contract rates.
- c) No separate payment will be made for curing including pumping of curing water where ever necessary.

52. EXTRA ITEMS

No extra items of work shall be carried out by the contractor other than those authorized to do so in writing by the Engineer-in-charge. For any such items of work executed as per instructions of Engineer-in-charge, the rates will be fixed on the basis indicated under clause 50 of BHEL GCC. The schedule of rates to be followed in this case will be as per BHEL estimates / derived rates and considering deductions due to percentage quoted by the vendor in his original tender price bid.

**BHARAT HEAVY ELECTRICALS LIMITED**

(ELECTRONICS DIVISION)

MYSORE ROAD- BANGALORE-26

**GENERAL CONDITIONS OF CONTRACT/TECHNICAL SPECIFICATION**

It is hereby agreed by me/us that the BHEL General Conditions of Contract including subsequent amendments/ additions/deletions to clauses if any, and conditions pertaining the settlement of disputes by Arbitration form an integral part of the tender documents and that the tender submitted by me/ us is subject to the aforesaid BHEL General Conditions of Contract/ Technical Specification for Civil works which has been read and accepted by me/us.

**CLAUSE 20 OF GENERAL CONDITIONS OF CONTRACT****LABOUR**

The Contractor shall employ labour in sufficient numbers either directly or through sub-contractors to maintain the required date of progress and of quality to ensure workmanship of the degree specified in the contract and to the satisfaction of the Engineer-in-charge. The contractor shall not employ in connection with the works any person who has not completed his eighteen years of age.

The contractor shall furnish to the Engineer-in-charge at the intervals specified by him. A distribution return of the number and description by trades of the work people employed on the works. The Contractor shall also submit on the 4th and 19th or 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 (i) 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 (ii) the number of female workers who have been allowed maternity benefits as provided in the maternity benefit Act, 1961 or Rules made there under and the amount paid to them.

The contractor shall pay to labour employed by him either directly or through sub-contractors wages not less than fair wages as defined in the contractors Labour Regulations.

The Contractor shall in respect of labour employed by him either directly or through sub- contractors comply with or cause to be complied by with sub-contractors, labour Regulations in regard to all matters provided therein.

The Contractors shall comply with the provisions of the payment of wages Act, 1936, Minimum Wages Act, 1948, Workmen's Compensation Act 1923, Industrial Disputes Act, 1947, Maternity Benefit Act 1961 or any modifications there of or any other law relating thereto and rules made there under from time to time.

The Contractors shall be liable to pay his contribution and the employees' contribution of the State Insurance Scheme in respect of all labour employed by him for the execution of the contract, in accordance with the provision of "The Employees', State Insurance Act, 1948", as amended from time to time. The Contractors shall apply to the ESI Authorities, get himself registered with them and obtain a code Number. He shall pay the remittances under his code Number only. The Contractor shall be liable to pay his contribution and the Employees' contribution towards PF as per Provident Fund Rules and Regulations in respect of all labour employed by him for the execution of the contract.

The contractor shall apply to the PF Authorities, get himself registered and obtain a code number from them. He shall pay the remittances towards PF under his code Number only. The Engineer-in-charge shall on a report having been made by an Inspecting Officer as defined in the Contractors Labour Regulations have the power 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-fulfillment of the conditions of the contract for the benefit of workers, non - payment of wages or of deductions made from him or their wages which are not justified by the terms of the contract of non-observance of the said contractor's Labour Regulations.

The Contractors shall indemnify the BHEL against any payment to be made under and for observance of the regulation aforesaid without prejudice to his right to claim indemnity from these sub-contractors.

#### **MODEL RULES FOR LABOUR WELFARE**

The Contractor shall at his own expense comply with or cause to be complied with model Rules for Labour Welfare as appended to these conditions or rules framed by Government from time to time for the protection of health and for making sanitary arrangements for workers employed directly or indirectly on the works, In case the Contractors fails to make arrangements as aforesaid the Engineer-in-charge shall be entitled do so and recover the cost thereof from the contractor.

**SAFETY CODE****RESPONSIBILITIES OF THE CONTRACTOR IN RESPECT OF SAFETY OF MEN, EQUIPMENT, MATERIAL AND ENVIRONMENT**

1. Before commencing the work, contractor shall submit a "SAFETY PLAN" to the authorized BHEL Official. The 'SAFETY PLAN' shall indicate in detail the measure that would be taken by the contractor to ensure safety of men, equipment, material and environment during execution of the work. The plan shall take care to satisfy all requirements specified hereunder. The contractor shall submit Safety Plan along with his offer. During negotiations before placing of work order and during execution of the contract BHEL shall have right to review and suggest modification in the Safety Plan. Contractor shall abide by BHEL decision in this respect.
2. The contractor shall take all necessary safety precautions and arrange for appropriate appliances as per direction of BHEL or its authorized officials to prevent loss of human lives, injuries to personnel engaged, and damage to property and environment.
3. The contractor shall provide to its work force and ensure the use of the following personal protective equipment as found necessary and as directed by the authorized BHEL Officer:-Safety Helmets conforming to IS-2925: 1984.
  - (i) Safety Belts conforming to IS-3521: 1983.
  - (ii) Safety Shoes conforming to IS-1989: 1978.
  - (iii) Eye and Face protection devices conforming to IS-8520: 1977 and IS-8940: 1978.
  - (iv) Hand and body protection devices conforming to:
    - IS-2573: 1975
    - IS-6994: 1973
    - IS-8807: 1978
    - IS-8519: 1977

All tools, tackles, lifting appliances, material handling equipment scaffolds, cradles, safety nets, ladders, equipment's etc. used by the contractor shall be of safe design and construction. These shall be tested and certificate of fitness obtained before putting them to use and from time to time as instructed by authorized BHEL Official who shall have the right to ban the use of any item. All electrical equipment's, connections and wiring for constructions power, its distribution and use shall conform to the requirement of the Indian Electricity Act and Rules. Only electricians licensed by the appropriate statutory authority shall be employed by the contractor to carry out all types of electrical works.

All electrical appliances including portable electric tools used by the contractor shall have safe plugging system to source of power and be appropriately earthed. The contractor shall not use any hand lamp energized by electric power with supply voltage of more than 24 volts. For work in confined space lighting shall be arranged with power sources of not more than 24 volts.

The Contractor shall adopt all fire safety measures as laid down in the "Code for fire Safety at Construction Sites" issued by the Safety Department of the Construction Management (HQ) of BHEL and as per directions of the authorized BHEL Official. A copy of the above referred "Code of Fire Safety at the Construction Sites" shall be made available by BHEL to the contractor for reference, on demand by the contractor, during tendering stage itself.

Where it becomes necessary to provide and/or store petroleum products, explosives, chemicals and liquid or gaseous fuel or any other substance that may cause fire or explosion, the contractor shall be responsible for carrying out such provisions and/or storage in accordance with the rules and regulations laid down in the relevant government acts, such as Petroleum Act, Explosives Act, Petroleum and Carbides of Calcium Manual of the Chief Controller of Explosives, Govt. of India. etc., prior approval to the authorized BHEL Official at the site shall also be taken by the contractor in all such matters.

The contractor shall arrange at his cost (wherever not specified) appropriate illumination at all work spots for safe working when natural daylight may not be adequate for clear visibility.

The contractor shall be held responsible for any violation of statutory regulations local, state or central and BHEL instructions that may endanger safety of men, equipment, material and environment in his scope of work or another contractor or agencies. Cost of damages if any, to life and property arising out of such violation of statutory regulations and BHEL instructions shall be borne by the contractor.

In case of a fatal or disabling injury accident to any person at construction sites due to the lapses by the contractor, the victim and/or his/her dependents shall be compensated by the contractor as per statutory requirements. However, if considered necessary, BHEL shall have the right to impose appropriate financial penalty on the contractor and recover the same from payments due to the contractor for suitably compensating the victim and/or his/her dependents. Before imposing any such penalty, appropriate enquiry shall be held by BHEL giving opportunity to the contractor to present his case.

In case of any damage to property by the contractor, BHEL shall have the right to recover cost of such damages from payments from payments due to the contractor after holding an appropriate enquiry.

In case of any delay in the completion of a job due to mishaps attributable to lapses by the contractor; BHEL shall have to recover cost of such delay from payments due to the contractor, after notifying suitably and giving him opportunity to present his case.

If the contractor fails to improve the standards of safety in its operation to the satisfaction of BHEL after being given a reasonable opportunity to do so; and/or if the contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instructions regarding safety issued by the authorized BHEL Official, BHEL shall have the right to take corrective steps at the risk and cost of the contractor after giving a notice of not less than seven days indicating the steps that would be taken by BHEL.

The contractor shall submit report of all accidents, fires and property damage, dangerous occurrence to the authorized BHEL Official immediately after such occurrence, but in any case not later than twelve hours of the occurrence. Such reports shall be furnished in the manner prescribed by BHEL. In addition, the contractor to the authorized BHEL Official shall also submit periodic reports on safety from time to time as prescribed.

Before commencing the work, the contractor shall appoint/nominate a responsible officer to supervise implementation of all safety measures and liaison with his counterpart of BHEL.

If safety record of the contractor in execution of the awarded job is to the satisfaction of Safety Department of BHEL, issue of an appropriate certificate to recognize the safety performance of the contractor may be considered by BHEL after completion the job.

## **SPECIAL CONDITONS OF CONTRACT**

### **1. GENERAL**

The special conditions of contract and other contract documents are complimentary to each other and shall be read in conjunction with each other. In case of any conflict of meanings between the special conditions of contract and the BHEL General Conditions of Contract the provisions of the special conditions of contract shall override the corresponding provisions of the BHEL General Conditions of Contract.

### **2. SCOPE OF WORK**

The scope of work includes for the full, final and entire completion of all Civil Engineering works as detailed in specifications and drawings, which forms part of this Contract. The scope of work also includes cleaning/removing all debris beyond 200 mtrs or as stipulated in the item schedule from drains, watch tower foundations and levelling the areas as per direction of the Engineer-in-charge. The scope of work under this contract shall cover supply of all materials, labour, tools, and plants etc., unless otherwise specified in the specifications, descriptions of items or in foregoing clauses.

### **3. SITE CONDITIONS**

a) Before tendering the Contractor shall get themselves acquainted with site conditions such as the nature of soil likely to be encountered during the course of the work etc., The rates quoted by the contractor shall be deemed to have been quoted after getting acquainted with the prevailing site conditions. Initial jungle clearance, stripping of top soil etc., shall also be included in the quoted rates. No claims on the pretext of ignorance of site conditions shall be entertained.

b) The site of work is Santaldih site.

### **4. SITE FACILITES**

#### **A. LAND**

The Employer will allot land as available free of cost to the contractor for his office stores. He must maintain the areas allotted to him in a neat and clean conditions as required by the Employer. The contractor shall provide adequate storage and office facilities with approval from the Engineer. The rate quoted by the contractor shall be deemed to include for these and no separate payment will be made towards these. On completion of work, the site shall be cleaned by the contractor of all materials, temporary debris, rubbish plants and equipment's, belonging to the contractor at no extra cost. The site and surroundings shall be handed over in a neat and clean condition. In case of any failure by the contractor, the employer will get inside cleared at risk and cost of the Contractor.

## **B. POWER & WATER SUPPLY:**

Facilities for drawing Power and water required at site for execution of the works shall be arranged by the contractor at his expense and risk. The necessary source for power & water supply has to be organized by vendor. Necessary distribution box, extension board points duly earthed, and with armoured safe power cables to be laid across the field provided point shall be in the scope of the tenderer. Further, laying of water intake and distribution pipes across the Site to various points of work from Electricity source provided water source point shall be in the scope of the tenderer. If required D.G generation sets shall be provided for Power arrangement by the contractor at his own cost. The tenderer shall make provision for temporary storage of water at suitable locations with pump if required to reach the water supply to work areas. The contractor will have to make his own arrangements for the same, without claiming any extra charge for the power and water drawal and distribution equipment.

## **5. MACHINERY:**

The Contractor shall at his own expense, supply all tools, plant and equipment (hereinafter referred to as T & P) required for execution of contract, as specified in the tender documents. whole of the works shall be executed in perfect conformity with the specifications and drawings. If contractor perform any works in a manner contrary to the specifications and drawings and without reference to the Engineer-in-charge, he shall bear all the costs arising or ensuring there from.

- a) All technical documents regarding the construction of works are given in the metric system and work should be carried out according to metric system.
- b) The work shall be carried out as per detailed drawings supplied by the employer. The working drawings shall be emailed progressively to the contractor free of cost. The contractor shall keep one set of drawings (duly protected from dust and wear and tear) at his own expenses always available at site for reference of Engineer-in-charge and other representatives.
- b) The works shall be carried out as per detailed specifications enclosed with the tender. For items for which there is no mention in the drawings, detailed specification relevant IS specification (latest edition) shall be followed.

- c) The contractor shall submit to the Employer for their approval complete drawings, of all temporary works and staging which he may require for carrying out the works shown in the drawings.

He shall at the same time if so required by the Employer submit his calculations relating to strength and anticipated deflection in respect of any aforesaid temporary works. He shall also submit for the approval of Employer drawings showing the methods he proposes to adopt for the erection of the various parts of the temporary works. Any modification to the drawings that may be required by the Employer shall be made by the contractor at his own cost. However, notwithstanding the approval of modification required for temporary works, the contractor shall be fully responsible for their efficiency, security and maintenance and for all obligations and risks in regard to such works, specified or implied in this contract and he shall reinstate the same at his own cost, should any mishap or accident occur causing damage or injury there from, subject however, to such clauses of the General conditions as may be applicable in such cases.

#### **6. BENCH MARKS AND REFERENCE POINTS**

The contractor shall construct and maintain proper benchmarks and reference points of the inter section of all main walls, no separate payment shall be made for this and rates quoted deemed to include this cost.

#### **7. SAFETY PRECAUTIONS**

The contractor shall at times observe the safety code and make necessary action as required in the tender. In default thereof, the employer may get this done departmentally or through other agencies and recover the cost from the contractor.

The Contractors shall also abide by all the security regulations promulgated from time to time by employer.

#### **8. RATES**

The rates to be quoted are intended to provide for works duly and properly completed in accordance with the general and special conditions of contract and specifications and drawings together with such alteration and/or conditions as may be required / ordered without prejudice to the generality thereof shall include for detail of construction which are obviously and fairly intended and which may not have been specifically referred in these documents and working drawings and but are essential for execution and satisfactory completion of work including those of minor nature and shall be deemed to include and cover internal the followings.

- a) Arrangements for obtaining the clearance wherever required from statutory bodies, regarding license for construction, permanent electricity, water supply, and sanitary connections including payment of necessary fees, inspection charges and obtaining financial certificates for using these services.

The various items rates quoted in the schedule as applicable shall be deemed to include the above services and no separate payments shall be made towards these.

- b) The cost of all superintendence and labour materials, tools, plants, equipment's, mobilizing and demobilizing equipment fuel lubricants, fixture, transport charges, temporary and permanent works and quarrying charges, testing, screening, washing, handling of materials, stacking and removal charges, of any rejected materials and water and power arrangements and satisfactory maintenance of the same satisfactory completion of the work intended.
- c) All fees, duties, royalties, rent and compensation to owner for surface damage or taxes and impositions payable to local authorities, in respect of land an structure, for all materials supplied for the work or any other duties/expenses for which the contractor may become liable or may be put to under any provision of the law for the purpose of in connection with the execution of the contract including levies payable on the transactions.
- d) Settings out of works profiles etc., and of construction repair and up-keep of all centre lines, bench marks and levels and page there of including provisions of masonry/concrete pillars showing the centre line of structure/gridlines and levels and maintenance and protection of the some including providing fencing etc., throughout the period of contract.
- e) Breaking, maintenance and removal of temporary works and buildings.
- f) Supply of complete, Moulds, cost of testing of materials etc.
- g) Working in all conditions including in/under water liquid, conditions etc., and shall also include bailing or pumping out water from the foundations, basements or any other sources of whatsoever desludging and allied operation at any stage of work including all suspension period and delays whatsoever. Cost of curing including pumping and cost of water whatever necessary.
- h) In the interest of completion of work within the stipulated time, certain works are to be carried out during the monsoon period also. No separate payment will be made to the contractor for such works and it will be deemed to be included in the contract rates.
- i) Diversion and draining works, protection works, temporary facilities, bridges, gangway.

- j) Work at all depth in foundation below the ground level and in superstructure up to all height above ground level including all lifts and distances involved at any other place of work and disposed/barrow areas.
- k) Unless otherwise specified in the specification schedule cost of all leads/lifts etc.
- l) Provision of centering, scaffolding, strutting props etc.,
- m) All materials and labour required for fencing in a protection against risk of accidents and for providing necessary/planking strutting with hand rails, gumboots, helmets, safety belts etc., during the progress of work.
- n) Prevention on trespassing by providing barrier arrangements for the safety of the public or employees during the provision of works.
- o) Works in all shapes include and curved all sizes as shown are as required.
- p) Cleaning the site after the completion of work all debris, left out construction materials machine equipment's, temporary offices, stores, works shop etc., including dressing the area neat and clean shape.
- q) Such other incidental charges or contingencies as may have been provided for in the specifications.

#### **9. LABOUR COLONIES**

Labour camp will not permitted within the project premises.

#### **10. ESCALATION**

The rates to be quoted by the tenderer shall be firm and shall cover and include all statutory levies, arising from, acts passed by parliament or by state legislature, the rates shall further be deemed to include statutory levies arising from such Acts, Central or State, which may come in to force subsequent to submission of tenders. The tenderer shall note that no claim for enhancement of rates, on the ground that existing statutory levies have been increased, or that new statutory levies have come in to effect after tender, or on any other ground, will be entertained on any account.

#### **11. QUANTITY**

The probable quantities of the several items of work are furnished in the schedule of quantities. It must be clearly understood that neither the probable quantities nor the value of individual items nor the aggregate value of the entire work shall be binding on the Employer/Engineer does not in any way assure the contractor or Guarantee that the said probable quantities are correct or that the work will correspond to these. The Employer/Engineer reserve the right to omit, vary or add to the item/work described in the schedule, of quantities and no claim for compensation will be entertaining on this account.

## **12. VARIATION / DEVIATION IN QUANTITIES:**

The contractor shall not make any alteration in addition to or omission from the work as described in the tender document except in pursuance of the written instructions of the Engineer-in-charge. No such deviation from the work described in the tender documents shall be valid unless the same has been specifically confirmed and accepted by the accepting officer in writing and incorporated in the contract. The rates quoted are firm for deviation subject to minimum of (-) 20% and maximum (+) 20% of the total value of work awarded. Deviation beyond the above limits is subject to the standard terms and conditions of BHEL.

## **13. MATERIALS**

BHEL will not supply any materials unless otherwise specified.

## **14. SUPPLY OF CEMENT, STEEL AND PAINT IS TO BE MADE BY CONTRACTOR**

Makes of supply of cement, reinforced steel, structural steel and painting materials shall be as per approved material list by WBSEDCL/ BHEL .

## **15. SUPPLY BY CONTRACTOR**

The work is for a completed job including labour and supply of all materials except those otherwise specified in the bid document.

The material and works shall be subject to inspection and test as per field quality plan (FQP) duly approved by BHEL/ WBSEDCL

All materials supplied by the contractor according to the contract conditions shall be subject to inspection and passing by the Engineer-in-charge or his representatives from time to time, the contractor providing all facilities for such instruction free of cost.

BHEL officers connected with the contract shall have the power at any time to inspect and examine any stores or materials intended to be used in or on the work, whether on the site or at any factory or workshop or other place where such stores or materials are being fabricated or manufactured or at any place the same are lying and the contractor shall give necessary facilities for such inspection and examination.

The Engineer-in-charge shall be entitled to have tests made of any stores or materials supplied by the contractor shall provide at his own expense all facilities which the Engineer-in-charge may require for this purpose. If at the discretion of the Engineer-in-charge an independent expert is employed to make any such tests his charges shall be borne by the contractor only if the tests disclosed that the said stores or materials are not in accordance with the provision of the contract.

Should the Engineer-in-charge/Civil Engineer consider at any time during the construction or reconstruction on prior to the expiry of the Maintenance Period that the stores or materials provided by the contractor are unsound or of quality inferior to that contracted for, or otherwise not in accordance with the contract (in respect where the decision of the Engineer-in-charge/Civil Engineer shall be final and conclusive) the contractor shall on demand, in writing from the Engineer-in-charge specifying the stores or materials complained of, not withstanding that the same may have been inadvertently passed, certified that and paid forth with

remove the stores or materials so specified and provide other and suitable stores or materials at his own expense, to the entire satisfaction of the Engineer-in-charge/Civil Engineer and in the event of his failing to do so within a period to be specified by the Engineer-in-charge/Civil Engineer, in his demand aforesaid, the Engineer-in-charge/Civil Engineer may replace within the other stores or materials complained of at the risk and expense in all respect of the contractor.

The liability of the contractor under this conditions, shall not extend beyond the maintenance period aforesaid except as regards stores or materials which the Engineer-in-charge/Civil Engineer shall have previously given notice to the contractor to replace (Maintenance period for any work under this organization will be six months from the date of actual completion of the particular work and handing over to BHEL).

#### **16. INTERRUPTION TO THE WORKS**

While quoting the rates/prices the Contractor should take in to account the fact that due to the design or other stipulations at site, or the necessity to follow a particular sequence of overall construction operation, or non-supply of particular drawings, or the connected work or other reasons, interruptions are likely to be encountered in a work of this nature and magnitude. No claims for such interruptions will be entertained on any account.

#### **17. EXTENSION OF TIME OR PENALTY/LIQUIDATED DAMAGES**

Extension of time or penalty/liquidated damages as the case may be will be determined as stipulated in clause 7, 9 and 41 of BHEL General Conditions of Contract.

#### **18. COMPLETION OF WORK AND MEASUREMENT**

- a) All work shall be carried out according to authorized dimensions and measurement will be restricted to those authorized dimension even though the Contractor may for convenience of this work exceed the authorized dimensions.
- b) All work shall be measured in accordance with the applicable standard method of measurements prescribed by the Indian Standard Institution (1200 latest edition) unless otherwise specified.
- c) The Contractor shall admit for technical inspection, works which are likely to be embedded or covered by other works and have the necessary measurement books and certificates to this effect duly signed by the Engineer before the works are covered.
- d) On completion of the work, the Contractor must submit to the Engineer the following documents for passing of works.
  - i) A copy of the working drawing showing there on all addition and alterations in the process of execution.
  - ii) A certificate for embedded and covered up works as in sub-para (C) above
- e) The authorized Contractors representative and a representative of the Employer shall jointly sign a certificate of handing over any completed work and date of signature of that certificate will be that the date from which the maintenance period of that unit will reckoned.

- f) Notwithstanding the above, insurance cover has to be taken by the contractor for the full value of work as also for the duration of the contract period. 50% of the Security Deposit shall be released only on the total completion of the building and handing over to BHEL to their satisfaction. Remaining 50% of Security Deposit shall be released subject to the stipulation in BHEL's GCC after 6 months from the date of completion of the building.

#### **19. MAINTENANCE OF WORK**

The contractor will be responsible for the maintenance of works during the period of construction until the various items are taken over, and for a further period of six months, from the date of taking over.

If the contractor fails to maintain the building satisfactorily, it will be got done by other agency and cost towards such maintenance together with departmental charges will be recovered from his bills/dues.

#### **20. SECURITY DEPOSIT**

Upon acceptance of the tender, the successful tenderer shall remit the security deposit with Bharat Heavy Electricals Ltd within the time as specified in the Letter of Intent.

The rate of Security Deposit will be as below:

Up to Rs.10 Lakhs	-	10%
Above Rs.10 Lakhs up to Rs.50 Lakhs	-	Rs .1 Lakhs + 7.5% of the amount exceeding Rs. 10 Lakhs
Above Rs.50 Lakhs	-	Rs. 4 Lakhs + 5% of the amount exceeding Rs. 50 Lakhs

The contractor should submit the Security Deposit before the start of the work by

- i) Cash (as permissible under the income Tax Act).
- ii) Pay order, demand draft in favour of BHEL.
- iii) Local cheques of scheduled banks, subject to realization.
- iv) Securities available from Post Offices such as National Saving Certificates, Kisan Vikas Patras etc.,(Certificate should be held in the name of contractor furnishing the security and duly pledged in favour of BHEL and discharged on the back).
- v) Bank Guarantee from scheduled Banks/Public financial Institutions as defined in the companies Act subject to a maximum of 50% of the total security deposit value. The balance 50% has to be remitted either by cash or in the other form of security. The Bank Guarantee format should have the approval of BHEL.
- vi) Fixed Deposit Receipt issued by scheduled Banks/Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C BHEL, duly discharged on the back.

- vii) Security Deposit can also be recovered at the rate of 10% from the running bills. However in such cases at least 50% of the Security Deposit should be collected before start of the work and balance 50% may be recovered from the running bills.
- viii) EMD of the successful tenderer shall be converted and adjusted against the Security Deposit. The Security Deposit shall not carry any interest.

NOTE: Accepting of Security Deposit against Sl. No. (iv) and (vi) above will be subject to hypothecation or endorsement on the documents in favour on BHEL. However, BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.

For extra items of work and deviated quantities, security deposit will be recovered at 10% of the value of deviated amount. The security deposit will be released as stipulated under clause 16(IV) of GCC.

## **21. RUNNING ACCOUNT PAYMENTS**

During execution of work, monthly payments of all works in place will be made on the basic measurements recorded in measurement sheet/book in respect of items executed but no claim on the account will be entertained, if for any reason payments are not so made.

### **22.1 MOBILIZATION ADVANCE**

Mobilization advance not exceeding 5% of work order value excluding taxes & duties or 5% of the estimated cost put to tender whichever is less will be given, if requested by the contractor in writing within one month of the order to commence the work. The advance will be released against executing a bank Guarantee Bond by the contractor from a Scheduled Nationalized Bank as specified by the Engineer-in-charge for the full amount of such advance is released. The contractor has to furnish a proof of the satisfactory utilization of the advance released by the company.

### **22.2 INTEREST & RECOVERY**

The mobilization advance above bear simple interest at the prime lending rate of SBI plus 2% per annum and shall be calculated from the date of payment to the date of recovery, both days inclusive, on the outstanding amount of advance. Recovery of such sums advanced will be recovered by installments through deduction from the contractor's bills at 10% of the bill value till the full advance is recovered.

The said bank guarantee for advances shall initially shall be made for the full amount and valid for the contract period, and be kept renewed from time to time to cover the balance amount and likely period of complete recovery together with interest.

## **23. Statutory Deduction towards Income Tax will be made as per rules.**

**24.** In respect of all labour directly or indirectly employed on the work by the Contractor, the Contractor shall comply with the provisions of the contract labour (Regulation and Abolition) Act 1970 or any amendment thereof and all legislations and rules of the State and or Central Government or other Authority, framed from time to time governing the protection of health, sanitary arrangements, wages, welfare and safety for labour employed on building and construction works. The rules and other statutory obligations with regard to fair wages, welfare and safety measures, maintenance of the register etc., will be deemed to be part of the contract.

**25.** The Contractor is required to take insurance for all workers employed on works towards payment for workmen compensation. The insurance has to be taken out within 15 days of the award of work and has to be produced at the time of signing agreement. Half (1/2%) shall be deducted for every bill if the contractor fails to produce a proof of having taken such an insurance to cover his workmen. However the contractor shall be fully responsible for all the consequences arising out of such default. This may also be read with clause 20 of BHEL GCC.

## **26. TIME OF COMPLETION**

The date of commencement of work shall be counted from the date of handing over the site to the contractor. The contractor shall plan the work in such a manner that all roofs are laid before the start of the rainy season and the work is not hampered due to rain. It may be clearly understood that time is the essence of the contract and the entire work should be completed within the time imposed in the tender document letter of intent.

**27.** The Contractor has to pay the Works Contract Tax (Under relevant section of the State Government Act) of their own on Monthly basis.

**28.** The management of BHEL shall be at liberty to terminate the contract by issuing a month's notice to the contractor without assigning any reason what so ever. As regards unsatisfactory performance or noncompliance with any of the terms & conditions of the contract by the contractor. The management of BHEL shall have the right to terminate the contractor forthwith without notice & rearrange the balance work through other agencies at the risk & cost of the contractor & under such circumstances, the Earnest Money Deposit/Security Deposit paid by the contractor shall stand forfeited.

## **29. SPECIAL CONDITIONS OF TENDER**

- i) The successful bidder should open to coming to Bangalore whenever called for any meeting.
- ii) Tenderers should not disclose any price bid details/discounts in the technical bids.
- iii) The successful bidder should construct site office / toilets for their workmen at site in consultation with Engineer-in-charge.

## **30. WORKMEN COMPENSATION POLICY**

The contractor is required to take Insurance for all the workers employed on the works towards payments for workmen compensation. The Insurance has to be taken out within 15 days of the award of work and has to be provided at the time of signing the agreement. Half percent (0.5%) of the amount shall be deducted from every bill if the contractor fails to produce a proof of having taken such an insurance to cover his workmen. However the contractor shall be fully responsible for the consequences arising out of such default.

## **LIST OF INDIAN STANDARD**

Following is the list of various Indian Standards,  
Relevant to the Civil Engg., work

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### **1. EARTH WORK**

- i) IS 1200-1992, Method Part I Earthwork, Measurement of Building, and Civil Engineering works, and chapter No.2 of CPWD/specification 1977.

### **2. MORTAR (PLASTERING)**

- 1) IS 2394-1984: Code of practice for application of lime plasters finish.
- 2) IS 1661-1972: Code of practice for application of cement lime plasters finish.
- 3) IS 2402-1963: Code of practice for external rendered finishes.

### **3. CONCRETE WORK & RCC WORK**

- 1) IS 456-2000: Code of practice for plain and reinforced concrete.
- 2) IS 432(part 1) –1982( Third Revision): Mild steel and medium tensile steel bars
- 3) IS 1766-1998: Cold twisted steel bars for concrete reinforcement.

### **4. BRICK WORK**

- 1) IS 2212-1991: Code of practice for brick work.

### **5. STONE WORK**

- 1) IS 1597-1992 (Part – I & II): Code of practice for construction of stone masonry.

### **6. MARBLE WORK**

- 1) IS 1124-1974: Methods of test for water absorption of natural building works.

### **7. STEEL WORK**

- 1) IS 800-2007(Third Revision): Code of practice for use of structural steel in general building construction.
- 2) IS 1308-1984: Steels doors, windows and ventilators
- 3) IS 1081-1960: Code of practice for fixing glazing of metal (steel & aluminium doors, windows & ventilators)
- 4) IS 1161-1998: Steel tubes for structural purposes.
- 5) IS 4351-2003: Steel doorframes.
- 6) IS-6245-5245-1971: Metal rolling shutters and rolling grills.

### **8. FLOORING**

- 1) IS 2114-1984: Code of practice for laying in situ terrazzo floor finish.
- 2) IS 2571-1970: Code of practice for in situ cement concrete flooring.
- 3) IS 5318-1969: Code of practice of laying of flexible P.V.C. sheet & tiles flooring.

## **9. ROOFING**

- 1) IS 3007(pt-I)-1999: Code of practice of lying of corrugated cement sheets.

## **10. FINISHING**

- 1) IS 133-2004: Enamel, Interior (a) under coating (b) Finishing colour as required.
- 2) IS 348-1968: French Polish.
- 3) IS 427-2005: Distemper, dry colour as required.
- 4) IS 425-1969: Distemper, oil emulsion as required.
- 5) IS 5410-1992: Cement paint, Colour as required.
- 6) IS 5411 (pt.1)-1974: Plastic emulsion paint for interior use.
- 7) IS 6278-1971: Code of practice for white washing & color washing.

## **11. DEMOLISION AND DISMANTLING**

- 1) IS 1200 (pt. 18)-1974: Method of measurements of demolition and dismantling.

## **12. SAFETY CODE**

- 1) IS 5916-1970: Safety code for construction including use of hot bituminous materials.
- 2) IS 4130-1991: Safety code for demolition of building.
- 3) IS 3754-1966: Safety code for excavation works.
- 4) IS 3696(Pt-1)-1987: Safety code for Scaffolds.

## FORM OF TENDER

Having examined the invitation to bid, Instructions to Bidder, General conditions of contract, Special conditions, Specifications tender schedule, Contract drawings and other documents for the above work, we the undersigned, offer to construct, erect complete and maintain the whole of the said in conformity with the said bid documents on the terms and conditions and under the provisions set out or called for in the contract documents at the rates listed in the schedule of unit prices or elsewhere in the contract documents.

We undertake if our bid is accepted, to commence the works within 7 days from the date of issue of award and to complete and delivery the whole of the works comprised in the contract as per the time schedule agreed to the contract document.

We agree to abide by this bid for the period of three months from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before expiry of the period.

Until and unless a formal agreement is prepared and executed this bid, together with your award thereof shall constitute a binding contract between us.

**ENCLOSURE: C**

**CLAUSE 58 OF GENERAL CONDITIONS OF CONTRACT**

**ARBITRATION:**

Except where otherwise provided for in the contract all questions and disputes relating to the meaning of the specifications, designs, drawings and instructions herein before mentioned and as to the quality of workmanship or materials used on the work or has been other as to any other questions, 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, of or the execution or failure to execute the same whether arising during the program progress of the work or after the completion or abandonment thereof shall be referred to the sole arbitration of the Executive Director/General Manager of BHEL and if the Managing Executive Director/General Manager Chief Engineer is unable or unwilling to act, to a as the sole arbitration of some other person appointed by the Executive Director / General Manager, willing to act as such Arbitrator. There will be no objection if the arbitrator so appointed is an employee of BHEL EDN or an employee of any other unit of BHEL and that he had to deal with the matters to which the contract relates and that in the course of its his duties as such he had expressed views on all or any of the matters in dispute or difference. The Arbitrator to whom the to matter is originally referred being transferred or by vacating his office or being unable to act for any reason, such Executive Director / General Manager as aforesaid at the time of such transfer, vacation of office or inability to act, shall appoint account another person to act as arbitrator in accordance with the terms of the contract, such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor. It is also a term of this contract that no person other than a person appointed by such Executive Director/General Manager or an employee appointed as arbitrator as aforesaid should act as arbitrator and the arbitrator shall give reasons for the award.

Subject as aforesaid the provision of the Arbitration Act, 1940 or any statutory modification or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause.

It is a term of a contract that the party involving invoking arbitration shall specify the dispute or disputes to be referred to arbitration under this clause together with the amount or amounts claimed in respect of each such dispute.

The arbitrator(s) may from time to time with consent of the parties enlarge extend the time, for making the publishing the awards.

The work under the contract shall, if reasonably possible, continue during the arbitration proceeding and no payment due to or payable to the contractor shall be withheld on account of such proceedings.

The arbitrator shall be deemed to have entered on the reference on the date he issued notice to both the parties fixing the date of the hearing.

The arbitrator shall give a separate speaking award in respect of each dispute or difference referred to him.

The venue of arbitration shall be such place as may be fixed by the arbitrator in his sole discretion.

The award of the arbitrator shall be final, conclusive and binding on all parties to this contract.

**Certificate by Chartered Accountant on letter head**

This is to Certify that M/S .....  
(hereinafter referred to as 'company') having its registered office at .....  
is registered under MSMED Act 2006, (Entrepreneur  
Memorandum No (Part-II) ..... dtd:.....  
Category: ..... (Micro/Small). (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as per the latest audited financial year ..... as per MSMED Act 2006 is as follows:

1. **For Manufacturing Enterprises:** Investment in plant and machinery (i.e. original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No.S.O.1722(E) dated October 5, 2006 :  
Rs.....Lacs
2. **For Service Enterprises:** Investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED Act, 2006:  
Rs.....Lacs

**(Strike off whichever is not applicable)**

The above investment of Rs.....Lacs is within permissible limit of Rs.....Lacs for .....Micro / Small (Strike off which is not applicable) Category under MSMED Act 2006.

Or

The company has been graduated from its original category (Micro/ Small) (Strike off which is not applicable) and the date of graduation of such enterprise from its original category is ..... (dd/mm/yyyy) which is within the period of 3 years from the date of graduation of such enterprise from its original category as notified vide S.O. No. 3322(E) dated 01.11.2013 published in the gazette notification dated 04.11.2013 by Ministry of MSME.

Date:

(Signature)

Name -

Membership number -

Seal of Chartered Accountant

**Electronic Funds Transfer (EFT) OR  
Paylink Direct Credit Form**

Please Fill up the form in **CAPITAL LETTERS** only.

TYPE OF REQUEST(Tick one): \_\_\_\_\_ CREATE \_\_\_\_\_ CHANGE

BHEL Vendor / Supplier Code:	<input type="text"/>
Company Name :	<input type="text"/>
Permanent Account Number(PAN):	<input type="text"/>
Address	<input type="text"/>
	<input type="text"/>

City:  PINCODE  STATE

Contact Person(s)	<input type="text"/>
Telephone No:	<input type="text"/>
Fax No:	<input type="text"/>
e-mail id:	<input type="text"/>

1 Bank Name:	<input type="text"/>
2 Bank Address:	<input type="text"/>
	<input type="text"/>
3 Bank Telephone No:	<input type="text"/>
4 Bank Account No:	<input type="text"/>
5 Account Type: Savings/Cash Credit	<input type="text"/>
6 9 Digit Code Number of Bank and branch appearing on MICR cheque issued by Bank	<input type="text"/>
7 Bank swift Code(applicable for EFT only)	<input type="text"/>
8 Bank IFSC code(applicable for RTGS)	<input type="text"/>
9 Bank IFSC code(applicable for NEFT)	<input type="text"/>

- A I hereby certify that the particulars given above are true, correct and complete and that I, as a representative for the above named Company, hereby authorise BHEL, EDN, Bangalore to electronically deposit payments to the designated bank account.
- B If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold BHEL / transferring Bank responsible.
- C This authority remains in full force until BHEL, EDN, Bangalore receives written notification requesting a change or cancellation.
- D I have read the contents of the covering letter and agree to discharge the responsibility expected of me as a participant under ECS / EFT.

Date:

Authorised Signatory:  
Designation:

Telephone NO. with STD Code

Company Seal

**Bank Certificate**

We certify that \_\_\_\_\_ has an Account No \_\_\_\_\_ with us and we confirm that the bank details given above are correct as per our records.

Date: \_\_\_\_\_ (.....)  
Place: \_\_\_\_\_ Signature

Please return completed form along with a blank cancelled cheque or photocopy thereof to:

Bharath Heavy Electricals Ltd,

Attn:

Electronics Division, Mysore Road,

BANGALORE - 560 026

In case of any Query, please call : 080-26998xxx / 2674xxxx or fax no. 080-2674xxxx

Ref.

Date:

**SITE INSPECTION CERTIFICATE**

This is to Certify that, I / We.....  
..... had inspected the proposed construction site thoroughly and understood the scope of works to be carried out in line with construction drawings/designs/data/Bill of quantities/schedule of items / specifications as brought out in the Tender as desired by BHEL.

Agreeable to all Terms & Conditions of Contract and assure to complete the work within the stipulation time frame.

Signature of the contractor

Name:

Seal

## Annexure-A

### **Guidelines for payment of EMD Fee**

Step-1: Please enter the following link in your internet address browser or click on the following link.

<https://www.onlinesbi.com/sbcollect/icollecthome.htm>

Please click on "proceed" after Clicking "Check Box" to proceed for payment

Step-2 : Now the SBI's SB-Collect site gets opened. Please select State of Corporation as " Karnataka" and type of Corporation as " Industry" and then click on "Go" appearing on the screen.


Step-3 : Now select " Bharat Heavy Electricals " from the dropdown table appearing against "Industry Name" and click Submit

Step-4: Now select " Others " from the dropdown table appearing against "Category" and click Submit

Step-5: The below screen (similar) will appear. Please select sub category "EMD" and fill up other details and transfer money.

State Bank Collect / State Bank Collect

**State Bank Collect**




**BHARAT HEAVY ELECTRICALS LTD**  
BHEL HOUSE, SIRI FORT, NEW DELHI-110003

Provide details of payment

Select Payment Category *	OTHERS
SUB CATEGORY *	--Select SUB CATEGORY--
NAME *	<input type="text"/>
VENDOR CODE	<input type="text"/>
AMOUNT *	<input type="text"/>
Remarks	<input type="text"/>

Please enter your Name, Date of Birth (For Personal Banking) / Incorporation (For Corporate Banking) & Mobile Number. This is required to reprint your e-receipt / remittance(PAP) form, if the need arises.

Name *	<input type="text"/>
Date of Birth / Incorporation*	<input type="text"/> 
Mobile Number *	<input type="text"/>
Enter the text as shown in the image *	<input type="text"/> <b>87E21</b>

**PART II - PRICED BID**

<b>ITEM 1                      FOUR RSJ POLES (for 4-pole structure)                      QTY: 2 Nos.</b>					
<b>SL. NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>	<b>UNIT</b>	<b>Unit Rate Rs.</b>	<b>Total Amount Rs.</b>
<b>1.1</b>	Earth work in excavation over areas ( Exceeding 30 cm in depth, 1.50 mtrs in width as well as 10 sqm on plan ) including disposal of excavated earth, lead upto 50 mtrs and lift upto 1.5 mtr, disposed earth to be levelled and neatly dressed in <b>all type of soil</b> and surveying to be done for land levelling before and after to record levels as per the directions of Engineer In charge.	<b>4.90</b>	<b>CUM</b>	102.02	499.49
<b>1.2</b>	Filling available excavated earth ( excluding rock ) in trenches plinth, sides of foundations etc., in layers not exceeding 20 cm in depth consolidating each deposited layer by ramming and watering, lead upto 50 mtrs and lift upto 1.50m as per the directions of Engineer In charge	<b>2.02</b>	<b>CUM</b>	101.86	205.34
<b>1.3</b>	Disposal of excavated earth by Mechanical Transport including loading ,unloading and stacking earth upto 5km complete all as per direction of Engineer-in -charge	<b>2.88</b>	<b>CUM</b>	120.83	347.98
<b>1.4</b>	Providing and laying in position cement concrete of specified grade excludingthe cost of centering and shuttering - All work up to plinth level :1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per direction of Engineer-in-charge.	<b>0.29</b>	<b>CUM</b>	3990.87	1149.37
<b>1.5</b>	Providing and laying in position machine batched and machine mixed designmix 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 perdirection 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). <b>RMC can be used on prior approval from employer.</b> All works complete all as per direction of Engineer-in -charge	<b>3.08</b>	<b>CUM</b>	5221.62	16072.16
<b>1.6</b>	Centering and shuttering including strutting, propping etc. and removal of form work for :Foundations, footings, bases for columns, small walls etc., complete as per direction of Engineer-in -charge	<b>27.36</b>	<b>SQM</b>	157.10	4298.24
					<b>22572.59</b>

ITEM NO. 2		6-POLE STRUCTURE Foundations			QTY: 1 No.	
SL. NO.	DESCRIPTION	QTY.	UNIT	Unit Rate Rs.	Total Amount Rs.	
2.1	Earth work in excavation over areas ( Exceeding 30 cm in depth, 1.50 mtrs in width as well as 10 sqm on plan ) including disposal of excavated earth, lead upto 50 mtrs and lift upto 1.5 mtr, disposed earth to be levelled and neatly dressed in <b>all type of soil</b> and surveying to be done for land levelling before and after to record levels as per the directions of Engineer In charge.	3.67	CUM	102.02	374.62	
2.2	Filling available excavated earth ( excluding rock ) in trenches plinth, sides of foundations etc., in layers not exceeding 20 cm in depth consolidating each deposited layer by ramming and watering, lead upto 50 mtrs and lift upto 1.50m as per the directions of Engineer In charge	1.51	CUM	101.86	154.01	
2.3	Disposal of excavated earth by Mechanical Transport including loading ,unloading and stacking earth upto 5km complete all as per direction of Engineer-in -charge	2.16	CUM	120.83	260.99	
2.4	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per direction of Engineer-in-charge.	0.22	CUM	3990.87	862.03	
2.5	Providing and laying in position machine batched and machine mixed designmix 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). <b>RMC can be used on priors approval from employer.</b> All works complete all as per direction of Engineer-in -charge	2.31	CUM	5221.62	12056.73	
2.6	Centering and shuttering including strutting, propping etc. and removal of form work for :Foundations, footings, bases for columns, small walls etc., complete as per direction of Engineer-in -charge	20.52	SQM	157.10	3223.68	
					<b>16932.05</b>	

ITEM 3		2 POLE STRUCTURE			QTY: 8 Nos.	
SL. NO.	DESCRIPTION	QTY.	UNIT	Unit Rate Rs.	Total Amount Rs.	
3.1	Earth work in excavation over areas ( Exceeding 30 cm in depth, 1.50 mtrs in width as well as 10 sqm on plan ) including disposal of excavated earth, lead upto 50 mtrs and lift upto 1.5 mtr, disposed earth to be levelled and neatly dressed in <b>all type of soil</b> and surveying to be done for land levelling before and after to record levels as per the directions of Engineer In charge.	9.79	CUM	102.02	998.97	
3.2	Filling available excavated earth ( excluding rock ) in trenches plinth, sides of foundations etc., in layers not exceeding 20 cm in depth consolidating each deposited layer by ramming and watering, lead upto 50 mtrs and lift upto 1.50m as per the directions of Engineer In charge	4.03	CUM	101.86	410.69	
3.3	Disposal of excavated earth by Mechanical Transport including loading ,unloading and stacking earth upto 5km complete all as per direction of Engineer-in -charge	5.76	CUM	120.83	695.97	
3.4	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per direction of Engineer-in-charge.	0.58	CUM	3990.87	2298.74	
3.5	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). <b>RMC can be used on priors approval from employer.</b> All works complete all as per direction of Engineer-in -charge	6.16	CUM	5221.62	32165.21	
3.6	Centering and shuttering including strutting, propping etc. and removal of form work for :Foundations, footings, bases for columns, small walls etc., complete as per direction of Engineer-in -charge	54.72	SQM	157.10	8596.48	
					<b>45166.06</b>	

ITEM 4		AUX. TRANSFORMER FOUNDATION			QTY:2 Nos.	
SL. NO.	DESCRIPTION	QTY.	UNIT	Unit Rate Rs.	Total Amount Rs.	
4.1	Earth work in excavation over areas ( Exceeding 30 cm in depth, 1.50 mtrs in width as well as 10 sqm on plan ) including disposal of excavated earth, lead upto 50 mtrs and lift upto 1.5 mtr, disposed earth to be levelled and neatly dressed in <b>all type of soil</b> and surveying to be done for land levelling before and after to record levels as per the directions of Engineer In charge.	4.39	CUM	102.02	448.27	
4.2	Filling available excavated earth ( excluding rock ) in trenches plinth, sides of foundations etc., in layers not exceeding 20 cm in depth consolidating each deposited layer by ramming and watering, lead upto 50 mtrs and lift upto 1.50m as per the directions of Engineer In charge	0.48	CUM	101.86	49.30	
4.3	Disposal of excavated earth by Mechanical Transport including loading ,unloading and stacking earth upto 5km complete all as per direction of Engineer-in -charge	3.91	CUM	120.83	472.68	
4.4	Plum Concrete ( <b>Or</b> ) Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per direction of Engineer-in-charge.	2.70	CUM	3990.87	10791.31	
4.5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per direction of Engineer-in-charge.	0.51	CUM	3990.87	2027.36	
4.6	Providing and laying in position machine batched and machine mixed designmix 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 perdirection 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). <b>RMC can be used on priors approval from employer.</b> All works complete all as per direction of Engineer-in -charge	1.70	CUM	5221.62	8876.76	
4.7	Providing 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 all complete as per direction of Engineer-in -charge	143.61	KG	45.85	6583.94	
4.8	Centering and shuttering including strutting, propping etc. and removal of form work for :Foundations, footings, bases for columns, small walls etc., complete as per direction of Engineer-in -charge	6.80	SQM	157.10	1068.28	
					<b>30317.91</b>	

ITEM 5		SMB FOUNDATION		QTY: 80 Nos.	
SL. NO.	DESCRIPTION	QTY.	UNIT	Unit Rate Rs.	Total Amount Rs.
5.1	Earth work in excavation over areas ( Exceeding 30 cm in depth, 1.50 mtrs in width as well as 10 sqm on plan ) including disposal of excavated earth, lead upto 50 mtrs and lift upto 1.5 mtr, disposed earth to be levelled and neatly dressed in <b>all type of soil</b> and surveying to be done for land levelling before and after to record levels as per the directions of Engineer In charge.	43.20	CUM	102.02	4407.24
5.2	Disposal of excavated earth by Mechanical Transport including loading ,unloading and stacking earth upto 5km complete all as per direction of Engineer-in -charge	43.20	CUM	120.83	5219.76
5.3	Plum Concrete <b>(Or)</b> Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per direction of Engineer-in-charge.	34.56	CUM	3990.87	137924.47
5.4	Providing and laying in position cement concrete of specified grade excludingthe cost of centering and shuttering - All work up to plinth level :1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per direction of Engineer-in-charge.	8.64	CUM	3990.87	34481.12
5.5	Providing and laying in position machine batched and machine mixed designmix 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 perdirection 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). <b>RMC can be used on priors approval from employer.</b> All works complete all as per direction of Engineer-in -charge	4.00	CUM	5221.62	20886.50
5.6	Providing 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 all complete as per direction of Engineer-in -charge	2,635.12	KG	45.85	120809.71
5.7	Centering and shuttering including strutting, propping etc. and removal of form work for :Foundations, footings, bases for columns, small walls etc., complete as per direction of Engineer-in -charge	80.00	SQM	157.10	12567.96
					<b>336296.75</b>

ITEM 6		INCOMER VCB FOUNDATION			QTY: 6 Nos.	
SL. NO.	DESCRIPTION	QTY.	UNIT	Unit Rate Rs.	Total Amount Rs.	
6.1	Earth work in excavation over areas ( Exceeding 30 cm in depth, 1.50 mtrs in width as well as 10 sqm on plan ) including disposal of excavated earth, lead upto 50 mtrs and lift upto 1.5 mtr, disposed earth to be levelled and neatly dressed in <b>all type of soil</b> and surveying to be done for land levelling before and after to record levels as per the directions of Engineer In charge.	102.76	CUM	102.02	10483.73	
6.2	Filling available excavated earth ( excluding rock ) in trenches plinth, sides of foundations etc., in layers not exceeding 20 cm in depth consolidating each deposited layer by ramming and watering, lead upto 50 mtrs and lift upto 1.50m as per the directions of Engineer In charge	74.27	CUM	101.86	7564.75	
6.3	Disposal of excavated earth by Mechanical Transport including loading ,unloading and stacking earth upto 5km complete all as per direction of Engineer-in -charge	28.50	CUM	120.83	3443.59	
6.4	Providing and laying in position cement concrete of specified grade excludingthe cost of centering and shuttering - All work up to plinth level :1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per direction of Engineer-in-charge.	5.41	CUM	3990.87	21574.64	
6.5	Providing and laying in position machine batched and machine mixed designmix 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 perdirection 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). <b>RMC can be used on priors approval from employer.</b> All works complete all as per direction of Engineer-in -charge	23.09	CUM	5221.62	120556.87	
6.6	Providing 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 all complete as per direction of Engineer-in -charge	977.15	KG	45.85	44798.60	
6.7	Centering and shuttering including strutting, propping etc. and removal of form work for :Foundations, footings, bases for columns, small walls etc., complete as per direction of Engineer-in -charge	100.84	SQM	157.10	15841.29	
					<b>224263.47</b>	

<b>ITEM 7</b>		<b>OUTGOER VCB FOUNDATION</b>			<b>QTY: 3 Nos.</b>	
<b>SL. NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>	<b>UNIT</b>	<b>Unit Rate Rs.</b>	<b>Total Amount Rs.</b>	
<b>7.1</b>	Earth work in excavation over areas ( Exceeding 30 cm in depth, 1.50 mtrs in width as well as 10 sqm on plan ) including disposal of excavated earth, lead upto 50 mtrs and lift upto 1.5 mtr, disposed earth to be levelled and neatly dressed in <b>all type of soil</b> and surveying to be done for land levelling before and after to record levels as per the directions of Engineer In charge.	<b>62.54</b>	<b>CUM</b>	102.02	6380.71	
<b>7.2</b>	Filling available excavated earth ( excluding rock ) in trenches plinth, sides of foundations etc., in layers not exceeding 20 cm in depth consolidating each deposited layer by ramming and watering, lead upto 50 mtrs and lift upto 1.50m as per the directions of Engineer In charge	<b>45.53</b>	<b>CUM</b>	101.86	4637.37	
<b>7.3</b>	Disposal of excavated earth by Mechanical Transport including loading ,unloading and stacking earth upto 5km complete all as per direction of Engineer-in -charge	<b>17.02</b>	<b>CUM</b>	120.83	2056.00	
<b>7.4</b>	Providing and laying in position cement concrete of specified grade excludingthe cost of centering and shuttering - All work up to plinth level :1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per direction of Engineer-in-charge.	<b>3.29</b>	<b>CUM</b>	3990.87	13133.95	
<b>7.5</b>	Providing and laying in position machine batched and machine mixed designmix 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 perdirection 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). <b>RMC can be used on priors approval from employer.</b> All works complete all as per direction of Engineer-in -charge	<b>13.73</b>	<b>CUM</b>	5221.62	71666.80	
<b>7.6</b>	Providing 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 all complete as per direction of Engineer-in -charge	<b>609.67</b>	<b>KG</b>	45.85	27950.75	
<b>7.7</b>	Centering and shuttering including strutting, propping etc. and removal of form work for :Foundations, footings, bases for columns, small walls etc., complete as per direction of Engineer-in -charge	<b>60.02</b>	<b>SQM</b>	157.10	9428.80	
					<b>135254.37</b>	

<b>ITEM 8 LAYING OF DC CABLE IN TRENCH QTY:3000 Rmts.</b>					
<b>SL. NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>	<b>UNIT</b>	<b>Unit Rate Rs.</b>	<b>Total Amount Rs.</b>
8.1	Laying of DC cables in trench excluding cost of excavation of trench (850mm depth) and including the cost of supply & laying of 75mm thick bricks ,supply & laying of 200 mm thick sand and backfilling of available soil upto NGL. Average width of the trench is 1.1 M, total length 3000 M	3,000	RM	327.60	982800.00
					<b>982800.00</b>
<b>ITEM 9 MAIN TRANSFORMER FOUNDATION QTY: 4 Nos.</b>					
<b>SL. NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>	<b>UNIT</b>	<b>Unit Rate Rs.</b>	<b>Total Amount Rs.</b>
9.1	Earth work in excavation over areas ( Exceeding 30 cm in depth, 1.50 mtrs in width as well as 10 sqm on plan ) including disposal of excavated earth, lead upto 50 mtrs and lift upto 1.5 mtr, disposed earth to be levelled and neatly dressed in <b>all type of soil</b> and surveying to be done for land levelling before and after to record levels as per the directions of Engineer In charge.	164.00	Cum	102.02	16731.20
9.2	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50 m and lift upto 1.5 m, disposed earth to be levelled and neatly dressed and surveying to be done for land levelling before and after to record levels : <b>Ordinary rock</b> . complete all as per direction of Engineer-in -charge	16.00	Cum	179.05	2864.81
9.3	Disposal of excavated earth by Mechanical Transport including loading ,unloading and stacking earth upto 5km complete all as per direction of Engineer-in -charge	14.99	Cum	120.83	1811.45
9.4	Filling available excavated earth ( excluding rock ) in trenches plinth, sides of foundations etc., in layers not exceeding 20 cm in depth consolidating each deposited layer by ramming and watering, lead upto 50 mtrs and lift upto 1.50m as per the directions of Engineer In charge	148.00	Cum	101.86	15074.91
9.5	Providing and laying in position cement concrete of specified grade excludingthe cost of centering and shuttering - All work up to plinth level :1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per direction of Engineer-in-charge.	2.92	Cum	3990.87	11637.38
9.6	Providing and laying in position machine batched and machine mixed designmix 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 perdirection 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). <b>RMC can be used on prior approval from employer.</b> All works complete all as per direction of Engineer-in -charge	16.00	Cum	5221.62	83545.99

9.7	Centering and shuttering including strutting, propping etc. and removal of form work for :Foundations, footings, bases for columns, small walls etc., complete as per direction of Engineer-in -charge	60.00	Sqm	157.10	9425.97
9.8	Providing 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 all complete as per direction of Engineer-in -charge	993.28	kg	45.85	45537.91
					<b>186629.62</b>

**ITEM 10 FENCING NEAR CONTROL ROOM QTY: 1 No.**

SL. NO.	DESCRIPTION	QTY.	UNIT	Unit Rate Rs.	Total Amount Rs.
10.1	Earth work in excavation over areas ( Exceeding 30 cm in depth, 1.50 mtrs in width as well as 10 sqm on plan ) including disposal of excavated earth, lead upto 50 mtrs and lift upto 1.5 mtr, disposed earth to be levelled and neatly dressed in <b>all type of soil</b> and surveying to be done for land levelling before and after to record levels as per the directions of Engineer In charge.	19.00	Cum	102.02	1938.37
10.2	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50 m and lift upto 1.5 m, disposed earth to be levelled and neatly dressed and surveying to be done for land levelling before and after to record levels : <b>Ordinary rock</b> . complete all as per direction of Engineer-in -charge	2.00	Cum	179.05	358.10
10.3	Disposal of excavated earth by Mechanical Transport including loading ,unloading and stacking earth upto 5km complete all as per direction of Engineer-in -charge	7.16	Cum	120.83	864.55
10.4	Filling available excavated earth ( excluding rock ) in trenches plinth, sides of foundations etc., in layers not exceeding 20 cm in depth consolidating each deposited layer by ramming and watering, lead upto 50 mtrs and lift upto 1.50m as per the directions of Engineer In charge	12.00	Cum	101.86	1222.29
10.5	Providing and laying in position cement concrete of specified grade excludingthe cost of centering and shuttering - All work up to plinth level :1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per direction of Engineer-in-charge.	2.68	Cum	3990.87	10675.58
10.6	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) all complete as per direction of Engineer-in -charge	9.12	Cum	3848.84	35104.47
10.7	Providing and laying of cement concrete with 50mm coping on compound wall PCC 1:2:4 using 20mm & down aggregates, finishing & curing complete all as per direction of Engineer-in -charge	0.70	Cum	4440.38	3086.29

10.8	Providing and laying in position machine batched and machine mixed designmix 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). <b>RMC can be used on priors approval from employer.</b> All works complete all as per direction of Engineer-in -charge	7.00	Cum	5221.62	36551.37
10.9	Centering and shuttering including strutting, propping etc. and removal of form work for :Foundations, footings, bases for columns, small walls etc., complete as per direction of Engineer-in -charge	77.00	Sqm	157.10	12096.66
10.10	Providing and fixing G.I. chain link mesh fabric fencing of required width in mesh size 25 X25 mm /40X40MM made of G.I. wire of dia 4 mm including strengthening with 2 mm dia wire or nuts, bolts and washers as required both ends twisted conforming to IS 2721 complete as per the direction of Engineer-in-charge.	66.72	sqm	489.69	32674.47
10.11	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying two priming coat of approved yellow zinc chromate steel primer all complete as per direction of Engineer-in -charge	1109.00	kg	54.76	60724.40
10.12	Painting on Angles and steel structures with epoxy based synthetic enamel paint of approved brand and manufacture of Siemens Grey RAL - 7032.Thickness of paint shall be not less than 75 micron: Two or more coats on new work of approved brand and manufacture as per direction of Engineer-in -charge.	53.67	Sqm	95.63	5132.35
10.13	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, complete gates arrangements/Fittings (structural part including locking arrangements) , Cattle catcher etc as per drawings and similar works all complete as per direction of Engineer-in -charge	297.16	kg	69.62	20688.41
10.14	12 mm cement plaster of mix : 1:6 (1 cement: 6 coarse sand) CEMENT PLASTER (IN COARSE SAND)	86.19	Sqm	142.56	12286.70
10.15	Finishing walls with water proofing cement paint of required shade : New work (Two or more coats applied @ 3.84 kg/10 sqm all complete as per direction of Engineer-in -charge	86.19	sqm	52.07	4487.28
10.16	Providing 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 all complete as per direction of Engineer-in -charge	223.57	kg	45.85	10249.88
					<b>248141.17</b>

ITEM 11 BIG FENCING NEAR INVERTER ROOM QTY: 2 Nos.					
SL. NO.	DESCRIPTION	QTY.	UNIT	Unit Rate Rs.	Total Amount Rs.
11.1	Earth work in excavation over areas ( Exceeding 30 cm in depth, 1.50 mtrs in width as well as 10 sqm on plan ) including disposal of excavated earth, lead upto 50 mtrs and lift upto 1.5 mtr, disposed earth to be levelled and neatly dressed in <b>all type of soil</b> and surveying to be done for land levelling before and after to record levels as per the directions of Engineer In charge.	40.00	Cum	102.02	4080.78
11.2	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50 m and lift upto 1.5 m, disposed earth to be levelled and neatly dressed and surveying to be done for land levelling before and after to record levels : <b>Ordinary rock</b> . complete all as per direction of Engineer-in -charge	4.00	Cum	179.05	716.20
11.3	Disposal of excavated earth by Mechanical Transport including loading ,unloading and stacking earth upto 5km complete all as per direction of Engineer-in -charge	14.84	Cum	120.83	1793.08
11.4	Filling available excavated earth ( excluding rock ) in trenches plinth, sides of foundations etc., in layers not exceeding 20 cm in depth consolidating each deposited layer by ramming and watering, lead upto 50 mtrs and lift upto 1.50m as per the directions of Engineer In charge	26.00	Cum	101.86	2648.30
11.5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per direction of Engineer-in-charge.	5.51	Cum	3990.87	21997.68
11.6	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) all complete as per direction of Engineer-in -charge	17.60	Cum	3848.84	67739.52
11.7	Providing and laying of cement concrete with 50mm coping on compound wall PCC 1:2:4 using 20mm & down aggregates, finishing & curing complete all as per direction of Engineer-in -charge	1.38	Cum	4440.38	6127.72
11.8	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). <b>RMC can be used on priors approval from employer.</b> All works complete all as per direction of Engineer-in -charge	14.00	Cum	5221.62	73102.74
11.9	Centering and shuttering including strutting, propping etc. and removal of form work for :Foundations, footings, bases for columns, small walls etc., complete as per direction of Engineer-in -charge	160.00	Sqm	157.10	25135.92

<b>11.10</b>	Providing and fixing G.I. chain link mesh fabric fencing of required width in mesh size 25 X25 mm /40X40MM made of G.I. wire of dia 4 mm including strengthening with 2 mm dia wire or nuts, bolts and washers as required both ends twisted conforming to IS 2721 complete as per the direction of Engineer-in-charge.	<b>132.48</b>	<b>sqm</b>	489.69	64874.13
<b>11.11</b>	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying two priming coat of approved yellow zinc chromate steel primer all complete as per direction of Engineer-in -charge	<b>2210.00</b>	<b>kg</b>	54.76	121010.76
<b>11.12</b>	Painting on Angles and steel structures with epoxy based synthetic enamel paint of approved brand and manufacture of Siemens Grey RAL - 7032.Thickness of paint shall be not less than 75 micron: Two or more coats on new work of approved brand and manufacture as per direction of Engineer-in -charge.	<b>107.00</b>	<b>Sqm</b>	95.63	10231.48
<b>11.13</b>	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, complete gates arrangements/Fittings (structural part including locking arrangements) , Cattle catcher etc as per drawings and similar works all complete as per direction of Engineer-in -charge	<b>594.33</b>	<b>kg</b>	69.62	41376.82
<b>11.14</b>	12 mm cement plaster of mix : 1:6 (1 cement: 6 coarse sand) CEMENT PLASTER (IN COARSE SAND)	<b>171.12</b>	<b>Sqm</b>	142.56	24394.87
<b>11.15</b>	Finishing walls with water proofing cement paint of required shade : New work (Two or more coats applied @ 3.84 kg/10 sqm all complete as per direction of Engineer-in -charge	<b>171.12</b>	<b>sqm</b>	52.07	8909.36
<b>11.16</b>	Providing 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 all complete as per direction of Engineer-in -charge	<b>490.42</b>	<b>kg</b>	45.85	22483.61
					<b>496622.97</b>

<b>ITEM 12 SMALL FENCING NEAR INVERTER ROOM QTY: 2 Nos.</b>					
<b>SL. NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>	<b>UNIT</b>	<b>Unit Rate Rs.</b>	<b>Total Amount Rs.</b>
<b>12.1</b>	Earth work in excavation over areas ( Exceeding 30 cm in depth, 1.50 mtrs in width as well as 10 sqm on plan ) including disposal of excavated earth, lead upto 50 mtrs and lift upto 1.5 mtr, disposed earth to be levelled and neatly dressed in <b>all type of soil</b> and surveying to be done for land levelling before and after to record levels as per the directions of Engineer In charge.	<b>16.00</b>	<b>Cum</b>	102.02	1632.31
<b>12.2</b>	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50 m and lift upto 1.5 m, disposed earth to be levelled and neatly dressed and surveying to be done for land levelling before and after to record levels : <b>Ordinary rock</b> . complete all as per direction of Engineer-in -charge	<b>2.00</b>	<b>Cum</b>	179.05	358.10
<b>12.3</b>	Disposal of excavated earth by Mechanical Transport including loading ,unloading and stacking earth upto 5km complete all as per direction of Engineer-in -charge	<b>6.29</b>	<b>Cum</b>	120.83	760.01
<b>12.4</b>	Filling available excavated earth ( excluding rock ) in trenches plinth, sides of foundations etc., in layers not exceeding 20 cm in depth consolidating each deposited layer by ramming and watering, lead upto 50 mtrs and lift upto 1.50m as per the directions of Engineer In charge	<b>10.00</b>	<b>Cum</b>	101.86	1018.58
<b>12.5</b>	Providing and laying in position cement concrete of specified grade excludingthe cost of centering and shuttering - All work up to plinth level :1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per direction of Engineer-in-charge.	<b>2.59</b>	<b>Cum</b>	3990.87	10352.32
<b>12.6</b>	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) all complete as per direction of Engineer-in -charge	<b>7.04</b>	<b>Cum</b>	3848.84	27095.81
<b>12.7</b>	Providing and laying of cement concrete with 50mm coping on compound wall PCC 1:2:4 using 20mm & down aggregates, finishing & curing complete all as per direction of Engineer-in -charge	<b>0.55</b>	<b>Cum</b>	4440.38	2442.21
<b>12.8</b>	Providing and laying in position machine batched and machine mixed designmix 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 perdirection 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). <b>RMC can be used on priors approval from employer.</b> All works complete all as per direction of Engineer-in -charge	<b>6.00</b>	<b>Cum</b>	5221.62	31329.75
<b>12.9</b>	Centering and shuttering including strutting, propping etc. and removal of form work for :Foundations, footings, bases for columns, small walls etc., complete as per direction of Engineer-in -charge	<b>70.00</b>	<b>Sqm</b>	157.10	10996.97

<b>12.10</b>	Providing and fixing G.I. chain link mesh fabric fencing of required width in mesh size 25 X25 mm /40X40MM made of G.I. wire of dia 4 mm including strengthening with 2 mm dia wire or nuts, bolts and washers as required both ends twisted conforming to IS 2721 complete as per the direction of Engineer-in-charge.	<b>52.80</b>	<b>sqm</b>	489.69	25855.63
<b>12.11</b>	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying two priming coat of approved yellow zinc chromate steel primer all complete as per direction of Engineer-in -charge	<b>974.00</b>	<b>kg</b>	54.76	53332.34
<b>12.12</b>	Painting on Angles and steel structures with epoxy based synthetic enamel paint of approved brand and manufacture of Siemens Grey RAL - 7032.Thickness of paint shall be not less than 75 micron: Two or more coats on new work of approved brand and manufacture as per direction of Engineer-in -charge.	<b>49.97</b>	<b>Sqm</b>	95.63	4777.97
<b>12.13</b>	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, complete gates arrangements/Fittings (structural part including locking arrangements) , Cattle catcher etc as per drawings and similar works all complete as per direction of Engineer-in -charge	<b>594.33</b>	<b>kg</b>	69.62	41376.82
<b>12.14</b>	12 mm cement plaster of mix : 1:6 (1 cement: 6 coarse sand) CEMENT PLASTER (IN COARSE SAND)	<b>68.20</b>	<b>Sqm</b>	142.56	9722.59
<b>12.15</b>	Finishing walls with water proofing cement paint of required shade : New work (Two or more coats applied @ 3.84 kg/10 sqm all complete as per direction of Engineer-in -charge	<b>68.20</b>	<b>sqm</b>	52.07	3550.83
<b>12.16</b>	Providing 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 all complete as per direction of Engineer-in -charge	<b>245.21</b>	<b>kg</b>	45.85	11241.81
					<b>235844.03</b>

ITEM 13 TRENCH AND EARTH PIT CHAMBER CONSTRUCTION			QTY: 500 Mtrs.		
SL. NO.	DESCRIPTION	QTY.	UNIT	Unit Rate Rs.	Total Amount Rs.
13.1	Earth work in excavation over areas ( Exceeding 30 cm in depth, 1.50 mtrs in width as well as 10 sqm on plan ) including disposal of excavated earth, lead upto 50 mtrs and lift upto 1.5 mtr, disposed earth to be levelled and neatly dressed in <b>all type of soil</b> and surveying to be done for land levelling before and after to record levels as per the directions of Engineer In charge.	665.00	Cum	102.02	67842.97
13.2	Disposal of excavated earth by Mechanical Transport including loading ,unloading and stacking earth upto 5km complete all as per direction of Engineer-in -charge	258.88	Cum	120.83	31279.27
13.3	Filling available excavated earth ( excluding rock ) in trenches plinth, sides of foundations etc., in layers not exceeding 20 cm in depth consolidating each deposited layer by ramming and watering, lead upto 50 mtrs and lift upto 1.50m as per the directions of Engineer In charge	406.13	Cum	101.86	41366.88
13.4	Providing and laying in position cement concrete of specified grade excludingthe cost of centering and shuttering - All work up to plinth level :1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per direction of Engineer-in-charge.	40.88	Cum	3990.87	163126.81
13.5	Providing, hoisting and fixing up to floor five level precast reinforced cement concrete work in string courses, bands, copings, bed plates, anchor blocks, plain window sills and the like, including the cost of required centering, shuttering but excluding cost of reinforcement, with 1:2:4 (1cement: 2 coarse sand: 4graded stone aggregate 20 mm nominal size)	27.25	Cum	5647.40	153891.68
13.6	Centering and shuttering including strutting, propping etc. and removal of form work for :Foundations, footings, bases for columns, small walls etc., complete as per direction of Engineer-in -charge	75.00	Sqm	157.10	11782.46
13.7	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) all complete as per direction of Engineer-in -charge	177.00	Cum	3848.84	681244.06
13.8	12 mm cement plaster of mix : 1:6 (1 cement: 6 coarse sand) CEMENT PLASTER (IN COARSE SAND)	1,627.00	Sqm	142.56	231945.12
13.9	Providing 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 all complete as per direction of Engineer-in -charge	2,976.00	kg	45.85	136437.70
13.10	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying two priming coat of approved yellow zinc chromate steel primer all complete as per direction of Engineer-in -charge	2,100.00	kg	54.76	114987.60
13.11	C.I. cover and frame 300x300 mm inside	150.00	Nos	243.00	36450.00

13.12	Painting on Angles and steel structures with epoxy based synthetic enamel paint of approved brand and manufacture of Siemens Grey RAL - 7032.Thickness of paint shall be not less than 75 micron: Two or more coats on new work of approved brand and manufacture as per direction of Engineer-in -charge.	90.00	Sqm	95.63	8606.25
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**1678960.79**

**ITEM 14 SUPPLY AND FABRICATION OF STRUCTURAL STEEL Qty: 1 No.**

SL. NO.	DESCRIPTION	QTY.	UNIT	Unit Rate Rs.	Total amount Rs.
14.1	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying two priming coat of approved yellow zinc chromate steel primer all complete as per direction of Engineer-in -charge	5,420	kg	54.76	296777.52
14.2	Painting on Angles and steel structures with epoxy based synthetic enamel paint of approved brand and manufacture of Siemens Grey RAL - 7032.Thickness of paint shall be not less than 75 micron: Two or more coats on new work of approved brand and manufacture as per direction of Engineer-in -charge.	505.48	Sqm	95.63	48336.31
14.3	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, complete gates arrangements/Fittings (structural part including locking arrangements) , Cattle catcher etc as per drawings and similar works all complete as per direction of Engineer-in -charge	4,000	kg	69.62	278478.00
					<b>623591.83</b>

**ITEM 15 L A (ESE) FOUNDATIONS QTY. 10 Nos.**

SL. NO.	DESCRIPTION	QTY.	UNIT	Unit Rate Rs.	Total Amount Rs.
15.1	Earth work in excavation over areas ( Exceeding 30 cm in depth, 1.50 mtrs in width as well as 10 sqm on plan ) including disposal of excavated earth, lead upto 50 mtrs and lift upto 1.5 mtr, disposed earth to be levelled and neatly dressed in <b>all type of soil</b> and surveying to be done for land levelling before and after to record levels as per the directions of Engineer In charge.	4.90	CUM	102.02	499.90
15.2	Filling available excavated earth ( excluding rock ) in trenches plinth, sides of foundations etc., in layers not exceeding 20 cm in depth consolidating each deposited layer by ramming and watering, lead upto 50 mtrs and lift upto 1.50m as per the directions of Engineer In charge	4.73	CUM	101.86	481.79
15.3	Disposal of excavated earth by Mechanical Transport including loading ,unloading and stacking earth upto 5km complete all as per direction of Engineer-in -charge	0.17	CUM	120.83	20.54
15.4	Providing and laying in position cement concrete of specified grade excludingthe cost of centering and shuttering - All work up to plinth level :1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per direction of Engineer-in-charge.	0.25	CUM	3990.87	997.72

<b>15.5</b>	Providing and laying in position machine batched and machine mixed designmix 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). <b>RMC can be used on priors approval from employer.</b> All works complete all as per direction of Engineer-in -charge	<b>3.16</b>	<b>CUM</b>	5221.62	16500.33
<b>15.6</b>	Centering and shuttering including strutting, propping etc. and removal of form work for :Foundations, footings, bases for columns, small walls etc., complete as per direction of Engineer-in -charge	<b>18.00</b>	<b>SQM</b>	157.10	2827.79
<b>15.7</b>	Providing 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 all complete as per direction of Engineer-in -charge	<b>336.29</b>	<b>KG</b>	45.85	15417.55
					<b>36745.62</b>
<b>ITEM 16 SUPPLY &amp; FIXING OF HUME/ PVC PIPE &amp; PAINT FINISH</b>					<b>QTY. 1 No</b>
<b>SL. NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>	<b>UNIT</b>	<b>Unit Rate Rs.</b>	<b>Total Amount Rs.</b>
<b>16.1</b>	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 : 300 dia RCC pipe	<b>75.00</b>	<b>M</b>	455.72	34178.63
<b>16.2</b>	Supply and fixing of CPVC pipe 150 mm dia	<b>50.00</b>	<b>M</b>	1184.22	59211.00
<b>16.3</b>	Finishing walls with water proofing cement paint of required shade : New work (Two or more coats applied @ 3.84 kg/10 sqm all complete as per direction of Engineer-in -charge	<b>1000.00</b>	<b>sqm</b>	52.07	52065.00
					<b>145454.63</b>

ITEM 17		DEVELOPMENT OF YARD			QTY. 1 No
SL. NO.	DESCRIPTION	QTY.	UNIT	Unit Rate Rs.	Total Amount Rs.
17.1	Earth work in excavation over areas ( Exceeding 30 cm in depth, 1.50 mtrs in width as well as 10 sqm on plan ) including disposal of excavated earth, lead upto 50 mtrs and lift upto 1.5 mtr, disposed earth to be levelled and neatly dressed in <b>all type of soil</b> and surveying to be done for land levelling before and after to record levels as per the directions of Engineer In charge.	200.00	CUM	102.02	20403.90
17.2	Banking excavated earth/ or from borrow area 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,dressing up rolling and compaction, including dewatering , in embankments for roads, flood banks, marginal banks, ground, guide banks etc., inclusive all . <b>All kinds of soil</b>	150.00	CUM	218.50	32774.63
17.3	Disposal of excavated earth by Mechanical Transport including loading ,unloading and stacking earth upto 5km complete all as per direction of Engineer-in -charge	50.00	CUM	120.83	6041.39
17.4	Supply of stone jelly 100mm layer	100.00	CUM	1053.00	105300.00
17.5	Spreading of stone jelly 100mm layer	1,000.00	SQM	18.00	18000.00
					<b>182519.91</b>

<b>ITEM 18</b>		<b>EARTHING WORK</b>			<b>QTY. 1 No</b>	
<b>SL. NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>	<b>UNIT</b>	<b>Unit Rate Rs.</b>	<b>Total Amount Rs.</b>	
<b>18.1</b>	Drilling 300 mm dia 3 M depth pile for electrode installation	<b>50.00</b>	<b>No</b>	972.00	145800.00	
<b>18.2</b>	Installation of Earth electrode- Chemical or Conventional type including watering of electrodes for next 6 days twice a day. Chemical electrodes and Back fill compound will be supplied by BHEL.	<b>150.00</b>	No	135.00	20250.00	
<b>18.3</b>	25x3 mm GI strip Earthing- Welding of 25 x 3 mm GI strip to this 50x6 mm strip for connection to nearest chemical electrode (for 150 chemical electrodes including short length excavaton of 300mm depth for strip laying) and structure to structure connections (cutting to specific length, drilling on both ends of strip) for 1750 structures. - BHEL will provide the 25 x 3 GI earth strip - Welding to be with length over lap of 100 mm for increasing length of 25x3mm strip - Drilling of holes in 25 x 3 earth strip for jointing another small piece strip of 25 x 3 mm for final connection to chemicalelectrode. - bending of earth strip for laying along structure for proper finishing - applying two priming coat of approved zinc chromate steel primer on welded joints - Work include joining to chemical electrode. BHEL will arrange for chemical electrode and for hardware for final connecting	<b>8,000.00</b>	<b>M</b>	39.60	316800.00	
<b>18.4</b>	50X6 mm GI strip earthing- Laying below ground level at depth of 300mm of GI flat strip for approximately 5000 metres running length in the solar array filed including: - Excavation of 300 mm depth, laying jointed GI strips and closing / refilling soil. - Joining the lengths of 5 metre GI flat strips of 50x6mm by welding with 150mm overlap - welding to be all long one side of 350-400 mm welding length, applying two priming coat of approved zinc chromate steel primer on welded joints IS-certified welding rods to be used. - BHEL will supply all GI strips	<b>5,000.00</b>	<b>M</b>	194.40	972000.00	
					<b>1454850.00</b>	

ITEM 19		EARTH MAT IN 33 KV YARDS			QTY. 1 No	
SL. NO.	DESCRIPTION	QTY.	UNIT	Unit Rate Rs.	Total Amount Rs.	
19.1	Earth work in excavation over areas ( Exceeding 30 cm in depth, 1.50 mtrs in width as well as 10 sqm on plan ) including disposal of excavated earth, lead upto 50 mtrs and lift upto 1.5 mtr, disposed earth to be levelled and neatly dressed in <b>all type of soil</b> and surveying to be done for land levelling before and after to record levels as per the directions of Engineer In charge.	360.00	CUM	102.02	36727.02	
19.2	Filling available excavated earth ( excluding rock ) in trenches plinth, sides of foundations etc., in layers not exceeding 20 cm in depth consolidating each deposited layer by ramming and watering, lead upto 50 mtrs and lift upto 1.50m as per the directions of Engineer In charge	355.00	CUM	101.86	36159.41	
19.3	Disposal of excavated earth by Mechanical Transport including loading ,unloading and stacking earth upto 5km complete all as per direction of Engineer-in-charge	5.00	CUM	120.83	604.14	
19.4	EARTH MAT WORK-Laying of GI rods of 32mm dia at depth of 1 metre, making welding overlap joints of 32 mm dia rod by all round welding on both ends and applying two priming coat of approved zinc chromate steel primer on welded joints	900.000	M	64.80	58320.00	
19.5	50X8 mm GI earth strip earthing- Welding of 50 x 8 mm GI strip to 32 mm rod for connection to earth mat, connection to earth electrodes, yard structures & equipments - BHEL will provide the 50 x 8 GI earth strip - Welding to be with length over lap of 100 mm for increasing length of 50x8mm strip - Drilling of holes in 50 x 8 mm earth strip for joining at structure/ electrode/ equipment end. - bending of earth strip for laying along structure/ equipment for proper finishing - applying two priming coat of approved zinc chromate steel primer on welded joints	2500.000	M	72.00	180000.00	
					<b>311810.57</b>	

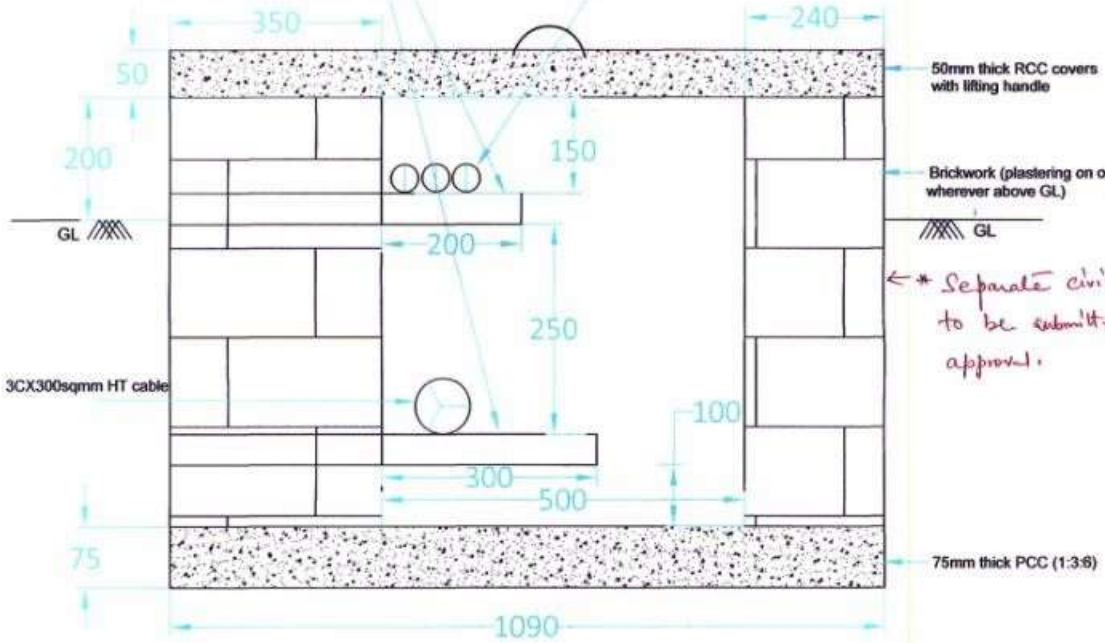
Summary of Price bid

ITEM NO.	NAME OF WORK	AMOUNT in Rs.
1	FOUR RSJ POLES (for 4-pole structure) 2 Nos.	22572.59
2	6-POLE STRUCTURE Foundations 1 No.	16932.05
3	2 POLE STRUCTURE 8 Nos.	45166.06
4	AUX. TRANSFORMER FOUNDATION 2 Nos.	30317.91
5	SMB FOUNDATION 80 Nos.	336296.75
6	INCOMER VCB FOUNDATION 6 Nos.	224263.47
7	OUTGOER VCB FOUNDATION 3 Nos.	135254.37
8	LAYING OF DC CABLE IN TRENCH 3000 Rmt.	982800.00
9	MAIN TRANSFORMER FOUNDATION 4 Nos.	186629.62
10	FENCING NEAR CONTROL ROOM 1 No.	248141.17
11	BIG FENCING NEAR INVERTER ROOM 2 Nos.	496622.97
12	SMALL FENCING NEAR INVERTER ROOM 2 Nos.	235844.03
13	TRENCH AND EARTH PIT CHAMBER CONSTRUCTION 500 Mtrs.	1678960.79
14	SUPPLY AND FABRICATION OF STRUCTURAL STEEL	623591.83
15	L A (ESE) FOUNDATIONS 10Nos.	36745.62
16	SUPPLY & FIXING OF HUME/ PVC PIPE & PAINT FINISH	145454.63
17	DEVELOPMENT OF YARD	182519.91
18	EARTHING WORK	1454850.00
19	EARTH MAT IN 33KV YARDS	311810.57
	<b>TOTAL COST OF ABOVE WORKS (without applicable GST)</b>	<b>7394774.34</b>
	<b>BIDDER HAS TO INDICATE overall percentage above or below or ; par with respect to total tender value of Rs. Rs. 73,94,774.34</b>	<b>VENDOR TO INDICATE</b>
	<b>TOTAL AMOUNT AFTER APPLICATION OF PERCENTAGE (%)</b>	<b>VENDOR TO INDICATE</b>

50X50X6 mm MS angle grouted in brickwall with rust proof painting for HT cable support at an interval of every 1 m

OFC, LT Auxiliary cables

DRAWING FOR REFERENCE ONLY  
TENDER No: EDN: SCPV:FOUNDATIONS:  
SANTALDIH/17-18/03 DATED 12/11/2017



*\* Separate civil drawing to be submitted for approval.*

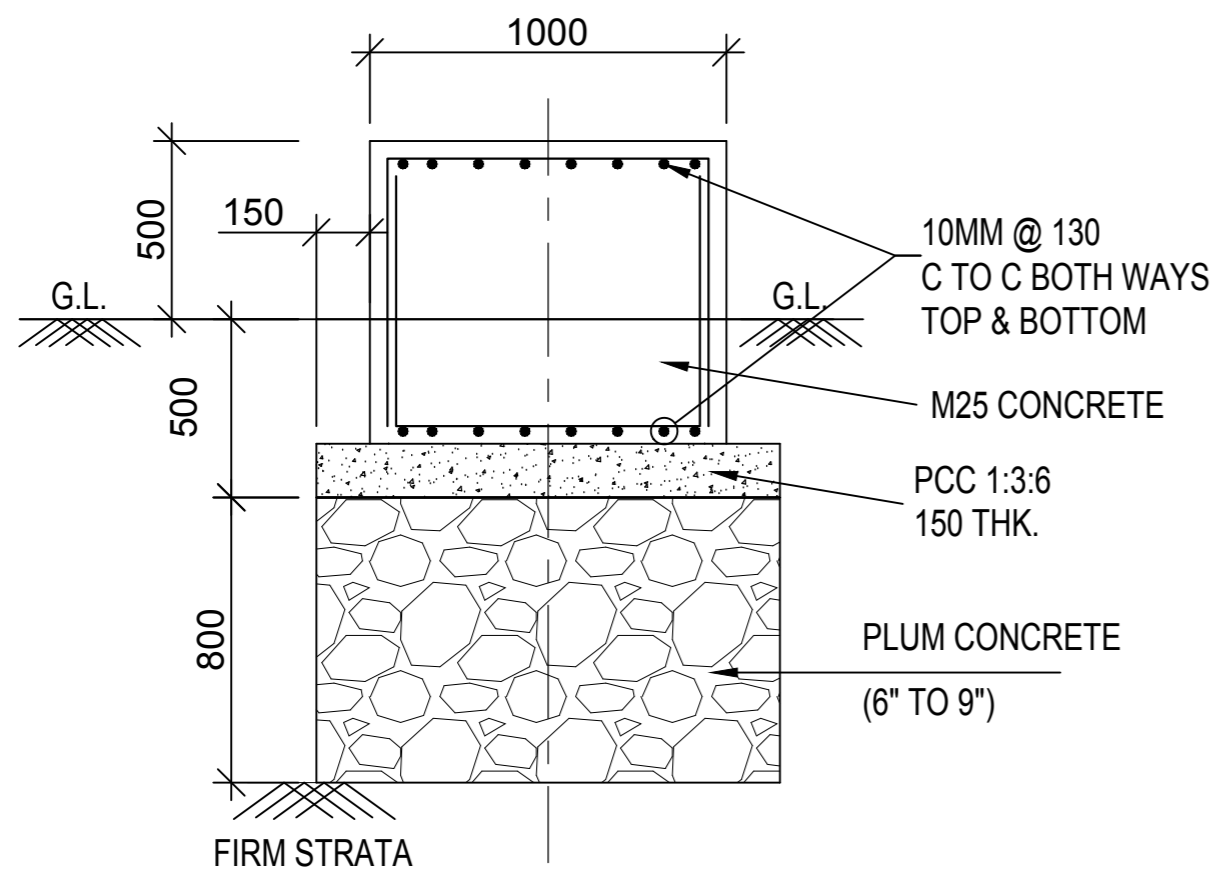
TRENCH FOR HT, OFC and aux cables

DRAWING NO. 3 679 05 00882

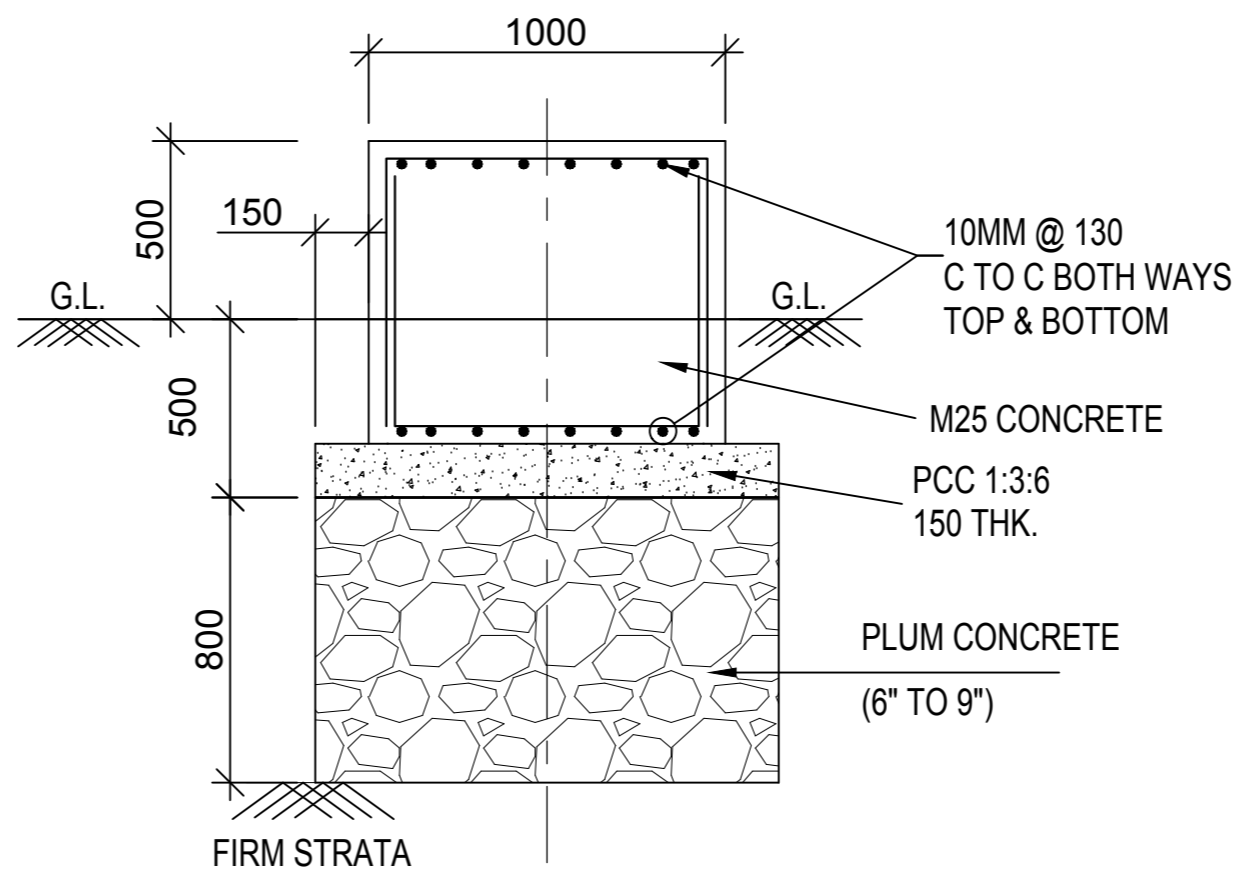
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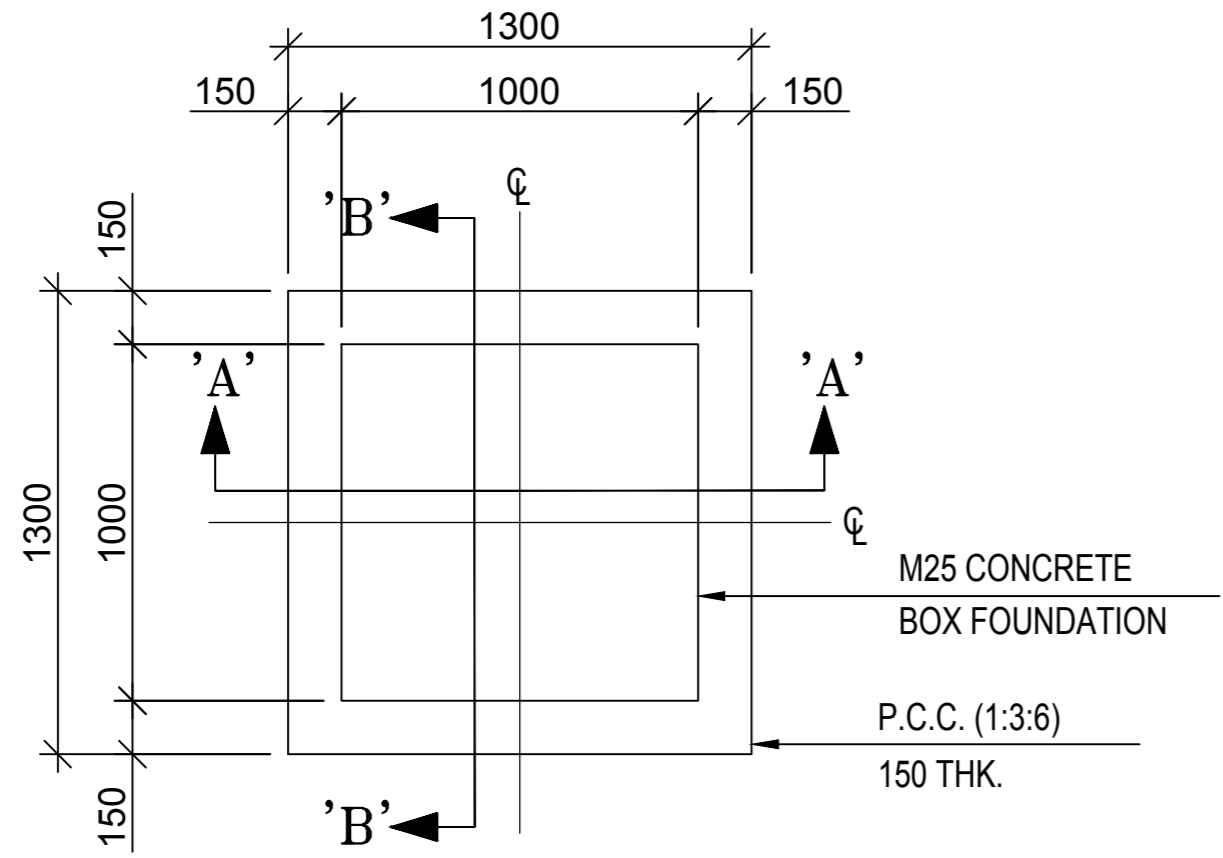
DRAWING FOR REFERENCE ONLY  
TENDER NO : EDN:SCPV:FOUNDATIONS:  
SANTALDIH/17-18/03 DATED 12/11/17



**SECTION A-A**



**SECTION B-B**



**PLAN OF FOUNDATION LEVEL**

**GENERAL NOTES:**

- 1) ALL FOOTINGS SHALL BE BOX TYPE FOOTINGS, U.N.O.
- 2) CLEAR COVER TO REINFORCEMENT FOR FOOTING SHALL BE 50mm.
- 3) IF IN DOUBT, PLEASE ASK.
- 4) ALL REINFORCING STEEL SHALL BE HYSD BARS CONFIRMING TO I.S. 1786-1979 ( GRADE Fe 415)
- 5) ALL CONCRETE SHALL BE MADE IN M-25 GRADE, UNLESS OTHERWISE SPECIFIED.
- 6) CONTRACTOR SHALL CHECK ALL DIMENSIONS & LEVELS BEFORE EXECUTION OF WORK
- 7) DISCREPANCY IN DRAWING, IF ANY, SHALL BE BROUGHT TO THE NOTICE OF THE SITE ENGINEER, PRIOR TO CONSTRUCTION.
- 8) DIMENSIONS & LEVELS ARE TO UNFINISHED SURFACES EXCLUDING FINISHES, COATING, LININGS ETC. (U.N.O.)
- 9) ALL DIMENSION ARE IN MM UNLESS OTHERWISE STATED.
- 10) DO NOT SCALE THE DRAWING. WRITTEN DIMENSION TO BE FOLLOWED.
- 11) PLUM CONCRETE SHOULD BE OF 1:5:10 RATIO.

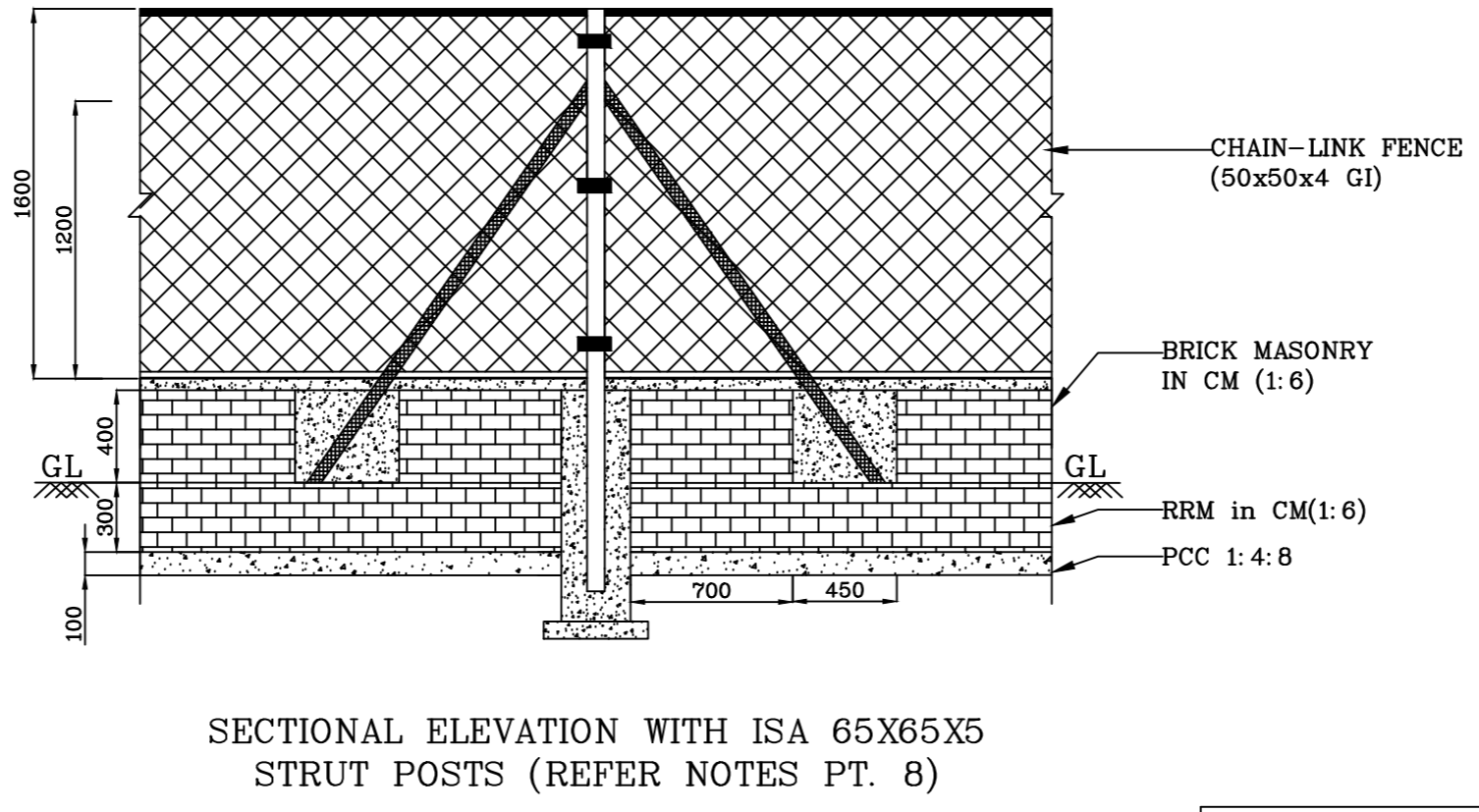
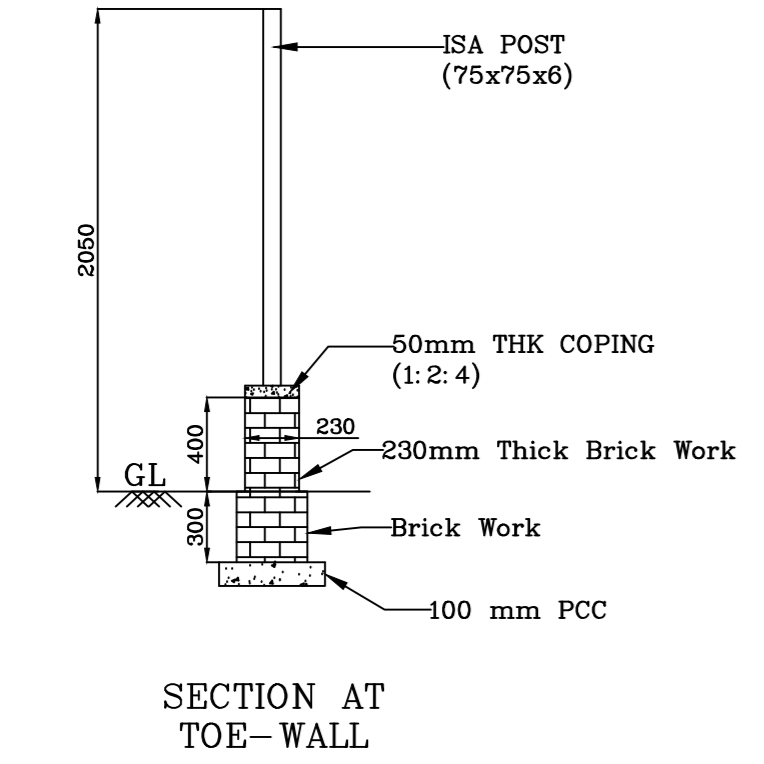
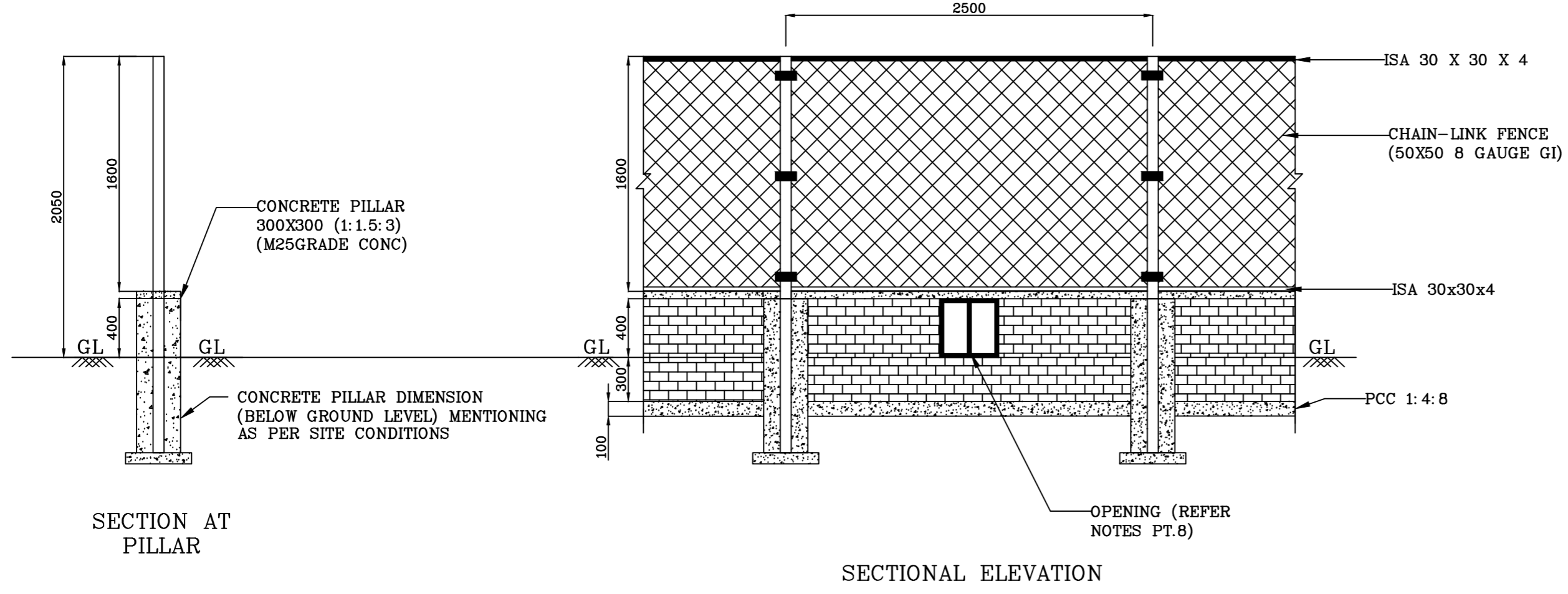
**PROJECT : 10MWp (AC)SOLAR POWER PROJECT**  
**CUSTOMER : WBSEDCL (CHHARRAH, MEJIA & SANTHALDIH PROJECTS)**

	<b>BHARAT HEAVY ELECTRICALS LIMITED.</b>		<b>ELECTRONICS DIVISION, BANGALORE</b>	
	DRN	SAN	NAME	SIGN.
	CKD	SP	DATE	130517
APPD	VRK	NO. OF VAR	130517	

REV.	DATE	ALTERED	CHECKED	APPROVED	REV.	DATE	ALTERED	CHECKED	APPROVED	REV.	DATE	ALTERED	CHECKED	APPROVED
										00				
FIRST ISSUE														

DEPT. SC&PV	FOR UNSPECIFIED-TOLERANCES REFER ED 0230499	SCALE	WEIGHT(Kg)	REF. TO ASSY. DRG.	ITEM NO.	No. OF ITEM
CODE 439		1 : 1				
TITLE			DRAWING NO.		REV.	
<b>FOUNDATION FOR</b>			<b>3 679 05 00882</b>		<b>00</b>	
<b>100 KVA AUX TRANSFORMER</b>			SHEET NO. 01		NO. OF SHEETS 01	

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**NOTES:**

1. VERTICAL POSTS SHALL BE MS ANGLE POSTS AND SHALL CONFORM TO IS: 808-1989.
2. CHAIN-LINK MESH SHALL BE SECURED TO VERTICAL POSTS BY EMPLOYING MS FLAT STRIPS (30mm WIDE, 4mm THICK AND 100mm LONG) AT TOP, BOTTOM AND CENTER USING MS ZINC PLATED HARDWARE.
3. VERTICAL POSTS SHALL BE GIVEN A SECONDARY COAT OF SYNTHETIC ENAMEL PAINT OVER A PRIMER COAT OF RED-OXIDE.
4. BRICKWORK SHALL BE COMMON BURNT CLAY BRICKS CLASS DESIGNATION 7.5 IN CEMENT MORTAR 1:6.
5. MASONRY ABOVE GROUND LEVEL SHALL BE PLASTERED IN 12mm THICK CEMENT MORTAR 1:6 OVERLAID BY 2 COATS OF WHITE CEMENT PAINT.
6. 1900MM LONG STRUTS SHALL BE PROVIDED AT EVERY 20M INTERVAL STRUTS SHALL BE AFFIXED TO VERTICAL POSTS AT ONE END AND EMBEDDED IN P.C.C. 1:2:4 BLOCKS (450 X 230 X 350MM) AT THE OTHER END.
7. CORNER POSTS SHALL BE PROVIDED USING THE METHODOLOGY AS MENTIONED IN POINT-8.
8. OPENINGS OF SIZE 350 X 350MM WITH MS GRILLS/RODS (AS SHOWN) SHALL BE PROVIDED, ABOVE GL, TO FACILITATE DRAINAGE OF WATER AWAY FROM PLANT PREMISES. REQUIRED SIZE OPENING WITH MS GRILL/RODS SHALL BE PROVIDED WHERE THE SITE DRAINS CROSSES THE FENCING. THE SIZE WILL BE AS PER THE CROSSING DRAIN SECTION.
9. LAYOUT OF FENCING SHALL BE PROVIDED AS PER THE ACTUAL SITE BOUNDARY PERIMETER SUBSEQUENT TO TOPOGRAPHICAL SURVEY AND VALIDATION OF BOUNDARY POINTS.
10. THIS FENCING DRAWING IS ONLY FOR THE AREA ENCOMPASSING TRANSFORMER YARDS AND SWITCHYARD OF MAIN CONTROL ROOM.
11. ISA 30 X 30 X 4 RUNNING SUPPORT SHALL BE PROVIDED AT THE TOP OF THE CHAIN-LINK. THE ANGLES SHALL BE FIXED TO THE VERTICAL POSTS BY WELDING / BOLTING WITH HIGH TENSILE STEEL BOLTS OF MIN. M10. THE CHAIN-LINK FENCE SHALL BE AFFIXED TO THESE ANGLES AT MINIMUM 3 POINTS IN EACH SPAN OF 2.5M.

**FENCING LENGTHS:**

- INVERTER ROOM - 1 : 80M.
- INVERTER ROOM - 2 : 80M
- CONTROL ROOM : 60M

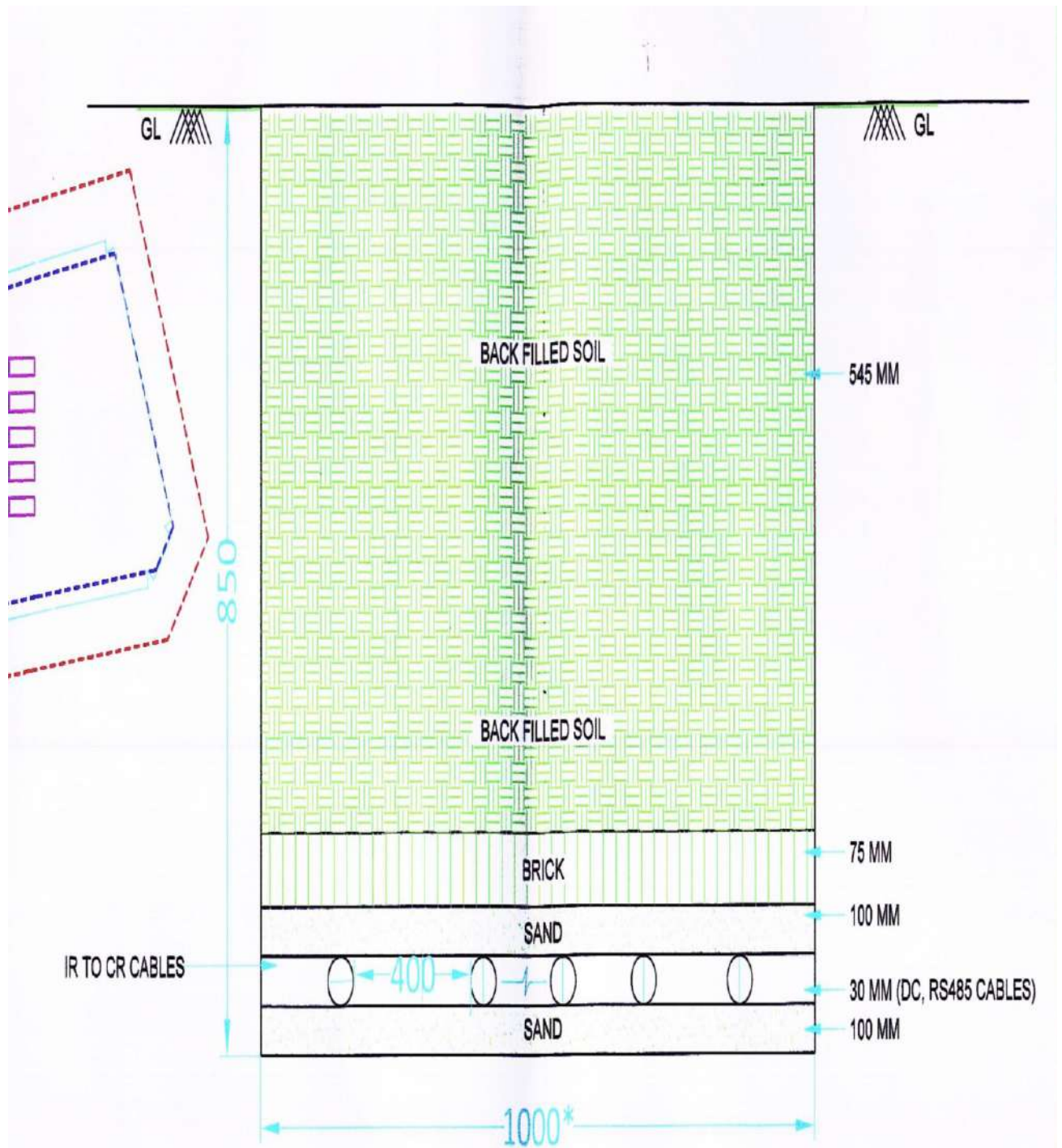
PROJECT: 10MWp (AC) SOLAR PHOTOVOLTAIC PLANT,  
CUSTOMER: WBSEDCL

BHARAT HEAVY ELECTRICALS LIMITED.  
ELECTRONICS DIVISION, BANGALORE

REV. 01	DATE 260317	ALTERED CHECKED APPROVED	SAN VRK VRK	REV. 00	DATE	ALTERED CHECKED APPROVED	REV 00	NAME	SIGN	DATE			
ISA INCLUDED. ISA POST SIZE CHANGED TO 75x75x6			FIRST ISSUE			DRAWN	SAN			240117		DEPT.	CODE
						CHECKED	VRK			240117			
						APPROVED	VRK			240117			

TITLE: CHAIN-LINK FENCING FOR TRANSFORMER YARD (OF INVERTER ROOM) AND SWITCH YARD (OF MAIN CONTROL ROOM)

No. OF SHEETS 01  
SHEET No. 01

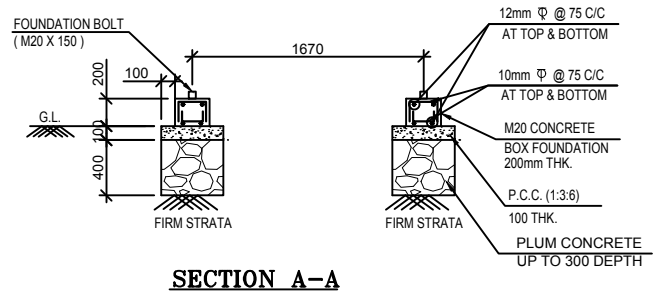


TRENCH FOR RS485, DC CABLES  
SECTION A-A

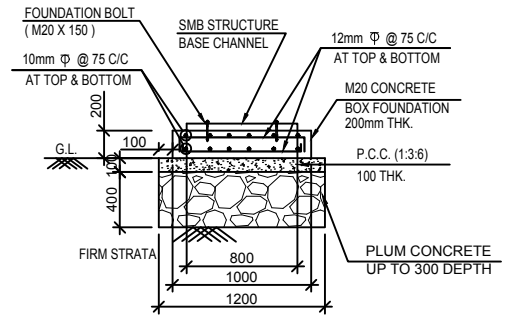
INVENTORY NO. SIGN & DATE REF. DRG.NO.

DRAWING NO. 02800 50 679 3

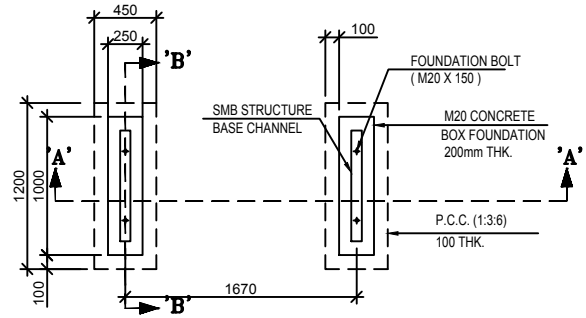
DRAWING FOR REFERENCE ONLY  
 TENDER NO : EDN:SCPV; FOUNDATIONS:  
 SANTALDIH/17-18/03 DATED 12/11/17



**SECTION A-A**



**SECTION B-B**



**PLAN OF FOUNDATION LEVEL**

**DESIGN CONSIDERATIONS:**

- 1) ASSUMED S. B. C. OF SOIL= 4.0 T/m<sup>2</sup>
- 2) STATIC LOAD ON EACH SUPPORT = 130 KG. (MAX.)
- 3) NO DYNAMIC LOAD ASSUMED.

**GENERAL NOTES:**

- 1) ASSUMED S. B. C. OF SOIL= 4.0 T/m<sup>2</sup>
- 2) ALL FOOTINGS SHALL BE BOX TYPE FOOTINGS, U.N.O.
- 3) CLEAR COVER TO REINFORCEMENT FOR FOOTING SHALL BE 50mm.
- 4) IF IN DOUBT, PLEASE ASK.
- 5) ALL REINFORCING STEEL SHALL BE HYSD BARS CONFIRMING TO I.S. 1786-1979 ( GRADE Fe 415/500)
- 6) ALL CONCRETE SHALL BE MADE IN M-20 GRADE, UNLESS OTHERWISE SPECIFIED.
- 7) CONTRACTOR SHALL CHECK ALL DIMENSIONS & LEVELS BEFORE EXECUTION OF WORK
- 8) DISCREPANCY IN DRAWING, IF ANY, SHALL BE BROUGHT TO THE NOTICE OF THE SITE ENGINEER, PRIOR TO CONSTRUCTION.
- 9) DIMENSIONS & LEVELS ARE TO UNFINISHED SURFACES EXCLUDING FINISHES, COATING, LININGS ETC. (U.N.O.)
- 10) ALL DIMENSION ARE IN MM UNLESS OTHERWISE STATED.
- 11) DO NOT SCALE THE DRAWING. WRITTEN DIMENSION TO BE FOLLOWED.

PROJECT : 10MWp SOLAR POWER PROJECT  
 CUSTOMER : WBSEDCL

<b>BHARAT HEAVY ELECTRICALS LIMITED.</b> <b>ELECTRONICS DIVISION, BANGALORE</b>	DRN	SAN	SIGN.	DATE	No. OF VAR
	CKD	VRK		240117	
	APPD	VRK		240117	

REV. 02	DATE 240617	ALTERED CHECKED	SAN SP	REV. 01	DATE 100617	ALTERED CHECKED	SAN SP	REV. 00	DATE	ALTERED CHECKED	SAN SP
APPROVED			VRK	APPROVED			VRK	APPROVED			VRK
REVISED AS PER CUSTOMER COMMENTS.				CHANGED BASED ON SMB DRAWING.				FIRST ISSUE			

DEPT. SC&PV	FOR UNSPECIFIED-TOLERANCES REFER ED 0230499	SCALE 1 : 1	WEIGHT(Kg)	REF. TO ASSY. DRG.	ITEM NO.	No. OF ITEM
CODE 439						
TITLE			DRAWING NO.		REV.	
<b>SMB FOUNDATION DETAILS WITHOUT OFC CONVERTER</b>			<b>3 679 05 00870</b>		<b>02</b>	
SHEET NO. 01			NO. OF SHEETS 02			

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM

99800 50 679 3

DRAWING NO

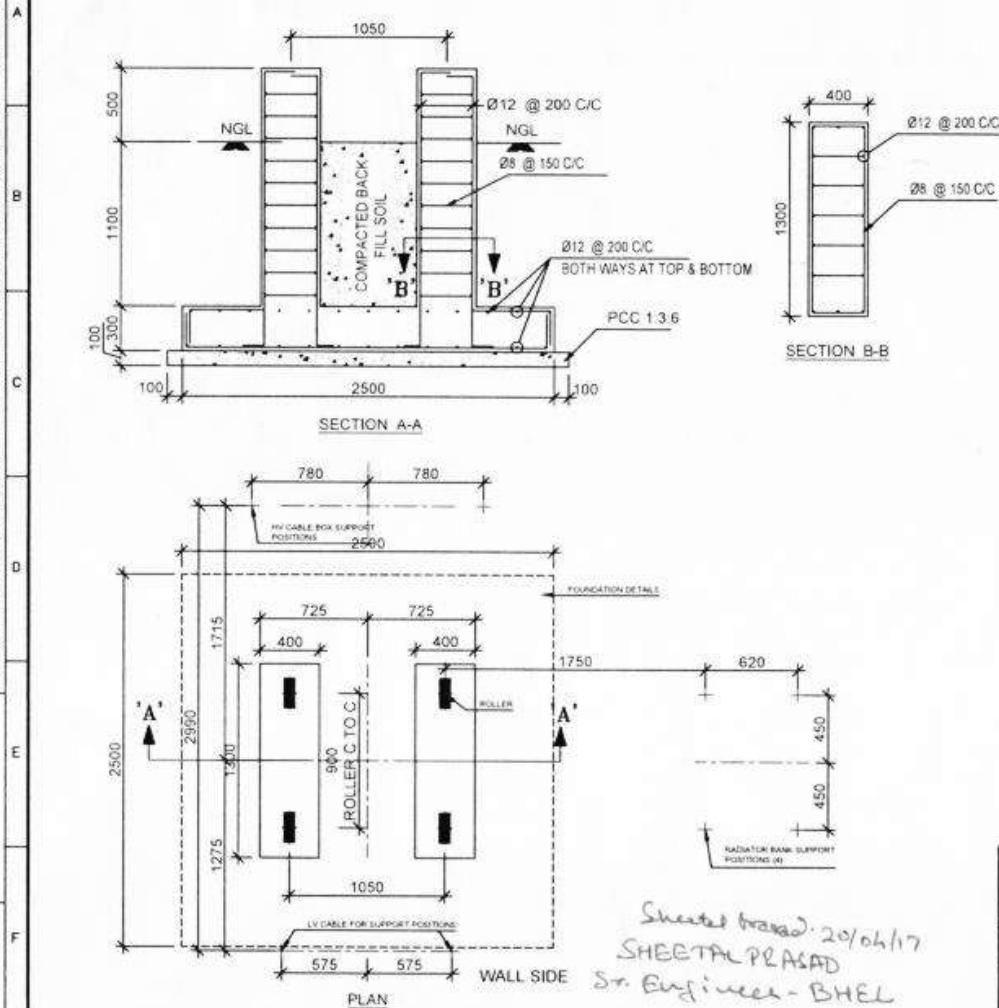
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REF. DRG. NO.

SIGN & DATE

INVENTORY NO.



**GENERAL NOTES:**

1. S. B. C. CONSIDERED AS OF SOIL= 8.0 T/m<sup>2</sup> AT 1.5M BELOW GL AS PER SOIL TEST
2. ALL FOOTINGS SHALL BE BOX TYPE FOOTINGS, U.N.O.
3. CLEAR COVER TO REINFORCEMENT FOR FOOTING SHALL BE 50mm.
4. ALL REINFORCING STEEL SHALL BE HYSD BARS, CONFIRMING TO I.S. 1786-1979 (GRADE Fe 500).
5. ALL CONCRETE SHALL BE MADE IN M-25 GRADE, UNLESS OTHERWISE SPECIFIED.
6. CONTRACTOR SHALL CHECK ALL DIMENSIONS & LEVELS BEFORE EXECUTION OF WORK.
7. ALL DIMENSION ARE IN MM UNLESS OTHERWISE STATED.
8. DO NOT SCALE THE DRAWING. WRITTEN DIMENSION TO BE FOLLOWED.

*Handwritten notes:*  
 CE, SPGD  
 may. pl. be approved for Chhanna & Mesia.  
 20/11/17  
 RB (C), SPGD

*Handwritten signature:*  
 Approved  
 20/11/17

*Handwritten note:*  
 Sheet based: 20/06/17  
 SHEETAL PRASAD  
 Sr. Engineer - BHEL

PROJECT : 10MWp SOLAR POWER PROJECT		CUSTOMER : WBSEDCL	
BHARAT HEAVY ELECTRICALS LIMITED, ELECTRONICS DIVISION, BANGALORE	DRN	SAN	030117
	CKD	VRK	030117
	APPD	VRK	030117
DEPT. SC&PV CODE 439	FOR UNSPECIFIED-TOLERANCES REFER ED 0230499	SCALE 1:1	WEIGHT(Kg)
TITLE <b>2800KVA TRANSFORMER FOUNDATION DETAILS</b>		DRAWING NO. <b>3 679 05 00866</b>	REV. 02
		SHEET NO. 01	NO. OF SHEETS 01

REV. 02	DATE 190417	ALTERED CHECKED APPROVED	SAN PS VRK	REV. 01	DATE 100417	ALTERED CHECKED APPROVED	SAN VRK VRK	REV. 00	DATE	ALTERED CHECKED APPROVED	
REVISED THE DRAWING.				REVISED THE DRAWING.				FIRST ISSUE			