



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

(भारत सरकार का उपक्रम)

**BHARAT HEAVY ELECTRICALS LIMITED**

(A Govt. of India Undertaking)

**TCN - 03**

Ref: PSER:SCT:MJA-C752:TCN-03

Date: 11-06-2007

|     |                                                                                                                                                                                                                      |                                                                         |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Sub | Tender change notice (TCN) 03.                                                                                                                                                                                       |                                                                         |
| Job | Civil, structural etc work of Power Block 2 covering power house including mill bay, aux buildings, along with CW pump house and CW duct, misc civil works etc of unit # 2 for 2x500 MW at Mejia-B TPS, West Bengal. |                                                                         |
| Ref | 1.0                                                                                                                                                                                                                  | Tender no PSER:SCT:MJA-C752:07.                                         |
|     | 2.0                                                                                                                                                                                                                  | BHEL's NIT vide reference no PSER:SCT:MJA-C752:0901, dated 18-05-07.    |
|     | 3.0                                                                                                                                                                                                                  | BHEL's TCN-01 vide reference no PSER:SCTMJA-C752-TCN-01, dated 25-05-07 |
|     | 4.0                                                                                                                                                                                                                  | BHEL's TCN-02 vide reference no PSER:SCTMJA-C752-TCN-02, dated 01-06-07 |

With reference to above, following points, relevant to tender, may please be noted and complied with while submitting offer.

- 1.0 Clarifications on pre-bid discussion are enclosed in Annexure-A along with attachments (construction schedule and 7 no drawings).
- 2.0 Revised Volume-III A & IIIB, Price Schedule, Rev-1 are enclosed. Bidder shall quote as per the enclosed revised Price Schedule only.
- 3.0 No deviation certificate has been revised and the same is attached. Bidder shall submit 'No deviation certificate' as per attached format only.
- 4.0 All documents in support of pre-qualification criteria for the subject tender shall be submitted in a specific sealed envelope by the stipulated date, ie 18-06-2007.
- 5.0 All other terms & conditions shall remain unchanged.
- 6.0 Offer shall be submitted by the due date, ie 25-06-2007 (15-00 hrs).

Thanking you,

Yours faithfully,  
for BHARAT HEAVY ELECTRICALS LTD

DGM (SCT)

Encl

- 1.0 PBD clarification (Annexure-A) along with attachments.
- 2.0 Revised Volume-III A & IIIB, Price Schedule, Rev-1.
- 3.0 Revised format of 'No deviation certificate'.

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : 23211691

**FORMAT FOR NO DEVIATION CERTIFICATE**  
**(To be submitted in the bidder's letter head)**

BHARAT HEAVY ELECTRICALS LIMITED,  
Power Sector - Eastern Region,  
Plot no 9/1, DJ Block, Sector – II, Salt Lake City,  
Kolkata – 700 091

|     |                                                                                                                                                                                                                     |                                                                           |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Sub | No Deviation Certificate.                                                                                                                                                                                           |                                                                           |
| Job | Civil, structural etc work of Power Block 2 covering power house including mill bay, aux buildings, alongwith CW pump house and CW duct, misc civil works etc of unit # 2 for 2x500 MW at Mejia-B TPS, West Bengal. |                                                                           |
| Ref | 01                                                                                                                                                                                                                  | BHEL's NIT vide reference no PSER:SCT:MJA-C752:0901, dated 18-05-2007.    |
|     | 02                                                                                                                                                                                                                  | Tender no PSER:SCT:MJA-C752:07.                                           |
|     | 03                                                                                                                                                                                                                  | BHEL's TCN-01 vide reference no PSER:SCT:MJA-C752-TCN-01, dated 25-05-07. |
|     | 04                                                                                                                                                                                                                  | BHEL's TCN-02 vide reference no PSER:SCT:MJA-C752-TCN-02, dated 01-06-07. |
|     | 05                                                                                                                                                                                                                  | BHEL's TCN-03 vide reference no PSER:SCT:MJA-C752-TCN-03, dated -06-07.   |
|     | 06                                                                                                                                                                                                                  | Other references (if any).                                                |

Dear Sirs,

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

We hereby confirm that we have not taken any deviation from tender clauses together with other references as enumerated in the above referred NIT and confirm our acceptance to reverse auctioning process and we hereby convey our unqualified acceptance to all terms and conditions as stipulated in the tender and NIT.

In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null & void.

We confirm to have submitted offer strictly in accordance with tender instructions.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized  
representative of the bidder)

### CLARIFICATION ON QUERIES DURING PRE-BID DISCUSSION

#### CIVIL, STRUCTURAL WORK OF POWER BLOCK 1, POWER BLOC 2 AND AUXILIARY BUILDING AT MEJIA-B TPS

#### TENDER NO - PSER:SCT:MJA-C751:07, PSER:SCT:MJA-C752:07 AND PSER:SCT:MJA-C753:07

| SL NO               | TENDER NO     | CLAUSE NO, VOLUME                      | QUERY/ POINT                                                                                                                                                                                                                                                                                                                                                                                                  | CLARIFICATION BY BHEL                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------|---------------|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A. NIT</b>       |               |                                        |                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                |
| A.1                 | 751/ 752/ 753 | Sl no 5.0 NIT                          | Minimum 15 days of extension is required to prepare the bid due to the magnitude of work involved in the tender.                                                                                                                                                                                                                                                                                              | Due date of submission of offer is extended to 25-06-2007 (15-00 hrs).                                                                                                                                                                                                                                                                                                                                                         |
| <b>B. VOLUME-IB</b> |               |                                        |                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                |
| B.1                 | 751/ 752/ 753 | Cl no 38.2, Vol-ID & Cl no 7.4, Vol-IB | Ambiguities in these 2 clauses. In the SCC part Performance Bond is not applicable for this contract and in the GCC part it is applicable.                                                                                                                                                                                                                                                                    | As per SCC, Volume-ID. Performance Bond (PB) is not applicable.                                                                                                                                                                                                                                                                                                                                                                |
| B.2                 | 751/ 752/ 753 | Cl no 6, Pg 18/52                      | Completion period may please be confirmed.                                                                                                                                                                                                                                                                                                                                                                    | Refer SCC, Volume-ID.                                                                                                                                                                                                                                                                                                                                                                                                          |
| B.3                 | 751/ 752/ 753 | Cl no 8, Pg no 18/52                   | Based on the construction schedule (L3) submitted by successful bidder, BHEL to provide GFC drawings prior to 30 days before commencing of individual activity.                                                                                                                                                                                                                                               | Based on the construction schedule (L3) submitted by successful bidder & on BHEL's acceptance, BHEL shall provide RFC drawings 15 days before starting of each activities for civil work. Engineering drawing for structural work shall be released 30 days before fabrication work. Vendor shall develop detail fabrication drawings within fifteen days from the date of release of engineering drawing for structural work. |
| B.4                 | 751/ 752/ 753 | Cl no 20, Pg 29/52                     | When this is not an EPC contract why contractor will provide indemnity to BHEL?                                                                                                                                                                                                                                                                                                                               | As per customer's requirement, contractor shall submit affidavit and indemnity bond regarding statutory requirement prior to submission of 1st RA bill as per the prescribed format, to be obtained from BHEL site. Furthermore, contractor shall also submit document for PF compliance as per the instruction of BHEL site.                                                                                                  |
| <b>C. VOLUME-ID</b> |               |                                        |                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                |
| C.1                 | 751/ 752/ 753 | Cl no 6.4                              | Area is to be provided as required to meet the targets as planned. There should not be any restriction in allotting area for fabrication.                                                                                                                                                                                                                                                                     | Shall be as per SCC, Volume-ID.                                                                                                                                                                                                                                                                                                                                                                                                |
| C.2                 | 751/ 752/ 753 | Cl no 7 & 8                            | If BHEL fail to supply the water & electricity, and if contractor has to arrange the same, whether the cost will be reimbursed to the contractor.                                                                                                                                                                                                                                                             | Shall be as per SCC, Volume-ID.                                                                                                                                                                                                                                                                                                                                                                                                |
| C.3                 | 751/ 752/ 753 | Cl no 8.3                              | Power supply is to be provided by BHEL free of cost. Offer is also will be made based on commercial condition is stipulated in the contract. In case if power supply is not provided or delay in supply of power supply or interruption of power supply may be recorded in the tenure of contract. Non availability of power may be recorded for the purpose of suitable compensation and for time extension. | Shall be as per SCC, Volume-ID.                                                                                                                                                                                                                                                                                                                                                                                                |

| SL NO | TENDER NO     | CLAUSE NO, VOLUME | QUERY/ POINT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | CLARIFICATION BY BHEL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------|---------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| C.4   | 751/ 752/ 753 | Cl no 14.5.2      | Passenger lift is not in the scope of contractor for structural steel work.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Passenger lift is not included in the scope of contractor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| C.5   | 751/ 752/ 753 | Cl no 16.1        | <u>Clause stipulates for free issue of 150MT crane on shared basis.</u> Please indicate the tentative period of allotment of the crane for the three packages. BHEL has specified that 150T crane shall be provided subject to availability. BHEL has envisaged deployment of 150T crane or above capacity crawler crane. In 500MW power plant 150T capacity crane is required for erection of main column. For erection of TP, trestle and conveyor gallery 150T capacity crane is not adequate and higher capacity crane is to be deployed. In the case of main column erection, mill foundation is not to be cast above ground level to facilitate erection of main column in boiler side. If mill foundation are cast, then higher capacity crane is required for erection of main column in boiler side also. | Cl no 16.1 of SCC, Volume-ID is revised as under.<br>Contractor shall mobilise 100T crane for erection of the subject job as specified in SCC. However, wherever higher capacity (more than 100T) is required to erect structures considering its load, height, operating radius etc, BHEL shall provide higher capacity cranes (more than 100T), free of cost on sharing basis depending on availability. Since the cranes will be provided on sharing basis and to be used by others also, the contractor shall plan their activities accordingly in co-ordination with BHEL. |
| C.6   | 751/ 752/ 753 | Cl no 16.4        | Crane operator's overtime charge.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Overtime charge is excluded from the scope of contractor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| C.7   | 751/ 752/ 753 | Cl no 16.5        | <u>In case of exigency contractor to deploy operator for crane as mentioned</u><br>But the reimbursement of the operator's remuneration is not clarified.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | This is exigency requirement. Please refer revised price schedule for provision of crane operator.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| C.8   | 751/ 752/ 753 | Cl 16.6           | If BHEL crane is not available due to break down or major failure manpower and other resources mobilised render idle, suitable higher capacity crane can not be mobilised by the contractor for short period or during intermediate period. Non availability of crane provided by BHEL is to be suitably recorded for suitable compensation or to take care of delay in completion of work. Since BHEL has envisaged LD for delay in completion, all elements instrumental for delay is to be properly recorded during tenure of contract and suitably analysed at the end for commercial as well as time extension purpose.                                                                                                                                                                                       | No compensation is admissible by BHEL. This will be taken care while finalising delay analysis for contract extension, if required.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| C.9   | 751/ 752/ 753 | Cl 17.0           | Whether contractor has to arrange CAR policy for the work?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | As per SCC, Volume-ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| C.10  | 751/ 752/ 753 | Cl 18.13          | Please indicate a minimum period for non-compensation. Compensation for time due to the above reason should be considered.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | As per SCC, Volume-ID. No compensation is admissible by BHEL. The aspect will be taken care of in delay analysis for contract extension, if required.                                                                                                                                                                                                                                                                                                                                                                                                                           |
| C.11  | 751/ 752/ 753 | Cl 18.13          | Since supply of raw material is in the scope of BHEL, delay in supply of material is to be recorded properly for suitable compensation at the closing of contract or for time extension if any.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No compensation is admissible by BHEL. This will be taken care while finalising delay analysis for contract extension, if required.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| C.12  | 751/ 752/ 753 | Cl no 18.14       | In case the clot is found in the materials immediately after issuance by BHEL, not due to improper stocking why contractor will be penalized?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Contractor to ensure to avoid this while receiving materials from BHEL. No consideration at later date is admissible by BHEL.                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| C.13  | 751/ 752/ 753 | Cl no 19.0        | <u>Clause stipulates issue of material indicates that the steel and structural steel shall be issued by weight basis and the consumption shall be on theoretical basis</u><br>The variation of weight/ rolling margin is not considered.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | As per SCC, Volume-ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| SL NO | TENDER NO     | CLAUSE NO, VOLUME | QUERY/ POINT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | CLARIFICATION BY BHEL                                                                        |
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| C.14  | 751/ 752/ 753 | Cl no 19          | Steel will be issued by weigment basis & payment will be made for tonnage callculated on sectional weight basis. Difference between weigment & sectional weight is not considered. Allowable wastage is 5%. Difference between weigment & sectional weight is normally 2 to 3% and accomadating this variation in allowable wastage of 5% is not possible. Suitable clause may be inserted in the specification for maintaining records regarding weigment & sectional weight. Variation on account of this shall be considered suitable for steel reconciliation purpose. | As per SCC, Volume-ID.                                                                       |
| C.15  | 751/ 752/ 753 | Cl 19.1.1         | In case of difference between actual weight the different should be considered for reconciliation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | As per SCC, Volume-ID.                                                                       |
| C.16  | 751/ 752/ 753 | Cl no 19.2        | Clause does accommodate any invisible loss for reinforcement steel.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | As per SCC, Volume-ID.                                                                       |
| C.17  | 751/ 752/ 753 | Cl no 26.0        | BHEL has specified that list of T&P mentioned in the contract is not exhaustive and may have to be enhansed. Major T&P like no of crane can not be enhanced. Additional deployment if required may have to be suitably compensated. Pre-poning of project schedule on account of nonavailability of engineering inputs, erection front and non availability of matching raw material may have to be suitably compensated. Suitable clause shall be inserted in the contract suitably.                                                                                      | Deployment of tools & plants shall be as per SCC, Volume-ID to meet the project requirement. |
| C.18  | 751/ 752/ 753 | Cl no 28 & 29     | Are there any interim milestone activities applicable for the construction period for the various buildings?                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Construction schedule of major activities is attached.                                       |
| C.19  | 751/ 752/ 753 | Cl no 28 & 29     | The zero date should consider not the date of issuing of LOI but the date of handing over the obstruction free site?                                                                                                                                                                                                                                                                                                                                                                                                                                                       | As per SCC, Volume-ID.                                                                       |
| C.20  | 751/ 752/ 753 | Cl no 28.0        | Please provide construction schedule (L1/L2) enabling us to assess the milestones for different structures as per Scope of Work(CI. 3.1).                                                                                                                                                                                                                                                                                                                                                                                                                                  | Construction schedule of major activities is attached.                                       |
| C.21  | 751/ 752/ 753 | Cl no 33          | Is interest free mobilisation advance is possible. As the work involves lots of financial implication, its better to provide interest free mob. Advance.                                                                                                                                                                                                                                                                                                                                                                                                                   | As per SCC, Volume-ID.                                                                       |
| C.22  | 751/ 752/ 753 | Cl 35.0           | We request for considering of over run charge when contractor is at no fault.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | As per SCC, Volume-ID.                                                                       |
| C.23  | 751/ 752/ 753 | Cl no 36.0        | Rate revision is to be applicable when the quantity is increased beyond 20% of BOQ as specified in the contract.                                                                                                                                                                                                                                                                                                                                                                                                                                                           | As per SCC, Volume-ID.                                                                       |
| C.24  | 751/ 752/ 753 | Cl no 37          | Whether Price escalation is payable for coarse aggregate, fine aggregate, concrete admixture etc are included in the "other materials" percentage?                                                                                                                                                                                                                                                                                                                                                                                                                         | As per SCC, Volume-ID.                                                                       |
| C.25  | 751/ 752/ 753 | Cl no 37          | The base date for payment of escalation is the date of LOI by BHEL.<br>The base date for payment of escalation shall have to be date of submission of final price bid.                                                                                                                                                                                                                                                                                                                                                                                                     | As per SCC, Volume-ID.                                                                       |

| SL NO               | TENDER NO     | CLAUSE NO, VOLUME      | QUERY/ POINT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | CLARIFICATION BY BHEL                                                                                                                                                                                                                                                                                                                                             |
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| C.26                | 751/ 752/ 753 | Cl no 40, Pg no 20/22  | <u>Taxes, duties</u><br>Subsequent increase in the existing legislation must be borne by BHEL. It's not possible for the bidder to assume the implication towards subsequent legislation. The pricing for this is very difficult.                                                                                                                                                                                                                                                                                                  | As per SCC.                                                                                                                                                                                                                                                                                                                                                       |
| C.27                | 751/ 752/ 753 | Cl no 40.2             | This work shall be awarded without cost of steel & cement. As per service tax rules if contract is without cost of material service tax on 100% billed amount is to be paid without availing any abatement. Please confirm.                                                                                                                                                                                                                                                                                                        | Cl no 16.1 of SCC, Volume-ID is revised as under.<br><br>Service Tax including Educational Cess on Service Tax (as applicable), shall be paid extra on submission of documentary evidences to the satisfaction of BHEL. As such, bidder's quoted rate shall be exclusive of service tax. Any changes in service tax rules (by Government) shall be complied with. |
| C.28                | 751/ 752/ 753 | Cl no 40.4             | Reimbursement has to be made on account of increase in rates of existing taxes, duties etc. as the future implication cannot be envisaged by any bidder and in the event of denial, ambiguous consideration by different bidders will attract uneven loading of price leading to uncompetitive bid. Please review & ammend provision.                                                                                                                                                                                              | As per SCC, Volume-ID.                                                                                                                                                                                                                                                                                                                                            |
| C.29                | 751/ 752/ 753 | Cl no 41.0             | 0.2% for rectification and 0.1% for erection approach may be deleted.                                                                                                                                                                                                                                                                                                                                                                                                                                                              | As per SCC, Volume-ID.                                                                                                                                                                                                                                                                                                                                            |
| C.30                | 751/ 752/ 753 | Cl no 41.0             | Payment of RA bills shall be modified as under.<br>(i) 50% of payable amount of RA Bills shall be made immediately on submission of RA bills and (ii) 50% of payable amount of RA bills shall be made in 15 days.                                                                                                                                                                                                                                                                                                                  | As per SCC, Volume-ID.                                                                                                                                                                                                                                                                                                                                            |
| C.31                | 751/ 752/ 753 | Cl no 43.0             | We presume the rates shall be finalized before execution of the work and contractor may not take up the work if the rate decided is found unworkable, please confirm.                                                                                                                                                                                                                                                                                                                                                              | As per tender provision, the rate will be settled on mutual agreement.                                                                                                                                                                                                                                                                                            |
| C.32                | 751/ 752/ 753 | Secured advance        | Is there any scope of secured advance towards plants and material except those materials supplied by BHEL?                                                                                                                                                                                                                                                                                                                                                                                                                         | Not applicable.                                                                                                                                                                                                                                                                                                                                                   |
| C.33                | 751/ 752/ 753 | Retention              | Is there any retention clause applicable for the contract?                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | As per SCC, Volume-ID.                                                                                                                                                                                                                                                                                                                                            |
| <b>D. VOLUME-II</b> |               |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                   |
| D.1                 | 751/ 752/ 753 | Cl no 3.0 & 4.0, Sec-A | <u>Scope of work NIT refers volume II of tender documents. Volume II, clause 3 (scope of work) refers to Section A of the volume which is not available there, where as clause 4.00.00 (Main plant structure/ components) defines a vast nature of work i/c design.</u><br>We presume this tender is an item rate tender for 'Civil, structural & architectural works' without any design involvement. SCC clause 3.00 is also defining a separate scope of work, which is different from volume II. Please clarify scope of work. | For scope of work, SCC, Volume-ID shall be referred. 'Special technical requirement' under Volume-II covers common technical requirements of civil & structural work of various packages of the project.                                                                                                                                                          |

| SL NO | TENDER NO     | CLAUSE NO, VOLUME | QUERY/ POINT                                                                                                                                                                                                                                                                                                                                                                                                   | CLARIFICATION BY BHEL                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------|---------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| D.2   | 751/ 752      | Cl no 1.00.00     | Structural Steel Design, sub-clause k, Connections. (i) Welded connection area as mentioned is in order. In case of HSFG connection only main column shall be bolted connection and all other connection like transverse frame beam, longitudinal tie beam, frame beam to column shall be welded connection. Bolted connection in BC and CD bay frame beams will have interface problem and consume more time. | Shall be as per specification.                                                                                                                                                                                                                                                                                                                                                                                         |
| D.3   | 751/ 752      | Cl no 4.00.00     | GIS Substation structure. Switch yard structure is not included in the scope of contractor. This may be clarified.                                                                                                                                                                                                                                                                                             | For scope of work, SCC, Volume-ID shall be referred. 'Special technical requirement' under Volume-II covers common technical requirements of civil & structural work of various packages of the project. However, depending on requirement of project, BHEL may carry out civil work for switch yard area also under the present scope of work and payment will be released as per respective items of Price Schedule. |
| D.4   | 751/ 752/ 753 | Cl no 5.00.00     | Pipe & cable rack structure. It is addressed in the above clause to keep reasonable margin for accomadatiing additional pipe/ cable rack structure. If approximate length of such requirement is specified, then the same shall be estimated properly. Please arrange to furnish approximate length and design of pipe/ cable rack structure.                                                                  | The work shall be executed as per drawing, specification and as per instruction of BHEL. Payment will be made as per respetive items of Price Schedule.                                                                                                                                                                                                                                                                |
| D.5   | 751/ 752/ 753 | Cl no 6.00.01     | Other specific requirements. Item 2307 under rate schedule is for electro forged grating. As per cl 6.00.00, indoor gratings are electroforged grating and outdoor gratings are welded type gratings. Both indoor and outdoor shall be electroforged gratings. This can be modified accordingly.                                                                                                               | <p>The item is split into following 2 parts. Refer revised price Schedule. The job shall be executed as per drawing, specification as per direction of BHEL.</p> <p>GI electroforged grating.</p> <p>GI MS grating.</p>                                                                                                                                                                                                |
| D.6   | 751/ 752/ 753 | Cl no 4.00.00     | For fabrication of crane girder, Submerged arc welding is suggested. Arc welding may be permitted for crane girder fabrication. Machining of bearing edges is not possible. After machining fitting and welding of bearing plates at the end may not be possible to achieve desired accuracy. Machining can be avoided.                                                                                        | Shall be as per specification.                                                                                                                                                                                                                                                                                                                                                                                         |
| D.7   | 751/ 752/ 753 | Cl no 1.00        | Volume-IIB, Section-D clause 1.00 specify supply of all raw material. Suplly of raw material is in the scope of BHEL and this clause may be modified.                                                                                                                                                                                                                                                          | Materials will be supplied by BHEL as per SCC.                                                                                                                                                                                                                                                                                                                                                                         |
| D.8   | 751/ 752/ 753 | Cl no 2.5.1       | Volume-IIB, Section-D, clause 2.5.1, each lot of 50T of raw material shall be tested at an approved laboratory. Since the supply of raw material is in the scope of BHEL, the testing of plate is also can be included in the scope of BHEL only.                                                                                                                                                              | Testing of raw materials, supplied by BHEL, is excuded from scope of bidder.                                                                                                                                                                                                                                                                                                                                           |
| D.9   | 751/ 752/ 753 | Cl no 2.5.2       | Volume-IIB, Section-D, clause 2.5.2, IS 8500 structural steel is included. We have not considered in our estimate use of IS 8500 steel. Item 2301 specify only structural steel as per IS 2062 only. IS 8500 steel may be deleted from the specification. If the same is to be retained then approximate involvement of tonnage IS 8500 may please be indicated in the specification.                          | IS 8500 is not envisaged in the design                                                                                                                                                                                                                                                                                                                                                                                 |

| SL NO                | TENDER NO     | CLAUSE NO, VOLUME   | QUERY/ POINT                                                                                                                                                                                                                                                                                                                                     | CLARIFICATION BY BHEL                                                                                                                                                                                                 |
|----------------------|---------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| D.10                 | 751/ 752/ 753 | Cl no 2.5.6         | Volume-IIB, Section-D, clause 2.5.6, in highly corrosive environment other type of primer such as epoxy resin based zinc rich primer such as blast steel EZ1 of Shalimar Paints Ltd may be necessary. This paint is not covered in bill of quantity. If so suitable optional item may be created in the BOQ so that proper estimate can be made. | Work to be carried out as per specification and drawing                                                                                                                                                               |
| D.11                 | 751/ 752/ 753 | Cl no 2.7.0         | Volume-IIB, Section-D, clause 2.7.0, quality control for supply of raw material test report and test certificate is to be submitted. Since BHEL is supplying raw material all testing formalities are to be taken care by BHEL and not to be included in the scope of contractor.                                                                | Testing of raw materials, supplied by BHEL, is excuded from scope of bidder.                                                                                                                                          |
| D.12                 | 751/ 752/ 753 | Cl no 4.2.2 & 4.2.3 | Volume-IIB, Section-D, Clause 4.2.2 & 4.2.3 regarding testing of plates and sample test. This is not covered under the scope of contractor. Since BHEL is supplying all raw material, all testing for raw material shall be under the scope of BHEL.                                                                                             | Testing of raw materials, supplied by BHEL is excuded from scope of bidder.                                                                                                                                           |
| D.13                 | 751/ 752/ 753 | Cl no 2.1.0         | Volume-IIB, Section-D, clause 2.1.0 under work to be provided for by contractor. All approach both permanent and temporry nature are to be provided by BHEL.                                                                                                                                                                                     | Construction & maintenance of individual approach roads and drains required for scope of work shall be reponsibility of contrator as per SCC. However, BHEL shall provide main common approach roads & common drains. |
| D.14                 | 751/ 752/ 753 | Cl no 2.1iv         | Volume-IIB, Section-D, clause 2.1.0iv, welding can be done in place of bolting whwrever it is not done or wrongly made. To avoid such type of rework it is suggested that welding connection is preferred in BC and CD bay over bolted connection. In BC and CD Bay moment connection by welding can be made in place of HSFG bolting.           | Work to be carried out as per specification and drawing.                                                                                                                                                              |
| D.15                 | 751/ 752/ 753 | Cl no 2.6.2         | Volume IIB, Section-D, clause 2.6.2, BHEL is envisaging fabrication yard in two places. All fabrication yard can be hardcrushed with suitable drainage arrangement. Developement of fabrication yard has to be in the scope of BHEL.                                                                                                             | Development of fabrication yard is in the scope of contractor as per SCC.                                                                                                                                             |
| D.16                 | 751/ 752/ 753 |                     | Screed bar and packer plate for column are to be in the scope of BHEL.                                                                                                                                                                                                                                                                           | Packer plate materail to be used from fabrication cut pieces only.                                                                                                                                                    |
| D.17                 | 751/ 752/ 753 | Cl no 3.5.0         | Volume-IIB, Section-D, clause 3.5.0 stainless steel plate lining in bunker hopper, 3mm is mentioned in the specification. Whereas 4mm thich stainless steel plate is mentioned in the BOQ. This may be clarified.                                                                                                                                | SS plate for bumker shall be 4 mm thick as per ST no 2313 of Price schedule.                                                                                                                                          |
| <b>E. VOLUME-III</b> |               |                     |                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                       |
| E.1                  | 751/ 752/ 753 | ST NO 101 ii)       | Please clarify the scope against provision of sensor to assess the impact of blast on the adjacent structures and name/ address of any specialised agency to carry out such activity.                                                                                                                                                            | Please revised BOQ R1                                                                                                                                                                                                 |
| E.2                  | 751/ 752/ 753 | ST NO 102           | As per Item description it is mentioned that Extra over item No. 101 for additional lifts beyond the initial lift of 2 mtr. (excluding excavation) ----- this term "excluding excavation" is not clear here. Please clarify.                                                                                                                     | Please revised BOQ R1                                                                                                                                                                                                 |

| SL NO | TENDER NO     | CLAUSE NO, VOLUME         | QUERY/ POINT                                                                                                                                                                                                                                                                                                                                                                                                                                    | CLARIFICATION BY BHEL                                                                                                                                                                                                                                                                                               |
|-------|---------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E.3   | 751/ 752/ 753 | ST NO 103                 | We shall consider ordinary dewatering by deploying suitable capacity dewatering pump. Please confirm that no sophisticated system like well point/ deep well dewatering system is required to be deployed.                                                                                                                                                                                                                                      | The item stands deleted.<br>The scope of dewatering shall be in line with provision of SCC and are included under respective items of Price Schedule. Bidder's quoted rates shall be in consideration of required de-watering. Bidder shall have to deploy suitable capacity dewatering pumps as stipulated in SCC. |
| E.4   | 751/ 752/ 753 | ST NO 104                 | Please clarify whether unit rate for sub-item no ii) & iii) will be cumulative of sub-item no.i)+ii) and i)+ii)+iii), respectively.                                                                                                                                                                                                                                                                                                             | Please revised BOQ R1                                                                                                                                                                                                                                                                                               |
| E.5   | 751/ 752/ 753 | ST NO 107 (i)             | We request you that borrow area for soil may please be provided within the Plant premises.                                                                                                                                                                                                                                                                                                                                                      | Soil from from borrow areas to be arranged by bidder.                                                                                                                                                                                                                                                               |
| E.6   | 751/ 752/ 753 | ST NO 108 & 2415          | Please clarify the mode of measurement and payment of this item.                                                                                                                                                                                                                                                                                                                                                                                | The measurement shall be in volume of final compacted filling.                                                                                                                                                                                                                                                      |
| E.7   | 751/ 752/ 753 | ST NO 110                 | Please inform the maximum depth of grading.                                                                                                                                                                                                                                                                                                                                                                                                     | Maximum depth of grading shall be 500 mm.                                                                                                                                                                                                                                                                           |
| E.8   | 751/ 752/ 753 | ST NO 203, 204, 205 & 206 | Please confirm whether cost of plasticizer / super plasticizer is to be included in these items or it will be paid separately.                                                                                                                                                                                                                                                                                                                  | The quoted rates shall be inclusive of plasticizer/ super plasticizer, other associated T&Ps, like batching plant, concrete pump, transit mixer, etc, as per direction of BHEL.                                                                                                                                     |
| E.9   | 751/ 752/ 753 | ST NO 207& 208            | Please clarify which item will be operated for TG Deck Foundation and any UPV/NDT testing required for such concrete.                                                                                                                                                                                                                                                                                                                           | Refer revised Price Schedule.                                                                                                                                                                                                                                                                                       |
| E.10  | 751/ 752/ 753 | ST NO 212(i)              | There should be separate item for providing with minimum two coats of bituminous painting of grade 85/25 @ 1.7 Kg/sqm for water/damp proofing conforming to IS 702 on soil face with unit of measurement as Sqm. as per standard practice. Cost implication for composite item cannot be assessed. Please modify the item description accordingly. also please clarify whether waterproofing cement will be paid separately under item no. 504. | ST NO 212(i) is split into two items. Refer revised Price Schedule.                                                                                                                                                                                                                                                 |
| E.11  | 751/ 752/ 753 | ST NO 214 & 216           | This activity appears in both the items. Please clarify.                                                                                                                                                                                                                                                                                                                                                                                        | Refer revised Price Schedule.                                                                                                                                                                                                                                                                                       |
| E.12  | 751/ 752/ 753 | ST NO 215                 | Chipping activity cannot be in CUM and it should be in SQM. Please make a separate item for chipping with maximum depth to be specified-unit SQM and modify this item description as dismantling of concrete ....                                                                                                                                                                                                                               | Refer revised Price Schedule.                                                                                                                                                                                                                                                                                       |
| E.13  | 751/ 752/ 753 | ST NO 216                 | Please confirm.                                                                                                                                                                                                                                                                                                                                                                                                                                 | Item stands deleted. Refer revised Price Schedule.                                                                                                                                                                                                                                                                  |
| E.14  | 751/ 752/ 753 | ST NO 306                 | Please clarify "below 0.1 sqm contact surface area with concrete".                                                                                                                                                                                                                                                                                                                                                                              | Refer revised Price Schedule.                                                                                                                                                                                                                                                                                       |
| E.15  | 751/ 752/ 753 | ST NO 401, 402, 403 & 404 | In item description it is mentioned - "including cost of reinforcement" which will be deleted since reinforcement steel will be supplied by BHEL free of cost. Please confirm.                                                                                                                                                                                                                                                                  | Reinforcement steel shall be supplied by BHEL free of cost as per SCC.<br>Refer revised Price Schedule.                                                                                                                                                                                                             |

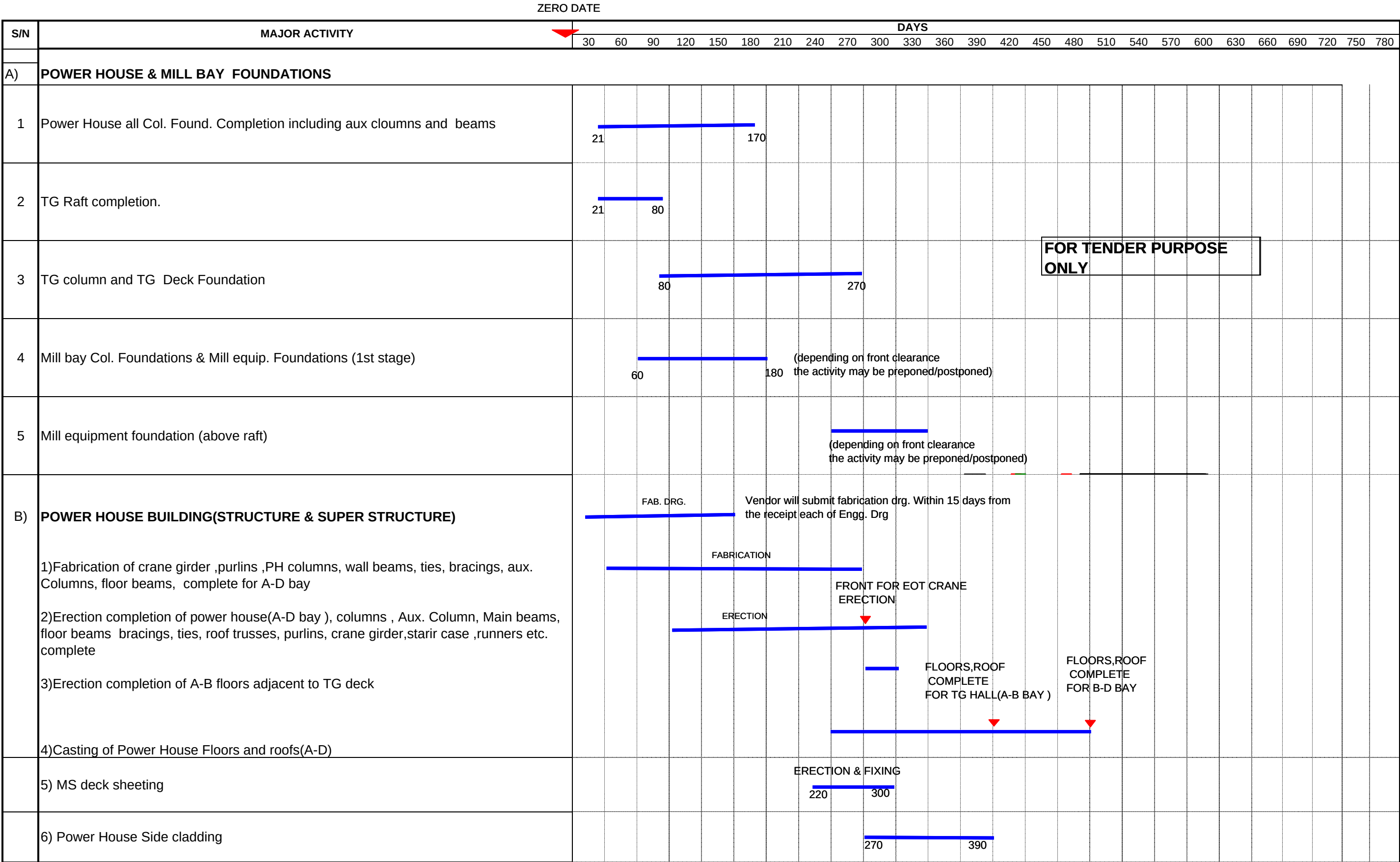
| SL NO | TENDER NO     | CLAUSE NO, VOLUME    | QUERY/ POINT                                                                                                                                                                                                                                                                                                  | CLARIFICATION BY BHEL                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------|---------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E.16  | 751/ 752/ 753 | ST NO 500            | The guarantee shall be provided for 10 Years instead of 20 years as per standard practice. Please confirm.                                                                                                                                                                                                    | No change, refer revised Price Schedule.                                                                                                                                                                                                                                                                                                                                                                                                                          |
| E.17  | 751/ 752/ 753 | ST NO 501            | There is no item for wearing course of minimum 25mm thick PCC(1:1.5:3) and sealant filling in gaps of pannels over elastomeric membrane in the BOQ as per requirement of technical specification (Cl. no. 2.7.3). Please comfirm whether these are deleted from scope or to be paid separately as extra item. | Refer revised Price Schedule.                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| E.18  | 751/ 752/ 753 | ST NO 503            | Standard size of precast concrete tiles available is 300x300m / 250 x 250 mm. Hence, size as mentioned in the item 600 x 600 mm may please be reviewed. Please confirm.                                                                                                                                       | Refer revised Price Schedule.                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| E.19  | 751/ 752/ 753 | ST NO 603            | It should be in RM.                                                                                                                                                                                                                                                                                           | No change.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| E.20  | 751/ 752      | ST NO 705            | Locking & releasing of VIS may be deleted as the same have to be done by manufacturers technician                                                                                                                                                                                                             | VIS to be provided by BHEL free of cost but placing, locking and releaseing to be done by bidder under the supervision of engineer from M/s GERB. Accordingly BOQ is ammended as below -<br><br>Placing, locking & releasing of vibration isolation spring modules over foundations at all elevations including transportation from stores, leveling, alignment all complete, under the supervision of supplier, as per drg & instructions of engineer in charge. |
| E.21  | 751/ 752/ 753 | ST NO 801            | It should be either in KG or in bags.                                                                                                                                                                                                                                                                         | No change.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| E.22  | 751/ 752/ 753 | ST NO 902            | Qty. as per BOQ appears not correct. This may please be corrected.                                                                                                                                                                                                                                            | Quantity modified. Refer revised Price Schedule.                                                                                                                                                                                                                                                                                                                                                                                                                  |
| E.23  | 751/ 752/ 753 | ST NO 904            | Qty. as per BOQ appears not correct. This may please be corrected.                                                                                                                                                                                                                                            | Quantity modified. Refer revised Price Schedule.                                                                                                                                                                                                                                                                                                                                                                                                                  |
| E.24  | 751/ 752/ 753 | ST NO 906            | As informed by our specialised vendor, steel fire doors shall be tested and certified by CBRI, Roorkee as per IS 3614 Part-II, BS 476 Part 20& 22 and accordingly, TAC requirements are no longer applicable. As such, please ammend this provision of the item.                                              | Refer revised Price Schedule.                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| E.25  | 751/ 752/ 753 | ST NO 911, 912 & 913 | All three items are 'with push & pull operation', which is ambiguous.Please modify the item description.                                                                                                                                                                                                      | Description modified, refer revised Price Schedule.                                                                                                                                                                                                                                                                                                                                                                                                               |
| E.26  | 751/ 752/ 753 | ST NO 917            | Please elaborate the scope / technical specification of this item.                                                                                                                                                                                                                                            | Aluminium strips with fibers as per direction of BHEL.<br>Refer revised Price Schedule.                                                                                                                                                                                                                                                                                                                                                                           |
| E.27  | 751/ 752/ 753 | ST NO 1000           | Whether fly ash bricks will be supplied by BHEL at free of cost?                                                                                                                                                                                                                                              | Supply of all type of bricks including fly ask brick is in the scope of contractor.                                                                                                                                                                                                                                                                                                                                                                               |

| SL NO | TENDER NO     | CLAUSE NO, VOLUME                                   | QUERY/ POINT                                                                                                                                                                                                                                                                                                                                                                                                                                      | CLARIFICATION BY BHEL                                                                                                                                                                                                                                                                      |
|-------|---------------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E.28  | 751/ 752/ 753 | ST NO 1001 (i), (ii), (iii), (iv), 1002, 1003, 1004 | <u>Fly ash lime bricks, clay ash bricks, ordinary bricks &amp; locally available first class bricks shall have to be used.</u><br>As fly ash bricks are only to be used in and around TPS. We propose to manufacture and use fly ash bricks with crushing strength of 75KG/ cm <sup>2</sup> and size of bricks shall be 200x100x100. Please confirm whether dry fly ash from ESP and cement shall be supplied for manufacturing of bricks or not. | The fly ash bricks shall conform to IS 12894:2002. The minimum thickness of wall as per customer specification is 250 mm (including plaster) therefore min 220 mm length of brick is required.                                                                                             |
| E.29  | 751/ 752/ 753 | ST NO 1006                                          | Please provide the maximum thickness of brick partition wall.                                                                                                                                                                                                                                                                                                                                                                                     | Maximum thickness of brick wall shall be 127 mm.<br>Refer revised Price Schedule.                                                                                                                                                                                                          |
| E.30  | 751/ 752/ 753 | ST NO 1007                                          | Please provide the type of brick and the mix proportion of cement mortar. Also confirm that wire mesh shall be paid separately under item no. 1009.                                                                                                                                                                                                                                                                                               | The items is split into two parts.<br>Refer revised Price Schedule.<br><br>Brick masonry work with brick of class designation 75 and quoted rates shall be inclusive of cost of wire mesh.<br>Mix cement mortar of 1:4 by volume and quoted rates shall be inclusive of cost of wire mesh. |
| E.31  | 751/ 752/ 753 | ST NO 1206 & 1209                                   | Please provide the mix proportion of cement mortar.                                                                                                                                                                                                                                                                                                                                                                                               | Cement mortar shall be 1:4 by volume.<br>Refer revised Price Schedule.                                                                                                                                                                                                                     |
| E.32  | 751/ 752/ 753 | ST NO 1207 A & 1207 B                               | Please clarify whether these two items are alternate item or to be applied one over another or at different locations. Moreover Birla white as specified in item is white cement only. Please clarify.                                                                                                                                                                                                                                            | Shall remain unchanged.<br>Refer revised Price Schedule.                                                                                                                                                                                                                                   |
| E.33  | 751/ 752/ 753 | ST NO 1417                                          | Grade of concrete for Interlocking pavers not mentioned. Please provide the same.                                                                                                                                                                                                                                                                                                                                                                 | The concrete shall be minimum M25 grade.<br>Refer revised Price Schedule.                                                                                                                                                                                                                  |
| E.34  | 751/ 752/ 753 | ST NO 1418                                          | Thickness of self leveling epoxy flooring has not been mentioned. Please provide the same.                                                                                                                                                                                                                                                                                                                                                        | Minimum thickness of epoxy shall be 1 mm.<br>Refer revised Price Schedule.                                                                                                                                                                                                                 |
| E.35  | 751/ 752/ 753 | ST NO 1422                                          | Minimum height of flooring has not been mentioned. Please provide the same.                                                                                                                                                                                                                                                                                                                                                                       | Item modified to three subitems having finished height of flooring , i) upto 600 mm, ii) above 600 to 800 mm, iii) above 800 to 1000 mm)<br>Refer revised Price Schedule.                                                                                                                  |
| E.36  | 751/ 752/ 753 | ST NO 1426                                          | Technical specification and name and address of vendors may please be provided.                                                                                                                                                                                                                                                                                                                                                                   | Refer revised Price Schedule.                                                                                                                                                                                                                                                              |
| E.37  | 751/ 752/ 753 | ST NO 1509                                          | Technical specification and name and address of vendors may please be provided.                                                                                                                                                                                                                                                                                                                                                                   | Refer revised Price Schedule.                                                                                                                                                                                                                                                              |
| E.38  | 752/ 753      | ST NO 1809                                          | Name and address of vendors may please be provided.                                                                                                                                                                                                                                                                                                                                                                                               | Bidder to arrange.                                                                                                                                                                                                                                                                         |
| E.39  | 751/ 752/ 753 | ST NO 1820                                          | Name and address of vendors may please be provided.                                                                                                                                                                                                                                                                                                                                                                                               | Refer revised Price Schedule.                                                                                                                                                                                                                                                              |
| E.40  | 751/ 752/ 753 | ST NO 2201 & 2205                                   | Please confirm whether these items will be for coloured or white sanitary wares.                                                                                                                                                                                                                                                                                                                                                                  | these items shall be for white or light color sanitary wares.<br>Refer revised Price Schedule.                                                                                                                                                                                             |

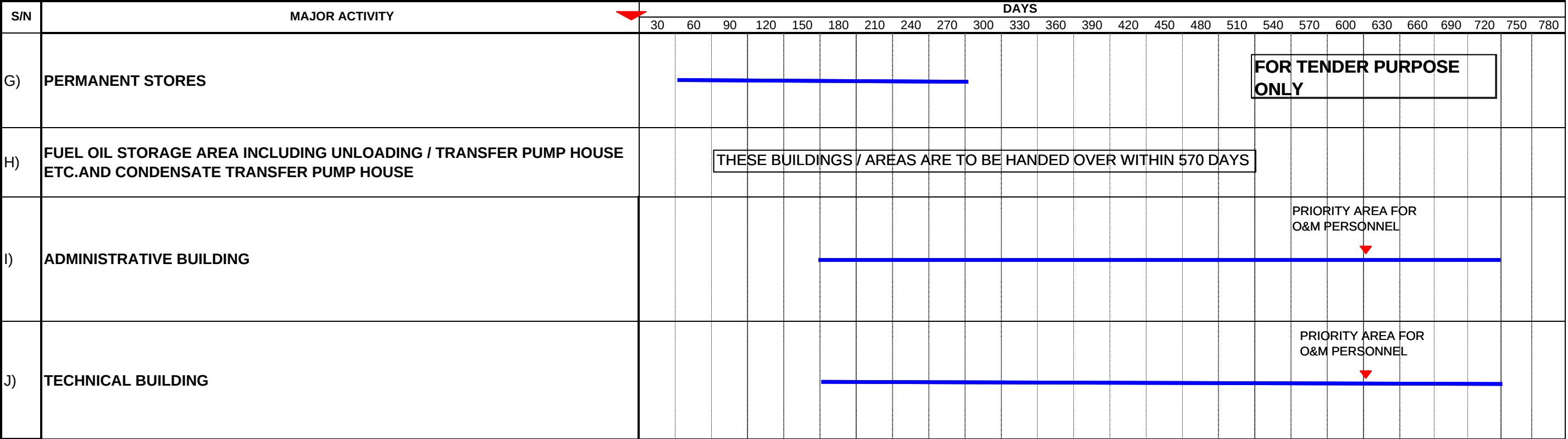
| SL NO                                          | TENDER NO     | CLAUSE NO, VOLUME            | QUERY/ POINT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | CLARIFICATION BY BHEL                                                                                                                                                                                                                                                                                      |
|------------------------------------------------|---------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E.41                                           | 751/ 752/ 753 | ST NO 2211                   | Please confirm whether manhole cover is of Heavy Duty or medium duty type.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Manhole covers shall be of heavy duty type.<br>Refer revised Price Schedule.                                                                                                                                                                                                                               |
| E.42                                           | 751/ 752/ 753 | ST NO 2301                   | <u>Space/ land shall be provided by BHEL for stacking / fabrication for steel fabrication work</u><br>Adequate space for fabrication yard preferably with the facility for transportation of fabricated material through railway track system to erection point shall be required. Please confirm whether such suitable adequate space for fabrication yard shall be provided or not                                                                                                                                                                                                                                                                                                                                                                                                             | Land shall be provided as per SCC. Transportation of fabricated materials is in the scope of vendor. No railway line envisaged for transportation of fabricated material.                                                                                                                                  |
| E.43                                           | 751/ 752/ 753 | ST NO 2301                   | As per item 2301 fabrication and erection quantity is 9459MT, whereas painting quantity is only 6317MT(Item2304-3028MT+item2306-3289MT).Balance quantity unpainted is 9459-6317MT=3142MT.This may be clarified.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Bidder to quote as per Price Schedule.<br>Refer revised Price Schedule.                                                                                                                                                                                                                                    |
| E.44                                           | 751/ 752/ 753 | ST NO 2301                   | In item 2301 decking and seal plate is mentioned for fabrication and erection.Deck plate is not envisaged in structural package.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Deck & seal plate are covered under this item as per the description. However, colour coated galvanised MS troughed metal sheet deck plate is included under ST NO 1501 and shall be paid accordingly. Bidder to quote as per Price Schedule.<br>Refer revised Price Schedule.                             |
| E.45                                           | 751/ 752/ 753 | ST NO 2301                   | A separate agency is to be appointed for preparation of fabrication drawing and joint design calculation. Whether Fabrication drawing will be approved by BHEL PEM or a Consultancy firm appointed by BHEL PS ER.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Bidder may associate agency or do of their own for detail fabrication drawing and engage separate agency for review of detail fabrication drawing for submission to BHEL for approval. Both the agencies responsible for detail drawing and review of the same shall be engaged on prior approval of BHEL. |
| <b>F. Additional clarifications on tenders</b> |               |                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                            |
| F.1                                            | 752/ 753      | Cl 3.0, Vol-ID               | Scope of CW duct is in Power Block 2 package, which was inadvertently mentioned in the 'Auxiliary Building' pkg. The same is deleted from the scope of 'Auxiliary Building' pkg.and included in Power Block -2 Package<br><br>In 'Auxiliary Building' package, In addition to civil work for "CW piping from CW Pump house to transformer yard" , civil work for CW piping from transformer yard to cooling tower is also covered in the scope. Aux building also covers Gate House+Time & Security Office; Security Kioast etc. Any other aux building not specifically mentioned in tender, but required at a later date within the plant, is also covered under the scope.<br>CW piping from transformer yard to P/H (both inlet and outlet) is covered in respective 'Power Block' packages. |                                                                                                                                                                                                                                                                                                            |
| F.2                                            | 752           | Cl 3.1 Vol-ID                | Scope of work mentions 'Power Block 1'. It should be read as 'Power Block 2'.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                            |
| F.3                                            | 752           | General                      | Brief scope/ title, wherever applicable, shall be as under.<br><br>Civil, Structural etc. work of Power Block 2 covering Power house including mill bay, Aux. building in Power Block 2 , CW Pump House & CW duct ,Misc. Civil works etc. of Unit#1 for 2x500 MW unit#1&2 Mejia-B TPS, West Bengal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                            |
| F.4                                            | 751/ 752      | Cl 26.7 (new clause), Vol-ID | Contractor shall install 1 number gantry crane of adequate capacity alongwith all necessary fixing arrangement, in fabrication yard within 60 days from the placement of LOI.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                            |

| SL NO      | TENDER NO                                                                                                                                 | CLAUSE NO, VOLUME | QUERY/ POINT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CLARIFICATION BY BHEL |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| F.5        | 751/ 752                                                                                                                                  | General           | 1 set of engineering drawing for power house structure is ready as on date. So, it is envisaged that contractor shall start fabrication work with 1 month of LOI. Contractor should be ready with all necessary tie-up (agency for preparation of fabrication drgs and agency for review of the drawings). Accordingly, contractor shall mobilise requisite T&P (like, 18/20 T crane, hydra, welding machines etc) and consummables (like, electrode etc) and manpower within 30 days of LOI to start fabrication work.                                                                                                                                                                                                                                                                                                           |                       |
| F.6        | 751/ 752/ 753                                                                                                                             | Cl 26.3, Vol-ID   | <u>The clause stands modified as under</u><br>In the event of any failure of the part of the contractor, BHEL may at his discretion also terminate the contract on this ground and take out any or whole amount of the contract from the scope of the contractor. In the event of failure of contractor to deploy necessary and sufficient T&P/ IMTEs, BHEL will be at liberty to arrange the same at the risk & cost of contractor including transportation cost of same from any of BHEL site/ other agency & charges as applicable shall be deducted from contractor's RA bill. BHEL also reserve the right to effect recoveries for non mobilisation of such T&P as per prevailing market rates.                                                                                                                              |                       |
| F.7        | General                                                                                                                                   |                   | Following drawings (for tendering purpose only) have been handed over to participating bidders in PBD by BHEL. Other interested bidders may download the drawings from web sites/ collect copy of drawings from BHEL office.<br>i) Drg no PE-DG-270-611-C027, REV-0 (POWER HOUSE BUILDING - ELEVATION ON 'A' ROW).<br>ii) Drg no PE-DG-270-612-C001, REV-0 (GENERAL NOTES & STANDARD DETAILS FOR STRUCTURAL STEEL WORKS).<br>iii) Drg no PE-DG-270-100-M001, REV-0 (PLOT PLAN).<br>iv) Drg no PE-DG-270-100-M010, REV-0 (TG BUILDING CROSS SECTION).<br>v) Drg no PE-DG-270-611-C001, REV-0 (GENERAL NOTES & STANDARD DETAILS FOR RCC WORKS).<br>vi) Drg no PE-DG-270-611-C002, REV-0 (POWER HOUSE BUILDING EXCAVATION PLAN).<br>vii) Drg no PE-DG-270-612-C009, REV-0 (POWER HOUSE BUILDING - DETAIL OF COLUMNS, AXIS A, B & C). |                       |
| F.8        | 751/ 752/ 753                                                                                                                             | Cl 19.1, Vol-ID   | Cement (OPC & PSC) as received from the manufacturer/ stockiest will be issued free of cost to the contractor. The theoretical weight of each bag of cement for issued purposes will be considered as 50 kg, the contractor shall be accountable for the cement issued to him on this notional weight only. No claim whatsoever will be entertained because of difference between theoretical and actual weight of the bags of cement. Bidder shall provide cement of any other class/ categories as per requirement of respective items of Price Schedule and bidder's quoted rates shall be inclusive of this consideration.                                                                                                                                                                                                    |                       |
| F.9        | General                                                                                                                                   |                   | Bidder to note that in case successful bidder of any one tenders (751, 752 or 753) are already working at Mejia project, they have to deploy resources, like manpower including supervisory staff, T&P etc separately. In case, they want to share resources of existing contract, prior approval of BHEL site shall have to be obtained before use of such existing resources during execution.                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |
| F.10       | General                                                                                                                                   |                   | Bidder to note that BHEL/ DVC have reservation in sourcing electroforged grating from Indiana Gratings Pvt Ltd and side cladding, false flooring & false ceiling materials from Lloyds Insulations Ltd. As such, bidders are advised to arrange such materials from alternate equivalent sources.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                       |
| F.11       | General                                                                                                                                   |                   | Under normal circumstances, BHEL do not contemplate to provide accommodation to contractors' staff. However, as per availability of quarter from DVC within the township & acceptance of DVC, BHEL may provide accommodation on chargeable basis depending on requirement and on specific request from contractor. The charge for quarter rent along with electricity etc shall be recovered from contractor's RA bill as per the charge levied by DVC on BHEL.                                                                                                                                                                                                                                                                                                                                                                   |                       |
| F.12       | General                                                                                                                                   |                   | Bidder to note while submitting offer to submit signed copies of all TCNs and un-priced bid bids as per latest revised Volume-III formats in techno-commercial offer and 2 separate price bids as per latest revised Volume-III formats.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                       |
| Enclosures |                                                                                                                                           |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |
| 1.0        | Construction schedule (common schedule for all 3 tenders is attached. Bidder to note the specific part applicable for respective tender). |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |
| 2.0        | 7 number drawings as per above.                                                                                                           |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |

TENTATIVE CONSTRUCTION SCHEDULE (KEY AREAS) - 2X500 MW MEJIA PH-II PROJECT (FOR TENDERING PURPOSE ONLY)



| S/N | MAJOR ACTIVITY                                                                                                                                                                                                                | DAYS                                                                      |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |                                                                                                                                                                                                                               | 30                                                                        | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | 330 | 360 | 390 | 420 | 450 | 480 | 510 | 540 | 570 | 600 | 630 | 660 | 690 | 720 | 750 | 780 |  |  |
|     | 7) Control room readiness including brick work, POP, wall painting, false ceiling, under deck incl., Aluminium doors & wooden partition etc. complete                                                                         |                                                                           |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| C)  | <b><u>MILL BAY STRUCTURE AND SUPER STRUCTURE</u></b><br>1) Mill bay structural all columns, beams, bracings, ties,tiper floor & its roof ,feeder floor , bunker girder,hoppers including SS liner etc str completion complete |                                                                           |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     | 2) Mill feeder floor ,tipper floor ,roof and ) ,ground floor casting                                                                                                                                                          |                                                                           |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| D)  | <b><u>CW PUMP HOUSE WITH FEED POOL AND ELECTRICAL ANNEXE</u></b>                                                                                                                                                              |                                                                           |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 1)  | Excavation for CW Pump House and Feed Pool & Electrical Annex                                                                                                                                                                 |                                                                           |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 2)  | Completion of Raft and wall of CWPH                                                                                                                                                                                           |                                                                           |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 3)  | Completion of feed pool raft.                                                                                                                                                                                                 |                                                                           |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 4)  | Completion of feed pool wall upto GL.                                                                                                                                                                                         |                                                                           |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 5)  | Completion of RCC Pump operating floor of CWPH                                                                                                                                                                                |                                                                           |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| 6)  | Super structure column ,side wall with roof completion.                                                                                                                                                                       |                                                                           |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| E)  | <b>CW DUCT</b>                                                                                                                                                                                                                |                                                                           |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|     |                                                                                                                                                                                                                               |                                                                           |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| F)  | <b>COMPRESSOR HOUSE, ESP CONTROL BUILDING, ACW / AIR WASHER BUILDING</b>                                                                                                                                                      | THESE BUILDINGS ARE TO BE HANDED OVER FOR EQUIP. ERECTION WITHIN 550 DAYS |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |



ABOVE CONSTRUCTION SCHEDULE IS TENTATIVE AND FOR GENERAL GUIDANCE ONLY. CONTRACTOR HAS TO PLAN HIS WORK IN A MANNER SO AS TO MEET THE PROJECT MILESTONE SCHEDULE WHICH IS AS UNDER. CONTRACTOR IS TO SUBMIT L2/L3 SCHEDULE FOR BHEL APPROVAL WITHIN 30 DAYS OF LOI.

**FOR UNIT#1**

1) CONDENSER ERECTION START

- 31/07/08

2) TURBINE ERECTION START

- 30/09/08

3) BOILER LIGHT UP

- 31/07/09

4) SYNCHRONISATION WITH COAL

- 31/10/09

5) COMMERCIAL OPERATION DECLARATION

- 31/12/09

UNIT#2 SHALL HAVE PHASE LAG OF 03 MONTHS FROM THAT OF THE UNIT#1.

|                  |                             |                                                    |
|------------------|-----------------------------|----------------------------------------------------|
| <b>TENDER NO</b> | <b>PSER:SCT:MJA-C752:07</b> |                                                    |
| <b>VOLUME</b>    | <b>IIIA</b>                 | <b>PRICE SCHEDULE, REV-1<br/>(ABSOLUTE VALUES)</b> |

|                 |                                                                                                                                                                                   |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>JOB</b>      | <b>CIVIL, STRUCTURAL ETC WORK OF POWER BLOCK 2<br/>COVERING POWER HOUSE INCLUDING MILL BAY,<br/>AUX BUILDINGS, ALONG WITH CW PUMP HOUSE AND<br/>CW DUCT, MISC CIVIL WORKS ETC</b> |
| <b>CAPACITY</b> | <b>2 x 500 MW UNIT # 1 &amp; 2</b>                                                                                                                                                |
| <b>PROJECT</b>  | <b>MEJIA-B THERMAL POWER STATION, WEST BENGAL</b>                                                                                                                                 |

**BHARAT HEAVY ELECTRICALS LIMITED**  
**(A Govt Of India Undertaking)**  
**POWER SECTOR – EASTERN REGION**  
**PLOT – DJ 9/1, SECTOR II, SALT LAKE**  
**KOLKATA – 700 091**

| <b>VOLUME-III A</b><br><b>PRICE SCHEDULE, REV-1</b>                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Civil, structural etc work of Power Block 2 covering power house including mill bay, aux buildings, alongwith CW pump house and CW duct, misc civil works etc of unit # 2 for 2x500 MW at Mejia-B TPS, West Bengal.</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>TENDER NO - PSER:SCT:MJA-C752:07</b>                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>PREAMBLE</b>                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 1.0                                                                                                                                                                                                                        | This preamble forms part of tender document and schedule of items. The tenderer should read this preamble carefully in rates for various items. Clauses under this preamble shall be read in conjunction with other volumes of tender as applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 2.0                                                                                                                                                                                                                        | The work shall be carried out strictly as per specifications, description of the items in these schedule and / or engineer's instructions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 3.0                                                                                                                                                                                                                        | Items of work provided in this schedule but not covered in this specification shall be executed strictly as per instruction of the engineer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 4.0                                                                                                                                                                                                                        | Unless specifically mentioned otherwise in the tender document, the tenderer shall quote for the finished items and shall provide for the complete cost towards power, fuel, tools, tackles, equipment, constructional plants, temporary works, labour, dismantling of all temporary piping, structures, valves, pumps, tanks & other misc. equipment, strengthening of roads/culverts/bridges etc. including arranging all clearances etc. required for carrying out different activities & tests, materials, levies, taxes, transport, layout, repairs, rectification, maintenance till handing over, supervisions, colonies, shops, establishments, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the work according to the tender document and this schedule. |
| 5.0                                                                                                                                                                                                                        | The quantities of the various items mentioned in this schedule of items are approximate, based on very preliminary information and may vary to any extent or be deleted altogether. The quoted rates of each item will remain firm throughout the period of execution including extension, for reasons whatsoever, as long as variation in the total value of work executed under any part of this contract including extra items, if any but excluding any price variation remains within thirty percent ( $\pm 30\%$ ) of the contract price.                                                                                                                                                                                                                                                                                             |
| 6.0                                                                                                                                                                                                                        | The rates quoted shall be inclusive of cleaning of site of any vegetation, dressing and leveling etc. including fixing of grid pillars, benchmarks etc. required for commencement of site activities. No separate payment will be made towards the same.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 7.0                                                                                                                                                                                                                        | Rates shall be quoted in figures and in words in clear legible writing. No overwriting is allowed. All scoring and cancellations should be countersigned and in case of illegibility the interpretation of engineer shall be final. All entries shall be in English language.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 8.0                                                                                                                                                                                                                        | All works item wise shall be measured upon completion and paid for at the rates quoted and accepted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 9.0                                                                                                                                                                                                                        | The tender shall be deemed to have studied the specifications, details of work to be done within the time schedule attached and to have acquainted himself of the conditions prevailing at site.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 10.0                                                                                                                                                                                                                       | Engineer's decision shall be final and binding on the contractor regarding clarification of items in the schedule with respect to the other sections/volumes of the contract.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| VOLUME-III A                                                                                                                                                                                                        |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |           |        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------|--------|
| PRICE SCHEDULE, REV-1                                                                                                                                                                                               |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |           |        |
| Civil, structural etc work of Power Block 2 covering power house including mill bay, aux buildings, alongwith CW pump house and CW duct, misc civil works etc of unit # 2 for 2x500 MW at Mejia-B TPS, West Bengal. |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |           |        |
| TENDER NO - PSER:SCT:MJA-C752:07.                                                                                                                                                                                   |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |           |        |
| SL NO                                                                                                                                                                                                               | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | QUANTITY |           | AMOUNT |
|                                                                                                                                                                                                                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          | UNIT RATE | (Rs)   |
| 1.0                                                                                                                                                                                                                 | 100   | EARTH WORK IN EXCAVATION, BACKFILLING & DISPOSAL AS PER SPECIFICATION & DRAWINGS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |           |        |
| 1.1                                                                                                                                                                                                                 | 101 A | Earth work in excavation upto <b>2m depth</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, Ducts, roads, embankment etc including setting out, clearing & grubbing, removal of debris, dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for all types of soils including ash, laterite, morrum, weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe and other mechanical means etc but does not require chiselling or blasting.        | 45,000   | CUM       |        |
| 1.2                                                                                                                                                                                                                 | 101 B | Earth work in excavation upto <b>2m depth</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, Ducts, roads, embankment etc including setting out, clearing & grubbing, removal of debris, dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for hard rock requiring blasting/controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer. |          |           |        |
| 1.2.1                                                                                                                                                                                                               | a     | By means of controlled blasting including provision of sensor to assess the impact of blast on the adjacent structures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 400      | CUM       |        |
| 1.2.2                                                                                                                                                                                                               | b     | By means of controlled blasting excluding provision of sensor .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 20000    | CUM       |        |
| 1.2.3                                                                                                                                                                                                               | c     | In hard rock (blasting Prohibited) by means of chiselling, wedging etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 3000     | CUM       |        |
| 1.3                                                                                                                                                                                                                 | 101 C | Earth work in excavation for depth exceeding <b>2.0m but not exceeding 4.0m</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, Ducts, roads, embankment etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for all types of soils including ash, laterite, morrum , weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe and other mechanical means etc but does not require chiselling or blasting.                          | 11685    | CUM       |        |
| 1.4                                                                                                                                                                                                                 | 101 D | Earth work in excavation for depth exceeding <b>2.0m but not exceeding 4.0m</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, Ducts, roads, embankment etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for hard rock requiring blasting /controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer.                   |          | CUM       |        |
| 1.4.1                                                                                                                                                                                                               | a     | By means of controlled blasting including provision of sensor to assess the impact of blast on the adjacent structures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 400      | CUM       |        |
| 1.4.2                                                                                                                                                                                                               | b     | By means of controlled blasting excluding provision of sensor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 20400    | CUM       |        |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
|-------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----|-------------------|----------------|
| 1.4.3 | c     | In hard rock (blasting Prohibited) by means of chiselling, wedging etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1000     | CUM |                   |                |
| 1.5   | 101 E | Earth work in excavation for depth exceeding <b>4.0m but not exceeding 7.0m</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, ducts, roads, embankment etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0 km etc complete for all types of soils including ash, laterite, morrum, weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe and other mechanical means etc but does not require chiselling or blasting.           | 2222     | CUM |                   |                |
| 1.6   | 101 F | Earth work in excavation for depth exceeding <b>4.0m but not exceeding 7.0m</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, ducts, roads, embankment etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for hard rock requiring blasting /controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer.   |          |     |                   |                |
| 1.6.1 | a     | By means of controlled blasting including provision of sensor to assess the impact of blast on the adjacent structures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 400      | CUM |                   |                |
| 1.6.2 | b     | By means of controlled blasting excluding provision of sensor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 19000    | CUM |                   |                |
| 1.6.2 | c     | In hard rock (blasting Prohibited) by means of chiselling, wedging etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 4000     | CUM |                   |                |
| 1.7   | 101 G | Earth work in excavation for depth exceeding <b>7.0m but not exceeding 10.0m</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, Ducts, roads, embankment etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0km etc complete for all types of soils including ash, laterite, morrum, weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe and other mechanical means etc but does not require chiselling or blasting.           | 170      | CUM |                   |                |
| 1.8   | 101 H | Earth work in excavation for depth exceeding <b>7.0m but not exceeding 10.0m</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, Ducts, roads, embankment etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/ disposal of surplus excavated material within a lead of 1.0 km etc complete for hard rock requiring blasting /controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer. |          |     |                   |                |
| 1.8.1 | a     | By means of controlled blasting including provision of sensor to assess the impact of blast on the adjacent structures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 100      | CUM |                   |                |
| 1.8.2 | b     | By means of controlled blasting excluding provision of sensor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 15000    | CUM |                   |                |
| 1.8.3 | c     | In hard rock (blasting Prohibited) by means of chiselling, wedging etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 400      | CUM |                   |                |

| SL NO  | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
|--------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----|-------------------|----------------|
| 1.9    | 101 J | Earth work in excavation for depth <b>exceeding 10.0m but not exceeding 15.0m</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, Ducts, roads, embankment etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for all types of soils including ash, laterite, morrum , weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe and other mechanical means etc but does not require chiselling or blasting.         | 230      | CUM |                   |                |
| 1.10   | 101 K | Earth work in excavation for depth <b>exceeding 10.0m but not exceeding 15.0m</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, Ducts, roads, embankment etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/ disposal of surplus excavated material within a lead of 1.0 km etc complete for hard rock requiring blasting /controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer. |          |     |                   |                |
| 1.10.1 | a     | By means of controlled blasting including provision of sensor to assess the impact of blast on the adjacent structures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 400      | CUM |                   |                |
| 1.10.2 | b     | By means of controlled blasting excluding provision of sensor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 12500    | CUM |                   |                |
| 1.10.3 | c     | In hard rock (blasting Prohibited) by means of chiselling, wedging etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 450      | CUM |                   |                |
| 1.11   | 101 L | Earth work in excavation for depth <b>exceeding 15.0m but not exceeding 20.0m</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, Ducts, roads, embankment etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/ disposal of surplus excavated material within a lead of 1.0 km etc complete for hard rock requiring blasting /controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer. |          |     |                   |                |
| 1.11.1 | b     | by means of controlled blasting excluding provision of sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 300      | CUM |                   |                |
| 1.12   | 104   | Extra over item 101 A to 101 L above respectively for carriage of all types of excavated materials beyond the initial lead of 1.0 KM dumping, levelling the dumped soil/ materials & levelling the area from where the material is transported, complete with all lifts as specified and directed by Engineer for following leads.                                                                                                                                                                                                                                                                                                                                                         |          |     |                   |                |
| 1.12.1 | i)    | Carriage beyond 1.0 KM and not exceeding 2 km.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 77663    | CUM |                   |                |
| 1.12.2 | ii)   | Carriage beyond 2 Km and not exceeding 5 km.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 56971    | CUM |                   |                |
| 1.12.3 | iii)  | Carriage beyond 5 Km and not exceeding 10 Km.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1971     | CUM |                   |                |
| 1.13   | 105   | <b>Filling</b> using selected excavated materials in trenches, plinths, sides of foundations and other underground structures, pipes, area levelling etc. in layers not exceeding 250 mm thickness including lead upto 5 KM and all lifts and including loading from stock pile, carting, unloading, filling, watering and compacting/ramming each layer, all complete as per specifications, drawings and as directed by the engineer to achieve the following densities.                                                                                                                                                                                                                 |          |     |                   |                |
| 1.13.1 | i)    | Ordinary manual compaction.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1473     | CUM |                   |                |
| 1.13.2 | ii)   | 90% Standard Proctor density.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 56306    | CUM |                   |                |
| 1.13.3 | iii)  | 95% Standard Proctor density.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 6473     | CUM |                   |                |

| SL NO    | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                   | QUANTITY | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
|----------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------------|----------------|
| 1.14     | 106   | <b>Filling using selected excavated materials</b> directly from excavation area in trenches, plinths, sides of foundations & other underground structures, pipes, area levelling etc in layers not exceeding 250 mm thickness including all lifts, filling, watering & compacting/ ramming each layer, all complete as per spec, drawings and as directed by the engineer to achieve the following densities.                                 |          |                   |                |
| 1.14.1   | i)    | Ordinary manual compaction.                                                                                                                                                                                                                                                                                                                                                                                                                   | 218      | CUM               |                |
| 1.14.2   | ii)   | 90% Standard Proctor density.                                                                                                                                                                                                                                                                                                                                                                                                                 | 28131    | CUM               |                |
| 1.14.3   | iii)  | 95% Standard Proctor density.                                                                                                                                                                                                                                                                                                                                                                                                                 | 10228    | CUM               |                |
| 1.15     | 107   | <b>Filling</b> using selected materials in trenches, plinths, sides of foundations, in the space below the grade level slab and other under ground structures, pipes etc. in layers not exceeding 250 mm in thickness including all lifts and including excavating, loading, unloading, carting, filling, watering and compacting/ ramming each layer, all complete as per specification, drgs & as directed by engineer for following works. |          |                   |                |
| 1.15.1   | i)    | With selected soil brought from borrow areas arranged by contractor, including royalties, fees etc.for all leads and compacted to following densities.                                                                                                                                                                                                                                                                                        |          |                   |                |
| 1.15.1.1 | a     | 90% Standard Proctor density.                                                                                                                                                                                                                                                                                                                                                                                                                 | 12136    | CUM               |                |
| 1.15.1.2 | b     | 95% Standard Proctor density.                                                                                                                                                                                                                                                                                                                                                                                                                 | 10       | CUM               |                |
| 1.15.2   | ii)   | With selected <b>sand</b> brought from quarries/river bed arranged by contractor, and compacting to 80% relative density etc for all leads.                                                                                                                                                                                                                                                                                                   | 212      | CUM               |                |
| 1.16     | 108   | Filling in trenches, plinths, area paving and other underground structures with stone (63 mm down graded), in layers not exceeding 200 mm thickness including breaking of boulders to required sizes, filling the interstices with selected sand and compacting to 85 % of original volume of stone stack for all lifts all complete as per instructions of engineer-in-charge.                                                               | 5710     | CUM               |                |
| 1.17     | 109   | Filling in transformer pits etc, with clean 40 mm nominal size stone aggregate including all labour, materials, royalties, equipments etc complete as per instructions of engineer in charge.                                                                                                                                                                                                                                                 | 543      | CUM               |                |
| 1.18     | 110   | Buldozing earth for grading (max depth 500 mm) of ground including removable of vegetation complete including disposal of debris upto 5 kms.                                                                                                                                                                                                                                                                                                  | 2800     | SQM               |                |
| 1.19     | 111   | Cutting of trees, including transportation, stacking at storage yard and disposal of unused material as per direction of Engineer.                                                                                                                                                                                                                                                                                                            |          |                   |                |
| 1.19.1   | i)    | 300 mm upto 600 mm girth.                                                                                                                                                                                                                                                                                                                                                                                                                     | 22       | NO                |                |
| 1.19.2   | ii)   | 601 mm upto 900 mm girth.                                                                                                                                                                                                                                                                                                                                                                                                                     | 23       | NO                |                |
| 2.0      | 200   | PROVIDING & PLACING CONCRETE WORK INCLUDING COST OF LABOUR, MATERIALS & EQUIPMENT FOR HANDLING, TRANSPORTATION, BATCHING, MIXING, PLACING, VIBRATING AND CURING, (EXCLUDING COST OF CENTERING, SHUTTERING AND REINFORCEMENT) COMPLETE AS PER DRAWING AND SPECIFICATIONS UNLESS SPECIFIED OTHERWISE FOR THE FOLLOWING (CEMENT SHALL BE SUPPLIED BY BHEL FREE OF COST AS PER SCC)                                                               |          |                   |                |
| 2.1      | 201   | Plain Cement Concrete of proportion (1 part cement:4 part sand:8 part graded aggregates by volume ) as filling course at any level below finished floor level, under and around foundations/floors, mass dumps etc with 40 mm nominal size graded aggregate.                                                                                                                                                                                  | 1447     | CUM               |                |
| 2.2      | 202   | Plain cement Concrete of of proportion (1 part cement:3 part sand:6 part graded aggregates by volume) as lean concrete, levelling course, mud mat under and around foundations/floors etc with 20 mm nominal size graded aggregate.                                                                                                                                                                                                           | 5297     | CUM               |                |
| 2.3      | 203   | Design mix Concrete of grade M20 in under floors, paving, pipe encasing etc complete with 20 mm nominal size graded aggregate, plasticiser etc complete.                                                                                                                                                                                                                                                                                      | 3278     | CUM               |                |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 2.4   | 204   | Design mix concrete of grade M15 as under bed to floors including plasticiser etc complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 215      | CUM |                   |                |
| 2.5   | 205   | Design mix concrete of grade M25 in underground structures like fdns, columns below finish floor level, plinth beams, slab-on-grade, drains etc complete with 20 mm nominal size graded aggregate, plasticiser etc complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 16953    | CUM |                   |                |
| 2.6   | 206   | Design mix Concrete of grade M-25 in superstructure from finished floor level complete at all heights with 20 mm nominal size graded aggregate, plasticiser etc complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 5030     | CUM |                   |                |
| 2.7   | 207   | Design mix Concrete of grade M-25 in T.G. Block, column and machine foundations at all heights from finished floor level except mill foundation, top deck supported over vibration isolation system including addition of suitable plasticizer conforming to IS 9103-latest to achieve a slump more than 125mm in concrete as per manufacturer's recommendation with 20 mm nominal size graded aggregate.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |     |                   |                |
| 2.7.1 | a)    | M25 (with 20mm nominal size graded stone aggregate), with Ultrasonic Pulse Velocity testing. (Ultrasonic pulse velocity testing to be conducted for T.G column and machine foundations through reputed agency / institution as per approval of Engineer.<br>Payment terms - a. After casting 80%; b. After receipt of ultrasonic test report - 20%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 340      | CUM |                   |                |
| 2.7.2 | b)    | M25 (with 20mm nominal size graded stone aggregate), without Ultrasonic Pulse Velocity testing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3180     | CUM |                   |                |
| 2.8   | 208   | Providing & laying design mix cement concrete for reinforced concrete works using graded aggregate in mill foundation, top decks of machine fdns supported on vibration isolation system (VIS) (excluding supply & installation of VIS) at all levels including addition of suitable plastisizers conforming to IS9103 to achieve a slump more than 125 mm in concrete as per manufacturers recommendation, preparation of scheme for concreting, getting it approved by engineer, labour, materials, equipment, handling, batching, transporting, mixing, pumping, placing, leveling, vibrating, compacting, curing, testing, cleaning & rendering the exposed surface with cement sand mortar to give a smooth and even surface, maintaining & submitting records of concreting, petrographic examination and potential reactivity of aggregate etc all complete as per spec, drg and instructions of engineer, including UPV testing as directed by engineer, rectification of the defects in concreting observed by ultra-sonic pulse velocity (UPV) testing by cement/ epoxy grout etc, but excluding formwork, staging, reinforcement, embeddments & temperature control of concrete. |          |     |                   |                |
| 2.8.1 | i)    | M30 (with 20mm nominal size graded stone aggregate), without Ultrasonic Pulse Velocity testing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1120     | CUM |                   |                |
| 2.8.2 | ii)   | M35 (with 20mm nominal size graded stone aggregate), without Ultrasonic Pulse Velocity testing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 13       | CUM |                   |                |
| 2.8.3 | iii)  | M30 (with 20mm nominal size graded stone aggregate), with Ultrasonic Pulse Velocity testing for machine foundations. Ultrasonic pulse velocity testing to be conducted through reputed agency/ institution as per approval of Engineer.<br>Payment terms - a. After casting 80%; b. After receipt of Ultrasonic test report - 20%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 50       | CUM |                   |                |
| 2.8.4 | iv)   | M35 (with 20mm nominal size graded stone aggregate), with Ultrasonic Pulse Velocity testing for TG deck and machine foundations. (Ultrasonic pulse velocity testing to be conducted through reputed agency/ institution as per approval of engineer.<br>Payment terms - a. After casting 80%; b. After receipt of Ultrasonic test report - 20%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 850      | CUM |                   |                |
| 2.9   | 209   | Extra over ST NO 208 above, for controlling of temperature of freshly laid concrete to less than 25 degree centigrade using ice, including all related arrangements for providing, storing and mixing of ice with water, cooling of aggregates etc, all complete as per specification, drawing and instruction of engineer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1210     | CUM |                   |                |
| 2.10  | 210 A | Screed concrete 1:2:4 conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof or various floors at any level or thickness, drains etc complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 247      | CUM |                   |                |

| SL NO  | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | QUANTITY |      | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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|        | 210 B | Screed concrete 1:1.5:3 conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof or various floors at any level or thickness, drains etc complete.                                                                                                                                                                                                                                                                                                                                                                                                                         | 200      | CUM  |                   |                |
| 2.11   | 211   | Design mix Concrete of grade M-25 in precast works like roof slabs/trench covers, fins, lintels, chajas, beams, columns, wall panels, facias etc.at all levels in all kinds of work including formwork/moulds, curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, transpoting, all leads, erection without damage, setting in position with cement sand mortar (1:3), filling the gaps between adjusant precast units with M30 concrete or cement sand mortar (1:3) and including making of holes for bolts for fixing, welding etc.complete with graded aggregate (20/12.5/10 mm). | 100      | CUM  |                   |                |
| 2.12   | 212 A | Design mix Concrete of grade M25 in water retaining/conveying structures including addition of suitable plastisizer cum waterproofing cement additives confirming to IS 9103 latest to achieve a slump more than 125 mm in concrete as per manufacturers recommendation and subsequent reduction in cement content upto a maximum 10% complete and conforming to limits of permeability as per IS 2545 as per specification with 20 mm nominal size graded aggregate.                                                                                                                                                        |          |      |                   |                |
| 2.12.1 | i)    | Below Ground Level.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 19455    | CUM  |                   |                |
| 2.12.2 | ii)   | Above Ground Level.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 314      | CUM  |                   |                |
| 2.13   | 212 B | Providing with minimum two coats of bituminous painting of grade 85/25 @ 1.7 Kg/sqm for water/damp proofing conforming to IS 702 on foundation/ structure/wall surfaces in contact with soil.                                                                                                                                                                                                                                                                                                                                                                                                                                | 11,000   | SQMM |                   |                |
| 2.14   | 213   | Concrete of Grade M-15 in plinth protection, pipe encasing etc. complete with 20 mm nominal size graded aggregate.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 53       | CUM  |                   |                |
| 2.15   | 214   | Dismantling concrete work for all types of structures at all levels including stacking of servicable material to a lead of 500 m and disposal of unservicable material upto a lead of 2 km, cutting of reinforcement, labour, equipment, safety precautions etc all complete as per drawings, specification & instructions of engineer.                                                                                                                                                                                                                                                                                      |          |      |                   |                |
| 2.15.1 | i)    | Plain cement concrete of all grades                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 16       | CUM  |                   |                |
| 2.15.2 | ii)   | Reinforced cement concrete of all grades alongwith cutting of reinforcements etc complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 38       | CUM  |                   |                |
| 2.16   | 215   | Cutting of masonry / PCC / RCC work for making openings/pockets at any floors/walls of all levels and according to shapes and sizes as per drawing by using Power cutting tool ( DD2E of Hilti make or equivalent), disposal of waste materials upto a lead of 2 km as directed by engineer including equipment, making good broken edges/surfaces with cement mortar (1:3) etc complete as per instructions of BHEL. (Measurement shall be paid as per cutting surface area of masonry/concrete and reinforcement).                                                                                                         | 140      | SQM  |                   |                |
| 2.17   | 216   | Chipping manually (wherever machine cutting is not possible) of masonry / PCC / RCC work for making pockets,openings at any floors/ foundations of all levels and according to shapes and sizes as per drawing, including making good broken edges/surface with cement mortar (1:3), disposal of waste materials upto a lead of 2 km as directed by engineer. (Measurement shall be paid as per cutting surface area of masonry/concrete and reinforcement).                                                                                                                                                                 | 32       | SQM  |                   |                |
| 3.0    | 300   | SUPPLYING, FIXING AND REMOVING FORMWORK AT ANY ELEVATIONS FOR ALL STRUCTURES, AS PER SPECIFICATIONS AND INCLUDING ALL LABOUR MATERIAL, SCAFFOLDINGS AND CENTEREING COMPLETE INCLUDING POCKETS ETC FOR FOLLOWING.                                                                                                                                                                                                                                                                                                                                                                                                             |          |      |                   |                |
| 3.1    | 301   | Ordinary form work below finished ground floor level for foundations, footings, bases of columns, walls, columns, pilasters, beams, mass concrete, trenches etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 25598    | SQM  |                   |                |
| 3.2    | 302   | Fairface form work below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc. for exposed concrete works.                                                                                                                                                                                                                                                                                                                                                                                                                                  | 25096    | SQM  |                   |                |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 3.3   | 303   | Ordinary form work above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc. for all heights.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 13745    | SQM |                   |                |
| 3.4   | 304   | Fairface form work above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc. for all heights.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 8160     | SQM |                   |                |
| 3.5   | 305   | Formwork for TG superstructure-fairface. (above TG raft level)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2720     | SQM |                   |                |
| 3.6   | 306   | Providing, fixing and removing formwork in block-outs/pockets and openings at all elevations including cutting, formation of all shapes and all other operations required for making the required shape and size all complete as per specification, drawing and instruction of engineer in charge.                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |     |                   |                |
| 3.6.1 | i)    | Upto 300 mm depth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 40       | NO  |                   |                |
| 3.6.2 | ii)   | From 301 mm upto 600 mm depth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 42       | NO  |                   |                |
| 3.6.3 | iii)  | From 601 mm upto 1000 mm depth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 24       | NO  |                   |                |
| 3.6.4 | iv)   | From 1001 mm upto 1500 mm depth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 24       | NO  |                   |                |
| 4.0   | 400   | REINFORCEMENT (REINFORCEMENT STEEL SHALL BE SUPPLIED BY BHEL FREE OF COST AS PER SCC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |     |                   |                |
| 4.1   | 401   | Transporting, straightening, cutting, bending, placing in position at any level, binding of mild steel reinforcements in concrete including cost of binding wire, labour etc complete all as per specn & drawings.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 15       | MT  |                   |                |
| 4.2   | 402   | Transporting, Straightening, cutting, bending, placing at any level, binding in position high yield strength steel reinforcements in concrete including cost of binding wire, labour etc. complete all as per specifications & drawings.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 3444     | MT  |                   |                |
| 4.3   | 403   | Transporting, Straightening, cutting, bending, placing in position at any level, binding of mild steel reinforcements in brickwork/concrete encasing work including cost of binding wire, labour etc. complete all as per specifications & drawings.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2        | MT  |                   |                |
| 4.4   | 404   | Transporting, straightening, cutting, bending, placing at any level, binding in position high yield strength steel reinforcements in brickwork/ concrete encasing work including cost of binding wire, labour etc. complete all as per specifications & drawings.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 15       | MT  |                   |                |
| 5.0   | 500   | WATER PROOFING AS PER SPECIFICATIONS. (CONTRACTOR HAS TO FURNISH A GUARANTEE FOR MATERIAL AND WORKMANSHIP FOR A MINIMUM PERIOD OF 20 YEARS.). (CEMENT SHALL BE SUPPLIED BY BHEL FREE OF COST AS PER SCC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |     |                   |                |
| 5.1   | 501   | Providing, laying & fixing roof water proofing treatment using two successive liquid coatings of high solid content urethane pre-polymers to form elastomeric membrane having overall dry film thickness of min 1.5 mm subject to min 750gm/sqm/coat application rate including primer coat consisting of polyurethane or any other equivalent material, finishing coats and surface finish complete laid over cement plaster (1:6) grading on screed concrete (1:1.5:3) (cement plaster and screed concrete to be paid seperately) mix all complete including all labour, material, equipment, handling, scaffolding, transporting, testing and cost of wire mesh if any etc.complete as per drawing, specification and instructions of engineer. | 10228    | SQM |                   |                |
| 5.2   | 502   | Providing & laying foam concrete block insulation over roofs including min 15 mm cement sand plaster finished smooth over foam concrete & providing of expansion joints at intervals as per the recommendation of manufacturer. Thermal conductivity of the foam concrete shall not exceed 0.125 KCL/Sqmh degree C and weight shall be from 0.3 to 0.5 gm/cu.cm, all complete with fillets as per specification.                                                                                                                                                                                                                                                                                                                                   |          |     |                   |                |
| 5.2.1 | i)    | 75 thick                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 5673     | SQM |                   |                |
| 5.2.2 | ii)   | 100 thick                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3920     | SQM |                   |                |

| SL NO   | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 5.3     | 503   | Providing & laying pressed precast concrete tiles over water proofing of minimum size 600x600 and min thickness 20 mm conforming to IS 13801 including 15 mm thick cement mortar (1:4) bedding inclusive of provision for thermal expansion for each roofing tile filled with polysulfide joint sealant (water proofing paid else where).                                                                                                                                                                                                                                                                        | 9593     | SQM |                   |                |
| 5.4     | 504   | Providing & mixing approved water proofing compound in concrete or cement mortar for works wherever specified or directed as per specification/manufacturer's instructions, testing of samples for water proofing etc complete.                                                                                                                                                                                                                                                                                                                                                                                  | 12422    | KG  |                   |                |
| 6.0     | 600   | SUPPLYING & INSTALLATION OF JOINT FILLER AND SEALING COMPOUND.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |     |                   |                |
| 6.1     | 601   | Supplying & installation of bitumin impregnated fibre board conforming to IS 1838 as joint filler at joints in concrete including nailing, coating of both faces with coal tar pitch/bitumin, labour, material, equipments etc all complete at all levels as per specification, drawings and instruction of engineer.                                                                                                                                                                                                                                                                                            |          |     |                   |                |
| 6.1.1   | i)    | 12mm thick joints.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2        | SQM |                   |                |
| 6.1.2   | ii)   | 20mm thick joints.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 11       | SQM |                   |                |
| 6.1.3   | iii)  | 25mm thick joints.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 179      | SQM |                   |                |
| 6.1.4   | iv)   | 50mm thick joints.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1354     | SQM |                   |                |
| 6.2     | 602   | Supplying and filling in position hot applied bitumin sealing compound (Grade A) confirming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints at all levels including application of primer, labour, material, equipments etc. all complete as per specification/drawing, instruction of engineer in charge.                                                                                                                                                                                                                                                  | 583      | KG  |                   |                |
| 6.3     | 603   | Providing and filling polysulphide base sealant as per IS 12118 for 25 mm thick expansion joint over pre-moulded board                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1        | CUM |                   |                |
| 7.0     | 700   | M.S. EMBEDMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          |     |                   |                |
| 7.1     | 701   | Fabricating and fixing of embedments, MS inserts made of angle pieces, plates, channels and ISMBs of dimensions as required including cost of all labour, materials and equipment, transportation, loading, unloading, handling, welding, cutting, drilling, scaffolding and setting as per specifications and drawings. (STRUCTURAL STEEL SHALL BE SUPPLIED BY BHEL FREE OF COST AS PER SCC)                                                                                                                                                                                                                    | 139      | MT  |                   |                |
| 7.2     | 702   | Supply, fabrication and fixing of embedments, MS inserts, sleeves, rails, guide rails, angle, channel, plates, beams of various diameters, plates of dimensions as required including cost of all labour, materials and equipment for fixing in position, scaffolding and setting in position, transportation from stores within the plant boundary to work spot, loading, unloading etc. complete as per specifications and drawings. (Vendor to supply all material).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                | 72       | MT  |                   |                |
| 7.3     | 703   | Supply, fabricating, transporting, erecting and installing at all elevations miscellaneous steel/PVC pipes, expansion fasteners in concrete/brickwall, for all kind of works, including the cost of labour, material and equipment, setting material in concrete, layout, scaffolding, handling at site, cutting, forming, grinding, drilling, bolting, welding, jointing, testing etc. all complete as per drawings and specifications and instructions of engineer. (Vendor to supply all material).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%. |          |     |                   |                |
| 7.3.1   | i     | MS pipes of all diameters.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 27       | QTL |                   |                |
| 7.3.2   | ii    | PVC conduits of all sizes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 8        | QTL |                   |                |
| 7.3.3   | iii   | Expansion fasteners (galvanised) of HILTI make or equivalent of safe tension capacity as specified below.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |     |                   |                |
| 7.3.3.1 |       | 250 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 700      | NO  |                   |                |

| SL NO   | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 7.3.3.2 |       | 500 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 490      | NO  |                   |                |
| 7.3.3.3 |       | 750 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 175      | NO  |                   |                |
| 7.4     | 704   | Supply, fabrication, transportation, delivery at site, erection, installation & alignment of MS foundation/anchor bolt (Grade-1 of IS:432 & IS:2062) assembly in concrete along with nuts, lock nuts (IS:1363, IS:1364 & IS:3138), anchor plates, stiffner plates, protective tape etc. upto and including 80 mm dia, 3000 mm long including furnishing of labour, materials, equipments, welding, cutting, grinding, threading, drilling, pipe sleeves etc all complete as per spec, drawing and instruction of the engineer. (Vendor to supply all material).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%. | 52       | MT  |                   |                |
| 7.5     | 705   | Placing, locking and releasing of vibration isolation spring modules over foundations at all elevations including transportation from stores, leveling, alignment all complete under the supervision of supplier, as per drawing and instructions of engineer in charge. (VIS to be supplied by BHEL free of cost).                                                                                                                                                                                                                                                                                                                                                       | 155      | NO  |                   |                |
| 8.0     | 800   | GROUTING AS PER SPECIFICATION FOR THE FOLLOWING:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |     |                   |                |
| 8.1     | 801   | Providing & grouting cement slurry mix at any elevation/depth with pressure pump for water retaining concrete structures, including fixing nozzles, cost of approved cement, admixture, curing, etc all complete as per specification & as directed by engineer (cement shall be supplied by BHEL free of cost as per SCC)                                                                                                                                                                                                                                                                                                                                                | 14       | SQM |                   |                |
| 8.2     | 802   | Providing & grouting of pocket holes, pipe sleeves of any shape & size under base plate after erection, and alignment if necessary, of heavy machinery at any elevations including roughening surface, cleaning, ramming, curing, etc with ConbextraGPX-2 of 'Fosroc' or equivalent all complete as per spec (cost of all material & cleaning the pocket by compressed air shall be in contractor's scope).                                                                                                                                                                                                                                                               | 28       | CUM |                   |                |
| 8.3     | 803   | Providing & grouting of pocket holes, pipe sleeves of any shape and size under base plate after erection, and alignment if necessary, of main structural steel work at any elevations including roughening surface, cleaning, ramming, curing, etc with ConbextraGP-1 or equivalent all complete as per spec (cost of all material & cleaning the pocket by compressed air shall be in contractor's scope).                                                                                                                                                                                                                                                               | 50       | CUM |                   |                |
| 8.4     | 804   | Providing & grouting of pocket holes, pipe sleeves of any shape and size under base plate after erection and alignment if necessary, of secondary structures, machinery & pipe supporting structures at any elevations including roughening surface, cleaning, ramming, curing, etc with 1:1:2 cement - sand - 6 mm down stonechips all complete as per spec (cost of all material and cleaning the pocket by compressed air shall be contractor's scope and cement shall be supplied by BHEL free of cost as per SCC).                                                                                                                                                   | 12       | CUM |                   |                |
| 9.0     | 900   | DOORS, WINDOWS, VENTILATORS, LOUVERS, ROOF VENTILATORS, ROLLING SHUTTERS, PARTIONS ETC COMPLETE AT ALL ELEVATION INCLUDING FRAMING, KICK PLATES, STOPPERS AS PER SPECIFICATION & DRAWINGS (ALL STEEL DOORS, WINDOWS AND ROLLING SHUTTERS ETC.SHALL BE BLAST CLEANED TO NEAR WHITE METAL SURFACE (SA 2 1/2), PAINTED WITH TWO COAT OF RED OXIDE ZINC PRIMER AND FINISHED WITH TWO COATS OF SYNTHETIC ENAMEL PAINT CONFIRMING TO IS2074) (ALL MATERIALS TO BE SUPPLIED BY THE VENDOR).                                                                                                                                                                                      |          |     |                   |                |
| 9.1     | 901   | Providing, fitting and fixing solid core flush door shutter as per IS 2202 part II, 35 mm thick homogeneous particle board bonded with BWR type phenol formaldehyde synthetic resin, particle board core conforming to IS 3087 type I, 35X12 mm thick teak wood beading all around including preperation of working drawings, butt hinges, tower bolt, sliding bolt handles, knobs, door stoppers (all fitting shall be anodised aluminium color dyed), final synthetic paint over primer, screws etc complete as per drawing, specification and instructions of engineer in charge.                                                                                      | 23       | SQM |                   |                |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 9.2   | 902   | Providing and fixing wooden frame conforming to IS 4021 made of best quality seasoned CP teakwood free from large or loose knots, cracks or other defects inclusive of sand paper smoothening, hold fasts, beading, primer including final synthetic painting etc. complete as per specifications with proper wood joinery, accurately set to required lines or levels and rigidly secured in place.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 4.321    | CUM |                   |                |
| 9.3   | 903   | Providing, fitting and fixing panel door shutter as per IS 1003, with (35 mm thick, 150 mm wide vertical rail & 125 mm wide horizontal rail) teakwood shutter frame and (12 mm thick) interlocked panels of teakwood including beading, preparation of working drawings, butt hinges, tower bolt, sliding bolt handles, knobs, door stoppers (all fitting shall be anodised aluminium color dyed), final synthetic paint over primer, screws etc complete as per drawing, specification and instructions of engineer in charge with proper wood joinery.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 18       | SQM |                   |                |
| 9.4   | 904   | Providing and fixing hard wood frame conforming to IS 4021 made of approved quality seasoned wood free from large or loose knots, cracks or other defects inclusive of sand paper smoothening, hold fasts, beading, primer including final synthetic painting etc. complete as per specifications with proper wood joinery, accurately set to required lines or levels and rigidly secured in place.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.184    | CUM |                   |                |
| 9.5   | 905   | Providing and fixing steel single or double door shutters. Shutters shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm c/c. Side, top, bottom edges of shutter shall be of pressed steel channels of 1.2mm thk voids to be filled with mineral wool (48 kg/cum density) including all fittings like tower bolts, handles, stoppers, aldrops etc. and painting with minimum 2 coats of synthetic enamel paint on primer complete.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 104      | SQM |                   |                |
| 9.6   | 906   | Providing and fixing fire proof steel doors (single or double shutter) with panic devices shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers including all fittings, shop painting with approved post office/signal red color fire resistant paint and mineral wool insulation (64 kg/cum density) complete and shall be fire proof as per IS:3614, TAC requirements and as per specification. Minimum ratings shall be 2 Hrs.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 103      | SQM |                   |                |
| 9.7   | 907   | Providing & fixing anodised aluminium work of Indal, Hindalco or other equivalent approved make for doors, windows, ventilators, partitions, railing etc with extruded standard tubular & other sections including all fittings & fixtures & accessories of approved make conforming to IS733 & IS1285, anodised & electro color dyed to required shade according to IS 1868 (min anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom & sides with required PVC/ neoprene felt for bi-mettalic protection etc including preparation of working drgs, aluminium cleat angle, aluminium snap-on-beading for glazing/ panelling, stair case tread nosing, with all fittings & fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc), CP brass/ stainless steel screw, providing & fixing hinges/ pivots & making provision for fixing of fitting wherever required including cost of PVC/ neoprene gasket, all complete as per drg, spec & instructions of engr (glazing & panelling will be paid separately).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%. | 20881    | KG  |                   |                |
| 9.8   | 908   | Providing and fixing of over head heavy duty hydraulic door closers Yale make or equivalent quality as directed by Engineer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 68       | NO  |                   |                |

| SL NO   | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 9.9     | 909   | Providing and fixing floor mounted heavy duty Hydraulic door closer of approved make & best quality as directed by engineer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 65       | NO  |                   |                |
| 9.10    | 910   | Providing & fixing pressed steel frames fabricated from 1.6 mm thk gauge MS sheet mortised, reinforced strikes, hold fasts, adjustable floor anchors, floor tiles/ weather bars, painting with min 2 coats of synthetic enamel paint on primer etc complete as per specifications.                                                                                                                                                                                                                                                                                                                                                      | 1060     | KG  |                   |                |
| 9.11    | 911   | Providing & fixing in position rolling shutters of approved make as per IS 6248, made of 75x1.2mm hot rolled double dipped galvanized steel laths interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside & outside locking including wire springs top cover, 3 coats of approved enamel paint etc, all complete as per specification, <b>mechanically operated</b> .<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                   | 34       | SQM |                   |                |
| 9.12    | 912   | Providing & fixing in position rolling shutters of approved make as per IS 6248, made of 75x1.2mm hot rolled double dipped galvanized steel laths interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside & outside locking with push & pull operation including wire springs top cover, 3coats of approved enamel paint etc, all complete as per specification, <b>hand operated</b> .<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%. | 16       | SQM |                   |                |
| 9.13    | 913   | Providing & fixing in position rolling shutters of approved make as per IS 6248, made of 75x1.2mm hot rolled double dipped galvanized steel laths interlocked together through their entire length & jointed together at the end by & locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside & outside locking including wire springs top cover, 3 coats of approved enamel paint etc, all complete as per specification, <b>electrically operated</b> .<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                       | 85       | SQM |                   |                |
| 9.14    | 914   | Providing, fitting and fixing of glazing (including poly carbonate sheet) of superior (selected) quality, first grade class, at various elevations, where required, cleaning after fixing, gaskets, clips, hardware, with all labour and material etc. complete as per specification, drawing and instructions of engineer in charge.                                                                                                                                                                                                                                                                                                   |          |     |                   |                |
| 9.14.1  | i)    | 4 mm clear sheet glass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 88       | SQM |                   |                |
| 9.14.2  | ii)   | 4 mm clear float glass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 125      | SQM |                   |                |
| 9.14.3  | iii)  | 6 mm clear float glass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 327      | SQM |                   |                |
| 9.14.4  | iv)   | 6 mm wired glass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 830      | SQM |                   |                |
| 9.14.5  | v)    | 6 mm thick polycarbonate sheet multi (twin) wall fire retardant and ultra violet resistant with sealed open edges.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 45       | SQM |                   |                |
| 9.14.6  | vi)   | 4 mm ground glass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 20       | SQM |                   |                |
| 9.14.7  | vii)  | Two nos. 6 mm thick clear toughened float glass hermetically sealed and seperated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 53       | SQM |                   |                |
| 9.14.8  | viii) | Two nos. 6 mm thick tinted toughened float glass hermetically sealed and seperated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 80       | SQM |                   |                |
| 9.14.9  | ix)   | 6 mm thick toughened float glass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 70       | SQM |                   |                |
| 9.14.10 | x)    | One outer 6mm thick tinted heat-reflecting type float glass and one inner 6mm thick plain float glass hermetically sealed and seperated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).                                                                                                                                                                                                                                                                                                                                                                                                          | 280      | SQM |                   |                |

| SL NO   | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | QUANTITY |      | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 9.14.11 | xi)   | 6 mm thick laminated glass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 330      | SQM  |                   |                |
| 9.15    | 915   | Providing, fitting and fixing heavy duty minimum six lever mortised lock of godrej or equivalent make with handles or knobs to single and double leaf door (wooden/steel/aluminium) with duplicate set of keys and masterkeyed locks, openable from one side by the key and from the other side by the handle etc. all complete as per drawing, specification and instruction of engineer in charge.                                                                                                                                         | 38       | Each |                   |                |
| 9.16    | 916   | Providing and fixing PVC doors of sintex or equivalent make including all fitting & fixtures as per specification, drawing and instructions of engineer in charge.                                                                                                                                                                                                                                                                                                                                                                           | 61       | SQM  |                   |                |
| 9.17    | 917   | Supplying & fixing weather stripping of approved make & quality consisting of Aluminium strips with fibre to doors as per instructions of engineer and spec complete.                                                                                                                                                                                                                                                                                                                                                                        | 28       | RM   |                   |                |
| 10.0    | 1000  | BRICKWORK MASONRY INCLUDING SUPPLY OF MATERIAL, COST OF LABOUR ETC. COMPLETE, AS PER SPECIFICATIONS. (CEMENT SHALL BE SUPPLIED BY BHEL FREE OF COST AS PER SCC)                                                                                                                                                                                                                                                                                                                                                                              |          |      |                   |                |
| 10.1    | 1001  | Providing brick work in cement mortar 1:6 (1 part cement 6 parts coarse sand) in walls, chambers, foundations, pits etc in varying thickness, at all depths, places and positions below plinth including raking out joints, curing, scaffolding etc complete excluding plastering and painting.                                                                                                                                                                                                                                              |          |      |                   |                |
| 10.1.1  | i)    | Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 6        | CUM  |                   |                |
| 10.1.2  | ii)   | Using clay ash bricks shall be as per IS 13757 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash shall be 25%                                                                                                                                                                                                                                                                                                                                                                                                            | 10       | CUM  |                   |                |
| 10.1.3  | iii)  | Using ordinary bricks of class designation 75 of nominal dimension.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 310      | CUM  |                   |                |
| 10.1.4  | iv)   | Using locally available first class bricks of required crushing strength of nominal dimension approved by engineer in charge/customer.                                                                                                                                                                                                                                                                                                                                                                                                       | 6        | CUM  |                   |                |
| 10.2    | 1002  | Providing brick work in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc in thickness 250mm at all heights, places and position above plinth including raking out joints, curing, scaffolding etc complete excluding plastering and painting.                                                                                                                                                                                                                                                                               |          |      |                   |                |
| 10.2.1  | i)    | Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2.                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 39       | CUM  |                   |                |
| 10.2.2  | ii)   | Using clay ash bricks shall be as per IS 13757 with crushing strength of 75 kg/cm2 & minimum percentage of fly ash shall be 25%.                                                                                                                                                                                                                                                                                                                                                                                                             | 79       | CUM  |                   |                |
| 10.2.3  | iii)  | Using ordinary bricks of class designation 75 of nominal dimension.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2722     | CUM  |                   |                |
| 10.2.4  | iv)   | Using locally available first class bricks of required crushing strength of nominal dimension approved by engineer in charge/customer.                                                                                                                                                                                                                                                                                                                                                                                                       | 39       | CUM  |                   |                |
| 10.3    | 1003  | Ruled pointing in masonry in CM 1:3 (1 cement & 3 fine sand) including raking out joint, curing etc complete.                                                                                                                                                                                                                                                                                                                                                                                                                                | 53       | SQM  |                   |                |
| 10.4    | 1004  | Providing brick work in cement mortar 1:4 (1 cement 4 coarse sand) in partition walls, chambers etc in thickness 127 mm at all heights, places & position above or below plinth/graded level including providing HB wetting at every third layer, raking out joints, curing, scaffolding etc complete using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2 and clay ash bricks shall be as per IS 13757, minimum percentage of fly ash shall be 25%, excluding plastering and painting as per specification. |          |      |                   |                |
| 10.4.1  | i)    | Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2.                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 6        | SQM  |                   |                |
| 10.4.2  | ii)   | Using clay ash bricks shall be as per IS 13757 with crushing strength of 75 kg/cm2 and min percentage of fly ash shall be 25%.                                                                                                                                                                                                                                                                                                                                                                                                               | 12       | SQM  |                   |                |
| 10.4.3  | iii)  | Using ordinary bricks of class designation 75 of nominal dimension.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 607      | SQM  |                   |                |

| SL NO  | ST NO  | DESCRIPTION                                                                                                                                                                                                                                                                                                                                 | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 10.4.4 | iv)    | Using locally available first class bricks of required crushing strength of nominal dimension approved by engineer in charge/customer.                                                                                                                                                                                                      | 6        | SQM |                   |                |
| 10.5   | 1005   | Breaking of existing brick work at all levels including plastering, removing the rubbish up to a distance of 500 m including transportation, loading, unloading etc. all complete as directed by the engineer.                                                                                                                              | 11       | CUM |                   |                |
| 10.7   | 1007 A | Providing & encasing of structural steel member with masonry work with cement mortar (1:3) around flanges, webs etc and filling the gap between steel and encased member shall be wrapped with checken wire mesh with 50mm lap etc complete as per specification.                                                                           | 44       | CUM |                   |                |
| 10.8   | 1007 B | Providing and encasing of structural steel member with RCC grade M-25 around flanges, webs etc. and filling the gap including concreting,placing/welding reinforcement/steel wire, shuttering, scaffolding, etc complete as directed by BHEL. (Reinforcement/steel wire shall be measured and paid separately as per ST item 403/404/1009). | 44       | CUM |                   |                |
| 10.9   | 1009   | Supply and placing in position mild steel wire fabric of square mesh 25 mm size and wire diameter of 2 mm for encasing of steel sections in concrete including cutting, bending, fixing etc. complete.                                                                                                                                      | 813      | SQM |                   |                |
| 10.10  | 1010   | Providing and filling brick bats in soak pits, below plinth protection etc complete.                                                                                                                                                                                                                                                        | 12       | CUM |                   |                |
| 11.0   | 1100   | DAMP PROOF COURSE INCLUDING ALL MATERIALS LABOUR, SHUTTERING, CENTERING, CURING ETC., COMPLETE WITH THICKNESS AS SPECIFIED/SHOWN ON DRAWINGS.                                                                                                                                                                                               |          |     |                   |                |
| 11.1   | 1101   | Damp Proof Course 40mm thk. 1:1.5:3 concrete (10mm down aggregate) with 2% of approved admixture of water proofing compound. Hot bitumen @ 1.7Kg./sqm shall be applied before & after the DPC as per specification. (CEMENT SHALL BE SUPPLIED BY BHEL FREE OF COST AS PER SCC)                                                              | 74       | SQM |                   |                |
| 12.0   | 1200   | CEMENT MORTOR PLASTER INCLUDING ALL MATERIALS SCAFFOLDING, CURING ETC. COMPLETE AS PER SPECIFICATION. (CEMENT SHALL BE SUPPLIED BY BHEL FREE OF COST AS PER SCC)                                                                                                                                                                            |          |     |                   |                |
| 12.1   | 1201   | Providing 12 mm thick plaster in cement mortar 1:6 on walls, floors, roof etc. finished to a smooth finish as per specification.                                                                                                                                                                                                            | 12019    | SQM |                   |                |
| 12.2   | 1202   | Providing 12 mm thick plaster in cement mortar 1:6 on walls, with a rough finish as per specification.                                                                                                                                                                                                                                      | 2186     | SQM |                   |                |
| 12.3   | 1203   | Providing 12 mm thick plaster in cement mortar 1:6 on walls with a paste of neat cement @1kg/sqm and rubbed smooth with trowel as per specification.                                                                                                                                                                                        | 328      | SQM |                   |                |
| 12.4   | 1204   | Providing 18 mm thick plaster in two layers in cement mortar 1:6 on walls, floors, roof etc. f finished to a wooden float/smooth/rough finish as per spec.                                                                                                                                                                                  | 13196    | SQM |                   |                |
| 12.5   | 1205   | Providing 6mm thick plaster in cement mortar 1:4 on ceilings finished to a smooth finish as per specification.                                                                                                                                                                                                                              | 8400     | SQM |                   |                |
| 12.6   | 1206   | Providing and making decorative cement plaster (1:4) over existing plastered surface of all types and design on walls, ceilings, arcs, columns with various thickness upto 20 mm including finishing all complete.                                                                                                                          | 381      | SQM |                   |                |
| 12.7   | 1207 A | Providing Plaster of Paris (birla white or equivalent) 2 mm thick punning over finished plaster surface and finished with smooth surface as per specification.                                                                                                                                                                              | 4665     | SQM |                   |                |
| 12.8   | 1207 B | Providing Plaster of white putty (birla white or equivalent) 2 mm thick punning over finished plaster surface and finished with smooth surface as per specification.                                                                                                                                                                        | 4665     | SQM |                   |                |
| 12.9   | 1208   | Providing screed/grading plaster of average 20 mm thickness in ratio 1:6 nominal by volume including finishing smooth and even etc. all complete at all levels above or below grade level.                                                                                                                                                  | 5597     | SQM |                   |                |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 12.10 | 1209  | Providing and making decorative interior cement plaster (1:4) of heritage finish over existing plastered surface of all types and design on walls, ceilings, arcs, columns including finishing all complete.                                                                                                                                                                                                                                                                                                                                | 105      | SQM |                   |                |
| 12.11 | 1210  | Forming groove of uniform size from 12X12 mm upto 20X15 mm in plastered surface as per approved pattern, using wooden battens nailed to the under layer, including removal of wooden battons, repair of the edges of plaster panel and finishing the groove etc. complete as per specification, drawing and the instructions of engineer.                                                                                                                                                                                                   | 70       | RM  |                   |                |
| 12.12 | 1211  | Providing drip coarse on plastered surface at all elevations for all type of work such as chajjas, parapet, projections etc. including scaffolding, finishing etc. complete with all labour, tools and plants as per specification, drawing and instructions of engineer.                                                                                                                                                                                                                                                                   | 85       | RM  |                   |                |
| 12.13 | 1212  | Providing & laying encasement to box type steel beams at all levels with lath plaster 50 mm nominal thickness with cement plaster (1:4) over galvanised hexagonal chicken wire of 0.9 mm wire diameter & 19 mm mesh size as per IS3150 including all labour, materials, equipment, handling, transporting, mixing, placing, leveling, curing and cleaning, finishing the exposed surfaces etc including centering & shuttering all complete as per specn, drg & instructions of enginner (rate shall include cost of GI chicken wire mesh)  | 1152     | SQM |                   |                |
| 13.0  | 1300  | FINISHES, PAINTING TO CONCRETE, PLASTERED SURFACES, SURFACE PREPARATION INCLUDING ALL MATERIALS, LABOUR, SCAFFOLDING ETC ALL COMPLETE (PAINTS OF REPUTED BRAND OF REPUTED MANUFACTURER LIKE ICI/ BERGER/ ASIAN PAINTS OR EQUIVALENT)                                                                                                                                                                                                                                                                                                        |          |     |                   |                |
| 13.1  | 1301  | Providing and applying two or more coats of oil bound destemper as per IS 428 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline including plaster of paris punning minimum 2 mm.                                                                                                                                                                                                                                    | 728      | SQM |                   |                |
| 13.2  | 1302  | Providing and applying two or more coats of acrylic destemper as per IS 428 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface or plaster of paris punning as per manufacturers guideline.                                                                                                                                                                                                                                                          | 10045    | SQM |                   |                |
| 13.3  | 1303  | Two or more coats of cement paint ( for internal use) of approved brand and manufacture to give an even shade including priming coat complete.                                                                                                                                                                                                                                                                                                                                                                                              | 178      | SQM |                   |                |
| 13.4  | 1304  | Providing & applying 2 or more coats of acid/alkali resistant paint of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying bitumen primer conforming to IS 158 complete all as per manufacturer's recommendations & as approved by engineer, at all heights above or below grade level, complete as per spec.                                                                                                                                                  | 1023     | SQM |                   |                |
| 13.5  | 1305  | Two or more coats of oil resistant paints epoxy based and ammine cured, 150 micron over primer of approved grade and manufacture to give an even shade.                                                                                                                                                                                                                                                                                                                                                                                     | 259      | SQM |                   |                |
| 13.6  | 1306  | Providing and applying two or more coats of acrylic emulsion paint as per IS 5411 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface or plaster of paris punning in walls, ceiling etc as per manufacturers guideline.                                                                                                                                                                                                                              | 6962     | SQM |                   |                |
| 13.7  | 1307  | Providing & applying resin bonded granular textured finish, for external applications shall consist of granular textured paint/ synthetic plaster composed of synthetic fibre & petroleum based chemical similar to RENOVO or equivalent and of approved natural color/shade applied on cured and dried plaster surface. The final finish shall have UV resistance, fungus, bacterial resistance properties all complete with grooves filled with poly sulfide sealant of matching color and shade as per specn/ drg/ approval of engineer. | 2336     | SQM |                   |                |
| 13.8  | 1308  | Providing and applying 2 or more coats of water proof cement paint of approved make and color on exterior surface at all heights including material, labour, scaffolding, curing etc complete as per specification.                                                                                                                                                                                                                                                                                                                         | 2921     | SQM |                   |                |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 13.9  | 1309  | Providing & applying 2 or more coats of weather paint of Asian make or approved equivalent make and color on exterior surface at all heights including material, labour, scaffolding, curing etc complete as per specn.                                                                                                                                                                                                                                                                           | 54       | SQM |                   |                |
| 14.0  | 1400  | FLOORING & SKIRTING INCLUDING ALL MATERIALS, LABOUR, CURING, POLISHING, FINISHING, EXPANSION JOINTS, GROOVES, ETC COMPLETE IN ALL RESPECTS AS PER SPECIFICATION & DRAWINGS (CEMENT SHALL BE SUPPLIED BY BHEL FREE OF COST AS PER SCC)                                                                                                                                                                                                                                                             |          |     |                   |                |
| 14.1  | 1401  | Providing and laying 40 mm thick heavy duty cement concrete flooring with metallic hardener pigmented topping of 12 mm thick uniform graded treated iron particles over underbed of 1 part cement, 1.5 part sand and 3 parts chips (10 mm down, well graded) by volume (only sufficient water added to give workable consistency) in flooring complete as per specification.                                                                                                                      | 15263    | SQM |                   |                |
| 14.2  | 1402  | Providing & laying 25 mm thick heavy duty cement concrete flooring with metallic hardener pigmented topping of 10 mm thick uniform graded treated iron particles in skirting & dado over underbed of 1 part cement, 1.5 part sand and 3 parts chips (10 mm down, well graded) by volume complete as per specification.                                                                                                                                                                            | 290      | SQM |                   |                |
| 14.3  | 1403  | Providing & fixing chemical resistant (Acid & Alkali) Tiles as per IS 4457 of minimum thickness 20 mm thick in flooring/Dado. The tiles shall be abrasion resistant and durable. The potassium silicate as per IS 4832, 6 mm thick mortar used for setting or for under bed shall be durable strong and chemical resistant epoxy mortar including pointing etc. after laying bitumen primer as per IS 158 and 12 mm thick bitumastic complete as per IS 9510 and IS 412 and as per specification. | 197      | SQM |                   |                |
| 14.4  | 1404  | Providing epoxy coating 150 micron over epoxy primer over MS Grating/Chequered plate/any other steel structure complete as per engineer in charge.                                                                                                                                                                                                                                                                                                                                                | 2        | SQM |                   |                |
| 14.5  | 1405  | Providing and laying polished Kota stone 16 mm thk in flooring, staircase over minimum 20 mm thick underbed of cement mortar (1 cement :3 sand). The kota stone slabs laid over under-bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, making corners, granite polishing etc. complete.                                              | 74       | SQM |                   |                |
| 14.6  | 1406  | Providing and laying polished Kota stone 16 mm thk in flooring laid in pattern with white marble strip 16 mm thick as per approved floor design over minimum 20 mm thick cement mortar (1 cement :3 sand) as underbedded coarse . The kota stone/marble slabs laid over under-bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface                                                                      | 1989     | SQM |                   |                |
| 14.7  | 1407  | Providing polished Kota stone 16 mm thk in skirting projecting 6mm from adjacent plaster all complete .                                                                                                                                                                                                                                                                                                                                                                                           | 36       | SQM |                   |                |
| 14.8  | 1408  | Providing and laying polished Granite stone of approved color and texture minimum 16 mm thk in flooring over under bed of cement mortar (1 cement : 3 sand) 20mm thick. The granite stone slabs/tiles laid over pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. complete .                                        | 45       | SQM |                   |                |
| 14.9  | 1409  | Providing and laying polished Granite stone 16 thk in skirting over under bed of cement mortar (1 cement : 3 sand) 10mm thick, facia and dado including pigments, curing, grinding, granite polishing etc complete.                                                                                                                                                                                                                                                                               | 65       | SQM |                   |                |
| 14.10 | 1410  | Providing & laying polished Granite slab 12 thk in skirting, facia and dado including pigments cement plaster 1:3, curing, grinding, granite polishing etc complete.                                                                                                                                                                                                                                                                                                                              | 26       | SQM |                   |                |

| SL NO   | ST NO  | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                            | QUANTITY | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 14.11   | 1411   | Providing and laying 10 mm thk non-skid fully vitrified tiles of make 'MARBONITE' or 'FERRASTONE of BOSS Profile limited' or equivalent over 30 mm thick underbed of 1 part cement and 3 parts coarse sand by weight mixed with sufficient water, complete as per specification laid in pattern of following sizes.                                                                                                                                                    |          |                   |                |
| 14.11.1 | i)     | 400x400 mm.                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 266      | SQM               |                |
| 14.11.2 | ii)    | 600x600 mm.                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 856      | SQM               |                |
| 14.1    | 1412   | Providing and laying glazed ceramic tiles of approved color and design in dado of approved size of reputed manufacturer topped with 50 mm wide matching ceramic trims, with cement mortar 1:3, complete as per specification including all material, labour etc.                                                                                                                                                                                                       |          |                   |                |
| 14.12.1 | i)     | 5 mm thick.                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 173      | SQM               |                |
| 14.12.2 | ii)    | 7 mm thick.                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 189      | SQM               |                |
| 14.13   | 1413   | Providing and laying granite stone slab of 16 mm thickness single piece for wash basin slab, wall of black or approved colour with making corners, cutting and opening complete.                                                                                                                                                                                                                                                                                       | 18       | SQM               |                |
| 14.14   | 1414 A | Providing and laying of PVC flooring & skirting of minimum thickness 2 mm anti static flexible tiles as per IS 3462 and IS 5318.                                                                                                                                                                                                                                                                                                                                       | 35       | SQM               |                |
| 14.15   | 1414 B | Providing and laying of PVC flooring & skirting of minimum thickness 3 mm anti static flexible tiles as per IS 3462 and IS 5318.                                                                                                                                                                                                                                                                                                                                       | 35       | SQM               |                |
| 14.16   | 1415   | Providing & laying 12 mm thick cast in situ terrazo finish consisting of marble chips of size 1 mm to 12 mm nominal size laid in white/grey cement or mixture of both in proportion 1:1.5 (1 part cement, 1.5 parts chips) with marble powder 3:1 (3 parts cement, 1 part marble powder) in proportion mix dry in cement including pigments, rubbing, grinding, polishing etc in floors, skirtings, treads, risers and landings complete.                              | 20       | SQM               |                |
| 14.17   | 1416   | Providing and fixing dividing strips in joints of cast in situ floorings at various elevations, finishing, all labour, material etc. complete as per drawing, specification and instructions of engineer in charge.                                                                                                                                                                                                                                                    |          |                   |                |
| 14.17.1 | i)     | Glass strips 40 mm wide and minimum 6 mm thick.                                                                                                                                                                                                                                                                                                                                                                                                                        | 1980     | RM                |                |
| 14.17.2 | ii)    | Aluminium strips 40 mm wide and minimum 3 mm thick                                                                                                                                                                                                                                                                                                                                                                                                                     | 706      | RM                |                |
| 14.17.3 | iii)   | Brass strips 20 mm wide and minimum 4 mm thick.                                                                                                                                                                                                                                                                                                                                                                                                                        | 100      | RM                |                |
| 14.18   | 1417   | Providing and laying 50 mm thick anti skid precast interlocking concrete (minimum M25 grade) pavers of approved shape as per the approval of engineer in charge and specifications complete including minimum 40 mm thick sand underbed.                                                                                                                                                                                                                               | 150      | SQM               |                |
| 14.19   | 1418   | Providing and laying 40 mm thick heavy duty cement concrete flooring with metallic hardener pigmented topping of 12 mm thick uniform graded treated iron particles including non-skid self leveling epoxy (1 mm) in flooring complete as per specification.                                                                                                                                                                                                            | 560      | SQM               |                |
| 14.20   | 1419   | Providing and laying polished Marble slabs (Aranga white) 20/25 mm thk of size 1500X600 mm in flooring over minimum 20 mm thick underbed of cement mortar (1 cement :3 sand). The marble slabs shall be laid over under-bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. complete. | 263      | SQM               |                |
| 14.21   | 1420   | Providing polished marble 20 mm thk in skirting projecting 6 mm from adjacent plaster, cement mortar 1:3 all complete .                                                                                                                                                                                                                                                                                                                                                | 5        | SQM               |                |

| SL NO   | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 14.22   | 1421A | Providing and laying polished Marble slabs (Aranga white) 20 mm thk in staircase landing/skirting and corridors over minimum 20 mm thick underbed of cement mortar (1 cement :3 sand). The marble slabs shall be laid over under-bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, making corners, granite polishing etc. complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 35       | SQM |                   |                |
| 14.23   | 1421B | Providing & laying Heavy Duty dust pressed ceramic tiles in floors of size 300x300x7mm thick of reputed manufacturer over 20 mm thick cement plaster 1:3 bed mortar, of approved finish shade and colour.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 25       | SQM |                   |                |
| 14.24   | 1422  | Providing & fixing removable type flooring system consisting of fire resistant particle board of size 600x600x35mm with 0.05 mm thick aluminium foil lining at bottom & with 2mm thick anti static PVC topping including proprietary floor supporting system complete as per spec.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |          |     |                   |                |
| 14.24.1 | a     | upto 600mm high                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 47       | SQM |                   |                |
| 14.24.2 | b     | from 601mm to 800mm high                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 10       | SQM |                   |                |
| 14.24.3 | c     | from 801 to 1000mm high                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 10       | SQM |                   |                |
| 14.25   | 1426  | Providing and laying non-woven type carpet (unitex or equivalent) which shall be laid as manufacturers recommendations in matching grains including anti fungus and anti termite treatment complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 100      | SQM |                   |                |
| 15.0    | 1500  | PROVIDING AND ERECTING ROOFING/SIDE CLADDING INCLUDING FLASHINGS (NO SEPERATE PAYMENT SHALL BE PAID FOR FLASHINGS), LAPS, SCAFFOLDING HOOKS, WASHERS, CORNER PIECES, ETC. COST OF ALL MATERIAL, LABOUR, EQUIPMENT, CLEATS, SHEETING RUNNER, RAILS MILD STEEL WIND TIES (HORIZONTAL/VERTICAL) AND ANY OTHER STEEL WORKS ETC. COMPLETE FOR THE FOLLOWING:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |     |                   |                |
| 15.1    | 1501  | Designing, providing & fixing permanently color coated galvanised MS troughed metal sheet decking plate as per IS:513 over roof purlins as per relevant IS code & spec. Thickness of deck plate shall be min 0.8mm (base metal excluding coating), with min trough depth of 44 mm, with min yeild strength of 240Mpa and shall serve as permanent shuttering to the cast-in-situ roof slab 100mm thick measured over crest of metal decking & shall have adequate strength to support weight of green concrete, imposed loads & construction loads over a span of around 1800mm between purlins as per manufacturer's recommendations/ calculations/ test certificates for approval including fixing of plates to purlins, side lapping, end lapping etc complete as per engineers approval & spec. The sheet shall be permanently coated with silicon modified polyester paint of minimum 20 micron DFT on exposed surface (facing operating floor) and minimum 7 micron on other face over epoxy primer applied over hot dipped galvanising as per IS:277 at the rate of 275 gm/ sqm including fixing of sheet to purlin with self tapping self drilling white zinc plated heat treated high carbon steel screws of min 5.5 mm dia @ 260mm c/c in the trough & stich screwss between two adjacent sheets & sealing with epoxy sealant (height of trough required as per design should be included in the cost). Measurement shall be of the plan area of roof covered by MS trough metal decking.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%. | 5439     | SQM |                   |                |
| 15.2    | 1502  | Designing, providing and fixing permanently color coated galvanized M.S. trough metal sheet roofing of approved profile and color over roof purlins as per IS 14246. Thickness of deck plate shall be minimum 0.6 mm and minimum trough depth of 38 mm and minimum yield strength of 250 Mpa. Silicon modified polyester paint shall be used for coating over galvanized surface with minimum rate of galvanization 275 gm/sqm. Outer side should have permanent color coating of minimum DFT 20 microns over primer and inner side shall be coated with silicon polyester paint of minimum DFT 12 microns.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 435      | SQM |                   |                |

| SL NO | ST NO  | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 15.3  | 1502 A | Providing and fixing self tapping self drilling shear connectors of 16mm dia and minimum 75 mm projected length above purlin of mild steel studs passing through metal decking as per relevant IS codes and specification.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 10       | QTL |                   |                |
| 15.4  | 1503   | Design, supply & erection of permanent colour coated thermally insulated double skin sandwichted metal cladding of approved color for external walls comprising of profiled external sheet of 0.55 mm TCT (total coated thickness) permanently color coated zinalume steel (150 gsm Zinc - aluminium alloy coating) having 300 Mpa yield strength with color coating of SMP/ super polyster XRW. The inner sheeting of 0.6 mm TCT of SMP/ super polyster XRW coated sinalume steel 150 gsm having 550 Mpa yield strength or 180 gsm galvanised of 240 Mpa including color coating of 20 microns finish coat over a 5 micron primer coat on the exposed side & a back coat of 5 micron over a primer coat of 5 micron on reverse side (on both external & internal sheet). External sheethaving 500 mm cover width, 47 mm high crests at 250 mm c/c with special male/ female side laps & siphoning feature to prevent leakage & inner sheet having 980 mm cover width, 28 mm high crest at 195 mm c/c with special male/ female side laps & siphoning feature to prevent leakage including fixing of inner sheet to the structure by self drilling fasteners & concealed clips (including sub-girts of size 50x50x50 mm manufactured out of 16G GI 'Z' shape) to connect external sheet (without penetrating the external sheet) & including an insulation of 50 mm thick rockwool (Rockloyd-300 or equivalent) of density 48 KG/cum conforming to IS 8183 between the two sheets including flashings complete as per spec (structural steel required for internal bracings, ties & strengthening of claddings will be supplied by BHEL as per SCC and payment to be made as per item-2301).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%. | 3293     | SQM |                   |                |
| 15.5  | 1504   | Design, supply & erection of permanent colour coated single skin metal cladding (external sheet) of approved color for external walls comprising of profiled sheet of 0.55 mm TCT (Total Coated Thickness) permanently color coated zinalume steel (150 gsm Zinc - aluminium alloy coating) having 300 Mpa yield strength with color coating of SMP/super polyster XRW including color coating of 20 microns finish coat over a 5 micron primer coat on the exposed side and a back coat of 5 micron over a primer coat of 5 micron on the reverse side. The sheet having 500 mm cover width, 47 mm high crests at 250 mm c/c with special male/female side laps and siphoning feature to prevent leakage including fixing of sheet by concealed clips (including sub-girts of size 50X50X50 mm manufactured out of 16G GI 'Z' shape, without penetrating the external sheet) complete including flashings as per specification. (Structural Steel required for internal bracings, ties and strengthening of claddings will be supplied by BHEL as per SCC and payment to be made as per item-2301).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 6115     | SQM |                   |                |
| 15.6  | 1505   | Design, supply & erection of permanent colour coated single skin metal cladding (internal sheet) of approved color comprising of 0.6 mm TCT of SMP/super polyster XRW coated sinalume steel 150 gsm having 550 Mpa yield strength or 180 gsm galvanised of 240 Mpa including color coating of 20 microns finish coat over a 5 micron primer coat on the exposed side and a back coat of 5 micron over a primer coat of 5 micron on the reverse side. The sheet having 980 mm cover width, 28 mm high crest at 195 mm c/c with special male/female side laps and siphoning feature to prevent leakage including fixing of sheet to the structure by self drilling fasteners complete including flashings as per specification. (Structural Steel required for internal bracings, ties and strengthening of claddings will be supplied by BHEL as per SCC and payment to be made as per item-2301).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 822      | SQM |                   |                |

| SL NO  | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 15.7   | 1506  | Providing & fixing 50 mm thick insulation of rockwool (rockloyd-300 or equivalent) of density 48 KG/cum conforming to IS 8183 including wrapping in black polythene black supported over weld mesh 75x75x1.6mm dia to hold in position as per manufacturers recommendations, all labour, material, scaffolding, equipment etc all complete as per spec, drg & instructions of engineer in charge.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                   | 822      | SQM |                   |                |
| 15.8   | 1507  | Providing and fixing insulation of resin bonded mineral wool of specified thickness (25/50 mm nominal) conforming to IS 8183 having a density of 32 kg/cum glass wool or 48 kg/cum for rock wool, for under deck insulation including application of glue and tying with lacing wire, for glass/rock wool as per manufacturers recommendations, all labour, material, scaffolding, equipment etc all complete as per specification, drawing and instructions of engineer in charge.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%. | 55       | CUM |                   |                |
| 15.9   | 1508  | Providing and installing under deck insulation using minimum 0.05 mm thick aluminium foil on exposed surface followed by 0.56 mm dia and 25 mm mesh GI wire netting, fixed at various elevations with rawl plugs including clips, all labour, material, scaffolding, equipment etc (but excluding cost of insulation) all compete as per specification, drawing and instructions of engineer in charge.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                             | 956      | SQM |                   |                |
| 15.10  | 1509  | Providing and fixing non metal opaque PVC sheet heavy duty similar to ONDEX roofing or equivalent incuding all fixing accessories, labour material, scaffolding etc all complete as per specification, drawing and instructions of engineer in charge.                                                                                                                                                                                                                                                                                                                                        | 150      | SQM |                   |                |
| 16.0   | 1600  | PROVIDING & FIXING FALSE CEILING INCLUDING SUPPLY OF CEILING MATERIAL, WORKING LAYOUT DRAWINGS AND DETAILS, SUSPENSION SYSTEM AND ALL OTHER MATERIALS REQUIRED FOR THE WORK INCLUDING MAKING RECESS FOR LIGHT FIXTURES, ALUMINIUM DIFUSERS, FIRE ALARMS ETC, POLISHING/PAINTINGS, LABOUR ETC, ALL COMPLETE AS PER SPECIFICATION.                                                                                                                                                                                                                                                              |          |     |                   |                |
| 16.1   | 1601  | Providing & fixing glass reinforced gypsum (GRG) ceiling system consisting of supporting grid system forming panels of specified size, suspended from RCC slab/ structural steel or catwalkway grid above with 4 mm (minimum) galvanised wires (rods) with special height adjustment clips, including preperation of working drawing, providing openings for AC ducts, return air grills, light fixtures etc (but excluding the cost of catwalkway grid) all complete as per drawings, specification and instructions of the engineer.                                                        |          |     |                   |                |
| 16.1.1 | i)    | 12 mm thick GRG board with galvanised light gauge steel load bearing supporting GI frame & finished flat.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 33       | SQM |                   |                |
| 16.1.2 | ii)   | 12 mm thick GRG board in profile (dome etc.) with galvanised light gauge steel load bearing supporting GI frame and finished flat.                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 17       | SQM |                   |                |
| 16.1.3 | iii)  | 12 mm thick GRG board in tile of 600mmX600mm with double web design, galvanised steel with prepainted steel capping of approved shade and color, supporting Tee frame (24mmX38mm).                                                                                                                                                                                                                                                                                                                                                                                                            | 15       | SQM |                   |                |

| SL NO  | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 16.2   | 1602  | Providing, fixing and laying permanently colour coated aluminium false ceiling of approved colour with stove enamel finish and Luxalon of Hunter Douglas make or equivalent with corrosion resistance aluminium alloys panels of minimum thickness 0.5mm including 50mm thick mineral wool insulation (as per IS:8183) bound in polythene bags on top of panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 75) grid 1200 c/c maximum shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. The work to be complete as per specifications, drawings and direction of engineer (suitable structural platform grid made up of MS channel/ beam/ angle shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance (materials for structural platform grid made up of MS channels/ beams/ angles shall be supplied by BHEL and shall be paid under ST NO 2301).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%. | 1147     | SQM |                   |                |
| 16.3   | 1603  | Providing, fixing and laying anodised natural colour matt finished aluminium false ceiling of Indal make or equivalent with corrosion resistance aluminium alloys panels of minimum thickness 0.5mm including 50mm thick mineral wool insulation (as per IS:8183) bound in polythene bags on top of panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. AC ducts etc. suitable MS channel (minimum MC 75) grid shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc (suitable structural platform grid made up of MS channel/ beam/ angle shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance (materials for structural platform grid made up of MS channels/ beams/ angles shall be supplied by BHEL and shall be paid under ST NO 2301)                                                                                                                                                                                                                                                                         | 18       | SQM |                   |                |
| 16.4   | 1604  | Special purpose partition manufactured by Anutone Acoustic Ltd or equivalent having rigid framework consisting of GI studs of adequate size @600mm c/c and floor ceiling and intermediate channels to provide a wall system capable of supporting wall hung C.C.T.V. at different locations. The framing system shall be integrated with independent floor supported structural framework of digital display board. The front side of the frame shall have Excelsior Acoustical Panels-Elega finish-2400/1200X600X19 mm thick FABRICO Sound Soak- Plane Texture of approved colour. The rear side of the partition shall have Excelsior Acoustical Panels-Elega finish-specially Sound Smart-Burl of size 2400/1200 X600X19 mm thick smooth finished with gypsum plaster and finished with acrylic paint. The entire wall to have Class I fire rating as per BS code. The entire partition wall to have concealed framing system and to have monolithic fabric finish of approved colour or composition of two different colour as per approved design to entire exposed surface including door panels on control room side. The work to be complete as per specification.                                                | 51       | SQM |                   |                |
| 17.0   | 1700  | PROVIDING & FIXING RAIN WATER DOWN TAKE PIPES INCLUDING 2 COATS OF APPROVED PAINT OVER A PRIMARY COAT, ALL SPECIALS & ACCESSORIES ETC COMPLETE AS PER SPECIFICATION.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |     |                   |                |
| 17.1   | 1701  | GI down take pipes conforming to IS1239/IS3589 as per specification of following dia.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |     |                   |                |
| 17.1.1 | i)    | 100 mm dia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 166      | RM  |                   |                |
| 17.1.2 | ii)   | 150 mm dia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1256     | RM  |                   |                |
| 17.1.3 | iii)  | 200 mm dia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 452      | RM  |                   |                |
| 18.0   | 1800  | MISCELLANEOUS 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |     |                   |                |
| 18.1   | 1801  | Providing and fixing PVC water stops 225mm wide, 6 mm thick.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 88       | RM  |                   |                |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 18.2  | 1802  | Supplying and installation of 25mm thick vibration damping, resilient pads RESISTOFLEX or equivalent around foundation of vibrating equipment and other locations as directed by the Engineer-in-charge including cost of all materials labour equipment etc. complete as per drawing and specifications.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 18       | SQM |                   |                |
| 18.3  | 1803  | Providing 50mm thick premix carpet surfacing laid to slope in two layers 30mm and 20mm respectively with 12mm and down broken stone chips mixed with 80/100 grade bitumen @ 52 Kg/Cu.M including compaction and cost of all material, labour all complete as per specification & as directed by engineer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 150      | SQM |                   |                |
| 18.4  | 1804  | Providing 50mm thick anticorrosive layer laid to slope consisting of compacted crushed stone screenings, fine gravel, clean sand or similar material as directed by the Engineer, mixed in hot asphalt 10% by volume and rolled or compacted complete as per drawings and specifications, below fuel oil tanks and at such other places as per specifications and as directed by the Engineer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 150      | SQM |                   |                |
| 18.5  | 1805  | Providing and fixing aluminium strips minimum 18 SWG thk and 300mm wide over expansion joints with minimum lap of 50mm length including aluminium screws, rawl plugs all complete as per specification.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 18       | RM  |                   |                |
| 18.6  | 1806  | Providing, laying and fixing transformer rails including guide rails in concrete including joining of rails. Anchoring lugs etc. complete as per specification. (Vendor to supply all materials).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 29       | MT  |                   |                |
| 18.7  | 1807  | Providing & fixing weep holes in drains consisting of 100 mm dia LDPE pipe sleeves along with single side covering for the pipe mouth with galvanised welded wire fabric of 20 mm sq opening along with 300x300 mm sq, 300 mm deep, 40 mm aggregates to cover fabric mesh mouth complete as directed by engineer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 150      | NO  |                   |                |
| 18.8  | 1808  | Laying of earthing mats/rods including transportation from yard stores, loading, unloading, cutting to length, welding etc. complete as per specification and as directed by Engineer-in-charge. (Earthing MS Round shall be supplied by BHEL free of cost as per SCC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 45       | MT  |                   |                |
| 18.9  | 1809  | Design, supply, fabrication, erection of stoplog gates in CW pumps as per spec with embedments required, lifting beams, special tools & plants, spare parts for 3 years, machining, casting, all materials such as structural steel, cast steel, stainless steel, brass used for seals, rubber seals, gears, ball & roller bearing, branch bushings, greasing, bolts, nuts, lugs, threaded fasteners etc, cleaning, sand blasting, cold galvanisation (application of EPILUX-4 of Berger or equivalent zinc rich primer - 63992 with catalyst-635901 followed by one coat of black EPILUX-5 CTE -65580 with catalyst 655921 & 2nd coat after final erection having min total paint thickness of 80 microns), along with a second stage concreting to true plumb & levels, submission of drgs/ fabrication drgs for engrs approval etc, all complete as per spec & appvd drgs. The leakage through rubber seal shall not be more than 5 lit/ min/ mtr length of seal under max head (only weight of structural steel including embedments shall be considered for payment purpose) (Vendor to supply all materials).<br><br>Payment terms - a. Design & engg - 4%; b. On fab, inspection & receipt of materials at site - 60%; c. On completion of ern & fixing - 26%; d. On testing - 10%. | 174      | MT  |                   |                |

| SL NO   | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 18.10   | 1810  | Supplying, fabricating, erecting in position and testing / examining bolted and / or welded structural steel work at all levels for stationary screens made out of rolled sections and / or plates including cutting, straightening if required, edge preparation, bolting / welding of joints, cleaning, sand blasting, cold galvanisation (application of EPILUX-4 of Berger or equivalent zinc rich primer - 63992 with catalyst-635901 followed by one coat of black EPILUX-5 CTE -65580 with catalyst 655921 and second coat after final erection having minimum total paint thickness of 80 microns), complete as per drawing and directed. (Vendor to supply all materials).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%. | 16       | MT  |                   |                |
| 18.11   | 1811  | Providing and fixing GI rungs in concrete/brick walls at all elevations including zinc coating of minimum 900 g/sqm all complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 234      | KG  |                   |                |
| 18.12   | 1812  | Providing and fixing PVC pressure release valve of minimum dia 90mm in water retaining structure including 160 mm dia housing pipe of minimum length 3.75 m with perforation as per IS4558, nylon jali, perforated end plug, collar, graded filter, excavation, fixing in concrete slab/wall all complete as per specification, drawing and instruction of engineer in charge.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                      | 130      | NO  |                   |                |
| 18.13   | 1813  | Providing and fixing LDPE pipes in cable duct banks, openings in RCC work at all elevations of following sizes including cutting, fixing and levelling in position as per drawings, specifications all complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |     |                   |                |
| 18.13.1 |       | i) 100 mm dia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 170      | RM  |                   |                |
| 18.13.2 |       | ii) 150 mm dia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 140      | RM  |                   |                |
| 18.13.3 |       | iii) 200 mm dia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 140      | RM  |                   |                |
| 18.14   | 1814  | Providing & laying Bentonite Powder (Sodium base) mixed with water in electronic earthing pit as per drawing & direction below ground level including all materials, transportation, labour, incidental etc. all complete as per specification.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 80       | CUM |                   |                |
| 19.0    | 2000  | FENCING AND GATES.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |          |     |                   |                |
| 19.1    | 2001  | Supplying and erecting in position 2.4 m high PVC coated gavanised chain linked fencing of minimum 8 gauge (including PVC coating ) of mesh size 75 mm and galvanised concertina. The diameter of the steel wire for chain link fencing excluding PVC coating shall not be less than 12 gauge. GI barbed wire fencing confirming to IS 298 at top of chain link fencing shall be provided with 4 stands of height of 600 mm including all accesories as per specification all complete.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                             | 594      | SQM |                   |                |
| 19.2    | 2002  | Supplying & fixing 1.8 m high fencing with angle iron 50x50x6 mm/ 65x65x8 mm angle post placed at every 2 meter/ 2.5 meter centre to centre, embedded in cement concrete blocks (1part cement:2 part sand:4 part 20mm graded stone aggregates), provided with horizontal lines and two diagonals interwoven with horizontal wires, of G.I. barbed wire 9.38 Kg per 100 meter (min) between the two post fitted and fixed with GI staples, turn buckles etc complete (payment of structural item viz angle post & struts etc (as per ST NO 2301), earthwork, concrete work, filling work will be paid separately as per respective BOQ item) (payment for this item shall be made as per total running meter length of GI barbed wire provided in the works).                                  | 13402    | MTR |                   |                |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | QUANTITY |    | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 19.3  | 2003  | Supply, fabrication and installing in position and testing galvanised MS Gates out of channels, joists, angles, flats, plates, pipes & sheets including stiffeners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, ball bearing arrangements, castor wheels, anti corrosive synthetic enamel painting over two coats of primer etc. all complete as per drawing, specification and as directed by Engineer-in-charge with 600mm high GI barbed wire fencing at top all complete. (All Steel to be supplied by Vendor) | 2        | MT |                   |                |
| 20.0  | 2100  | WATER SUPPLY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |    |                   |                |
| 20.1  | 2101  | Providing & fixing in position tested heavy duty type chromium plated brass long neck bib cocks including sockets, union, nut etc. complete 15mm nominal bore.                                                                                                                                                                                                                                                                                                                                                                                                                        | 47       | NO |                   |                |
| 20.2  | 2102  | Providing and fixing in position heavy duty brass stop cock of approved quality including all specials etc. complete as directed by Engineer 15mm nominal bore.                                                                                                                                                                                                                                                                                                                                                                                                                       | 21       | NO |                   |                |
| 20.3  | 2103  | Providing & fixing in position heavy duty brass full way valve with wheel of approved quality 25mm nominal bore.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 8        | NO |                   |                |
| 20.4  | 2104  | Providing and fixing in position heavy duty brass full way valve with wheel of approved quality 50mm nominal bore.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 5        | NO |                   |                |
| 20.5  | 2105  | Providing & fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc and clamps including cutting & making good the walls etc complete (internal work) 15 mm nominal bore.                                                                                                                                                                                                                                                                                                                                                                       | 107      | RM |                   |                |
| 20.6  | 2106  | Providing & fixing GI pipes of class B-Medium complete with GI fittings a clamps including cutting and making good the walls etc. complete (internal work) 20 mm nominal bore.                                                                                                                                                                                                                                                                                                                                                                                                        | 90       | RM |                   |                |
| 20.7  | 2107  | Providing & fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc & clamps including cutting & making good the wall etc complete (internal work) 25 mm nominal bore (NB).                                                                                                                                                                                                                                                                                                                                                                     | 90       | RM |                   |                |
| 20.8  | 2108  | Providing & fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling anti-corrosive paint etc complete (external work) 15mm nominal bore (NB).                                                                                                                                                                                                                                                                                                                                                                   | 50       | RM |                   |                |
| 20.9  | 2109  | Providing & fixing GI pipes of class B-medium complete with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling anti-corrosive paint etc complete (external work) 20mm nominal bore (NB).                                                                                                                                                                                                                                                                                                                                                                   | 50       | RM |                   |                |
| 20.10 | 2110  | Providing & fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling anti-corrosive paint etc complete (external work) 25mm nominal bore (NB).                                                                                                                                                                                                                                                                                                                                                                   | 50       | RM |                   |                |
| 20.11 | 2111  | Providing & fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling anti-corrosive paint etc complete (external work) 50mm nominal bore (NB).                                                                                                                                                                                                                                                                                                                                                                   | 50       | RM |                   |                |
| 20.12 | 2112  | Providing and fixing 610mmx453mmx6mm thk mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets etc. complete with CP screws as per specification.                                                                                                                                                                                                                                                                                                                                                                              | 45       | NO |                   |                |
| 20.13 | 2113  | Providing & fixing 610mmx127mmx6mm thk clearglass with CP guard rails and mounted on CP brackets etc complete as per spec.                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 45       | NO |                   |                |
| 20.14 | 2114  | Providing & fixing 20mm dia chromium plated MS pipes wall mounted towel rod with CP brackets etc all complete as per spec.                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 12       | NO |                   |                |
| 20.15 | 2115  | Providing and fixing C.P. soap holder mounted with C.P. screws etc.complete as per specification.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 45       | NO |                   |                |
| 20.16 | 2116  | Providing and fixing C.P. liquid soap dispenser. Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on C.P. brackets etc.complete as per specification.                                                                                                                                                                                                                                                                                                                                                                                         | 45       | NO |                   |                |
| 20.17 | 2117  | Providing & fixing glazed vitreous wall mounted paper holder with suitable cover cum cutter fitted with CP screws etc complete as per specification                                                                                                                                                                                                                                                                                                                                                                                                                                   | 20       | NO |                   |                |
| 20.18 | 2118  | Providing and fixing chromium plated brass shower rose with 15 or 20 mm inlet all complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 8        | NO |                   |                |

| SL NO   | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | QUANTITY |    | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 20.19   | 2119  | Providing & fixing PVC water tank (Syntex or equivalent) in position. The work to including making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc all complete as per specn at all heights & levels                                                                                                                                                                                                                                                                             |          |    |                   |                |
| 20.19.1 | i)    | 2000 Litre capacity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2        | NO |                   |                |
| 20.19.2 | ii)   | 5000 Litre capacity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1        | NO |                   |                |
| 20.20   | 2120  | Providing & fixing approved stainless steel sink with integrated drainboard complete including painting the fittings, cutting and making good the wall where required as per specification. The work to be complete as per                                                                                                                                                                                                                                                                           | 1        | NO |                   |                |
| 21.0    | 2200  | SANITARY WORKS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |    |                   |                |
| 21.1    | 2201  | Supply and fixing vitreous china wash basin (white / light coloured) size 600x450 with R.S. or C.I. brackets painted white, 15mm chromium plated brass hot & cold faucets with nylon washers, chromium plated brass chain with rubber plug 32mm chromium plated brass bottle trap and waste of standard pattern, 32mm dia chromium plated brass trap unions, plastic connection pipe with chromium plated nuts, cutting and making good the walls where required etc. complete as per specifications | 45       | NO |                   |                |
| 21.2    | 2202  | Providing and fixing approved vitreous china acid/alkali resistant laboratory sink of size 600x450x200mm with R.S. or C.I. brackets, chromium plated brass chain with rubber plug 40mm, CP brass waste and 40mm CP brass bottle trap with necessary union complete including painting the fittings, cutting and making good the wall where required as per specification.                                                                                                                            | 1        | NO |                   |                |
| 21.3    | 2203  | Providing and fixing colour European type water closet (white / light coloured) with siphon, open front solid plastic seat and plastic cover, low level 12.5 litre glazed stone water flushing cistern with valveless fittings, necessary C.P connections etc. complete as per specification.                                                                                                                                                                                                        | 8        | NO |                   |                |
| 21.4    | 2204  | Providing and fixing glazed vitreous china pan (white / light coloured) with foot rests and high level 12.5 litre C.I flushing cistern with valveless fittings, necessary C.P connections, foot rests shall be made of white glazed vitreous china with chequered surface allcomplete with cistern painting, C.I brackets etc. as per specification.                                                                                                                                                 | 26       | NO |                   |                |
| 21.5    | 2205  | Providing and fixing wall type glazed vitreous china sensor type (white / light coloured) urinals with flush pipes, sensors, lead pipes, gratings, CP bottle traps and necessary C.P fittings all complete as per specifications.                                                                                                                                                                                                                                                                    | 30       | NO |                   |                |
| 21.6    | 2206  | Supply, laying and jointing 75mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, lead cocking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.                                                                                                                                                                                           | 92       | RM |                   |                |
| 21.7    | 2207  | Supply, laying and jointing 100mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, lead caulking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.                                                                                                                                                                                         | 92       | RM |                   |                |
| 21.8    | 2208  | Supply, laying and jointing 150mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, a coat of bitumenous paint, M.S holder bats/clam lead caulking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.                                                                                                                                        | 40       | RM |                   |                |
| 21.9    | 2209  | Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. as per specifications for dia:                                                                                                                                                                                                                                                                                                           |          |    |                   |                |
| 21.9.1  | i)    | 300mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 10       | RM |                   |                |
| 21.9.2  | ii)   | 400mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 16       | RM |                   |                |
| 21.9.3  | iii)  | 600mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 20       | RM |                   |                |

| SL NO   | ST NO  | DESCRIPTION                                                                                                                                                                                                                                                                                                           | QUANTITY |    | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 21.9.4  | iv)    | 800mm                                                                                                                                                                                                                                                                                                                 | 20       | RM |                   |                |
| 21.9.5  | iv)    | 1000mm                                                                                                                                                                                                                                                                                                                | 20       | RM |                   |                |
| 21.10   | 2210   | Providing, laying light duty non pressure NP2 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. as per specifications for dia:                                                                                                                            |          |    |                   |                |
| 21.10.1 | i)     | 150mm                                                                                                                                                                                                                                                                                                                 | 35       | RM |                   |                |
| 21.10.2 | ii)    | 250mm                                                                                                                                                                                                                                                                                                                 | 35       | RM |                   |                |
| 21.10.3 | iii)   | 300mm                                                                                                                                                                                                                                                                                                                 | 18       | RM |                   |                |
| 21.10.4 | iv)    | 400mm                                                                                                                                                                                                                                                                                                                 | 7        | RM |                   |                |
| 21.10.5 | v)     | 500mm                                                                                                                                                                                                                                                                                                                 | 3        | RM |                   |                |
| 21.10.6 | vi)    | 600mm                                                                                                                                                                                                                                                                                                                 | 3        | RM |                   |                |
| 21.10.7 | vii)   | 750mm                                                                                                                                                                                                                                                                                                                 | 3        | RM |                   |                |
| 21.11   | 2210 A | Providing, laying light duty non pressure NP4 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. as per specifications for dia:                                                                                                                            |          |    |                   |                |
| 21.11.1 | i)     | 300mm                                                                                                                                                                                                                                                                                                                 | 5        | RM |                   |                |
| 21.11.2 | ii)    | 500mm                                                                                                                                                                                                                                                                                                                 | 5        | RM |                   |                |
| 21.11.3 | iii)   | 600mm                                                                                                                                                                                                                                                                                                                 | 5        | RM |                   |                |
| 21.11.4 | iv)    | 900mm                                                                                                                                                                                                                                                                                                                 | 5        | RM |                   |                |
| 21.12   | 2211   | Providing and fixing C.I. Heavy duty Manhole cover of size 600mmx450mm including frame from reputed manufacture all complete as per specifications.                                                                                                                                                                   | 6        | NO |                   |                |
| 21.13   | 2212   | Providing and fixing circular heavy duty man hole cover of 600mm dia with frame all complete as per specification.                                                                                                                                                                                                    | 1        | NO |                   |                |
| 21.14   | 2213   | Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside) the weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg as per drawing and | 5        | NO |                   |                |
| 21.15   | 2214   | Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside) the weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg as per drawing and | 1        | NO |                   |                |
| 21.16   | 2215   | Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside) the weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg as per drawing and | 5        | NO |                   |                |
| 21.17   | 2216   | Providing and fixing C.I. floor traps with C.P jalli complete as per specification.                                                                                                                                                                                                                                   | 49       | NO |                   |                |
| 21.18   | 2217   | Providing and installing approved brand single tap water cooler of 80 L cooling capacity complete in all respect.                                                                                                                                                                                                     | 5        | NO |                   |                |
| 21.19   | 2218   | Providing and installing approved brand single tap water cooler of 150 L cooling capacity complete in all respect.                                                                                                                                                                                                    | 3        | NO |                   |                |
| 21.20   | 2219   | Providing and fixing white vitreous urinal partitions all complete as per specification.                                                                                                                                                                                                                              | 22       | NO |                   |                |
| 22.0    | 2300   | STRUCTURAL STEEL WORKS (STRUCTURAL STEEL, GI/MS PIPES for HAND RAIL, CHEQUERED PLATES, STAIN LESS STEEL LINER SHALL BE SUPPLIED BY BHEL FREE OF COST AS PER SCC)                                                                                                                                                      |          |    |                   |                |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | QUANTITY |    | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
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| 22.1  | 2301  | Fabrication, erection, alignment, welding, primer painting (primer coat consisting of 2 coats of redoxide zinc-chromate as per IS:2074 & IS:1477 (Parts I & II). One coat to be applied at shop and the other after erection of structural steel made from mild steel conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052 and mild steel rounds, at all elevations involving rolled sections (including mild steel rounds), built up sections fabricated out of plates, rolled sections & combination of plates & rolled sections, in columns, beams, gantry girders, bunkers, silos, hoppers, roof trusses, gratings, portals, laced purlins, space frames, shear connectors, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking & seal plates, diaphragm, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails (GI & MS), toeplate, MS rung, insert plate, edge angle, embedment, lug, post, stay, louver, lacing, gusset plates, etc, collection of steel from stores, transportation, straightening, making cutting plan, cutting, bending, rolling, grinding, drilling, bolting, erection bolts & nuts (weight erection bolts & nuts not payable, supply of permanent bolt of grade C mild steel bolts & nuts to be paid separately under ST NO 2309 (I)), assembly, edge preparation, preheating (min preheat & interpass temperature of 66 deg centigrade for welding over 40 mm and upto 63 mm & 110 deg centigrade for thickness over 63 mm) & use of low hydrogen/ radiogenic electrodes as per spec, post heating, testing of welders, inspection of welds, visual inspection, non destructive & special testing, rectification & correction of defective welding works, production test plate, inspection & testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures (scaffolding, access ladders, working platforms etc), setting column bases, surface preparation by means of manual or mechanical power tools as per IS:1477 part 1, touch-up painting, dismantling & removal of all temporary structures (weight of temporary structure not payable) complete with all labour, material, electrodes and other consumables, equipment, testing (mechanical and non- destructive), preparation of fabrication drawings, joint design calculations and all other general and special requirements including appointment of a seperate agency, approved by BHEL, for review and approval of fabrication drawings, in consultation with BHEL, prepared by the bidder and all other activities required for completion of the work including return of surplus/ waste steel materials to store etc. as per specification, drawings and instructions of the Engineer. Approval of fabrication drawings does not relieve the bidder from the responsibility of its correctness and accuracy. (Steel as per SCC will be supplied by BHEL free of cost).<br>Payments terms - a. Fabrication - 65%; b. Erection - 25%; c. Alignment - 10%. | 9459     | MT |                   |                |
| 22.2  | 2302  | Extra over ST NO 2301 for blast cleaning of steel structures to near white metal surface(Sa 2 1/2 ) and applying epoxy based zinc phosphate primer in coats of minimum 25 micron (DFT) at shop and 25 micron (DFT) after erection, instead of primer coat of red oxide zinc-chromate, including touch-up painting etc complete as per specification.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 20       | MT |                   |                |
| 22.3  | 2303  | Extra over ST NO 2301 for providing and application of two coats of primer consisting of chemical resistant epoxy resin and hardener (Minimum 1 Kg of primer mix shall be consumed for priming of 4 to 5 m2 area of surface) instead of primer coat of red oxide zinc-chromate, including touch up painting as per specification and instruction of the Engineer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 20       | MT |                   |                |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
|-------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----|-------------------|----------------|
| 22.4  | 2304  | Providing & application of synthetic enamel paint of Berger or approved equivalent make and colour in two coats of minimum 50 micron total thickness (DFT) already having primer coats (as per ST NO. 2301) at all elevations to achieve an even shade with all materials, labour, equipment, handling, including protection and cleaning, scaffolding etc. complete as per specification, drawings and instructions of the Engineer.(Total thickness (DFT) including primer shall not be less than 110 micron.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 5528     | MT  |                   |                |
| 22.5  | 2305  | Providing & application of epoxy based colour finish paint in two coats with minimum 50 micron total thickness (DFT) of approved make and shade over steel sections already having primer coats (as per ST NO. 2302) at all elevations to achieve an even shade with all materials, labour, equipment, handling including protection and cleaning, scaffolding etc. complete as per specification, drawings and instruction of the Engineer.(Total thickness (DFT) including primer shall not be less than 100 micron.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 20       | MT  |                   |                |
| 22.6  | 2306  | Providing & application of anti corrosive synthetic enamel paint of Berger or approved equivalent make and colour in two coats of minimum 50 micron total thickness (DFT) already having primer coats (as per ST NO. 2301) at all elevations to achieve an even shade with all materials, labour, equipment, handling, including protection and cleaning, scaffolding etc. complete as per specification, drawings and instructions of the Engineer.(Total thickness (DFT) including primer shall not be less than 110 micron).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3289     | MT  |                   |                |
| 22.7  | 2307A | Supplying, fabrication , transportation, erection and alignment of factory made electroforged galvanised gratings of steel (having minimum galvanisation of 610 g/sqm) conforming to IS:2062 at all elevations including preparation of design drawings and fabrication drawings in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads, fixing clamps etc. complete with other fittings and fixtures including all taxes, duties, transportation, packing, grinding, drilling, bolting (supply of permanent grade 'C' mild steel bolts and nuts to be paid separately under ST NO. 2309 (i), all welding, edge preparation, blast cleaning of steel surfaces to near white metal surface (Sa 2 1/2), testing, complete as per specifications, drawings and instructions of the Engineer. (Vendor to supply all materials).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%. | 110      | MT  |                   |                |
|       | 2307B | Supplying, fabrication , transportation, erection and alignment of galvanised gratings of steel (having minimum galvanisation of 610 g/sqm) conforming to IS:2062 at all elevations including preparation of design drawings and fabrication drawings in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads, fixing clamps etc. complete with other fittings and fixtures including all taxes, duties, transportation, packing, grinding, drilling, bolting (supply of permanent grade 'C' mild steel bolts and nuts to be paid separately under ST NO. 2309 (i), all welding, edge preparation, blast cleaning of steel surfaces to near white metal surface (Sa 2 1/2), testing, complete as per specifications, drawings and instructions of the Engineer. (Vendor to supply all materials).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                            | 44       | MT  |                   |                |
| 22.9  | 2309A | Supplying and fixing in position of permanent mild steel bolts (class 4.6 as per IS : 1367 and grade 'C' as per IS: 1363) and nuts, washers etc. up to and inclusive of 39 mm diameter and upto 300mm long for structural steel work complete as per specification, drawings and instructions of the Engineer. (Vendor to supply all materials).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 7        | QTL |                   |                |

| SL NO   | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
|---------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----|-------------------|----------------|
| 22.10   | 2309B | Supply and fixing in positing of high strength structural bolts (of property class 8.8 and product grade `C' as per IS: 1367) and conforming to IS: 3757 and high strength structural hardened and tempered nuts (of property class `8' as per IS:1367) conforming to IS:6623 with hardened and tempered washers as per IS:6649 etc. up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work complete as per specification, drawings and instructions of the Engineer. (Vendor to supply all materials).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                             | 169      | QTL |                   |                |
| 22.11   | 2310  | Dismantling of steel structure at any elevation, lowering of material and carriage of the dismantled material up to field fabrication shop, or, return to projects storage including temporary dismantling, cutting, re-welding, supporting, and restoring to correct position all temporarily dismantled members, re-alignment of all adjacent connected members to their correct positions, ( weight of such adjacent members and temporarily dismantled members not payable) including scaffolding, staging, tools & tackles, gas cutting, welding, consumables, etc complete as per specification, drawings and instructions of the Engineer.                                                                                                                                                                                                                                                                                           | 39       | MT  |                   |                |
| 22.12   | 2311  | Addition to, alterations in and/or modification of "Erection Marks" either in erected position or in the shop including cutting of parts, gouging of welds, cutting, grinding, fabrication, welding, drilling holes, straightening, removal of bends, raising to the required level, painting, transportation, return of unutilised steel pieces to the project store, temporarily dismantling, cutting, re-welding, supporting and restoring to correct position of all the temporarily dismantled members, realignment of adjacent connected members, (weight of such temporarily dismantled and adjacent members not payable), complete as per specifications, drawings and instructions of the Engineer.                                                                                                                                                                                                                                |          |     |                   |                |
| 22.12.1 |       | In erected position                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 6        | MT  |                   |                |
| 22.12.2 |       | In fabrication yard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 12       | MT  |                   |                |
| 22.13   | 2312  | Re-erection of dismantled fabricatied structural steel members requiring additions, modification, (dismantling and additions to, alterations in and/or modification to be paid separately under ST NO. 2310 and 2311 respectively) including carriage of modified "Erection Marks" from the field fabrication shop to erection site, lifting to required posiion, aligning in position, tack welding, final welding and touch up painting including temporary dismantling and re-erection of temporarily dismantled members, cutting, rewelding, supporting and restoring to the correct position of all temporarily dismnatled members, re-alignment of adjacent connected members, (weight of such temporarily dismantled members and adjacent membersnot payable) including scaffolding, staging, tools & tackles, gas cutting, welding, consumables, etc complete as per the specifications, drawings and instructions of the Engineer. | 9        | MT  |                   |                |
| 22.14   | 2313  | Fabrication and erection of 4 mm thick stainless steel liner of grade AISI-304; Finish Grade 2B (Cold rolled, Annealed & Pickled and Skin passed) on M.S. plate for inside surfaces of hopper & mouth of hopper of bunkers as directed by the Engineer including fixing with stainless steel studs, bolting (including countersunk), welding etc. complete as per specifications and IS standards. Electrode classification shall be E308L for welding of stainless steel to stainless steel and E309 for stainless steel to mild steel etc. complete as per specifications, drawings and instructions of the Engineer. (stainless steel liner plate shall be supplied by BHEL free of cost as per SCC)                                                                                                                                                                                                                                     | 84       | MT  |                   |                |
| 22.15   | 2314  | Supply, fabrication and delivery at site, transportation, loading/unloading of various sizes, seamless 40 dia stainless steel hand railing of approved shape/design including Stainless steel posts, fixing as per specification, labour and material complete for heavy duty class. (All Steel to be supplied by Vendor).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 350      | KG  |                   |                |

| SL NO   | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                              | QUANTITY |     | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
|---------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----|-------------------|----------------|
| 22.16   | 2315  | Providing and fixing in position PTFE type sliding bearings of reputed manufacturer, individual bearing suitable for required vertical loads as per the construction drawings and for maximum displacement of (+or -) 50 mm including all taxes, duties, transportation, installation, drilling, bolting, erecting, aligning etc complete as per specification, drawing and instruction of the engineer. |          |     |                   |                |
| 22.16.1 | i)    | Vertical Load of 20 Tons                                                                                                                                                                                                                                                                                                                                                                                 | 7        | NO  |                   |                |
| 22.16.2 | ii)   | Vertical Load of 25 Tons                                                                                                                                                                                                                                                                                                                                                                                 | 6        | NO  |                   |                |
| 22.16.3 | iii)  | Vertical Load of 40 Tons                                                                                                                                                                                                                                                                                                                                                                                 | 3        | NO  |                   |                |
| 22.16.4 | iv)   | Vertical Load of 50 Tons                                                                                                                                                                                                                                                                                                                                                                                 | 1        | NO  |                   |                |
| 22.16.5 | v)    | Vertical Load of 60 Tons                                                                                                                                                                                                                                                                                                                                                                                 | 4        | NO  |                   |                |
| 22.17   | 2316  | Providing and fixing flexible open ended bellow strap of neoprene of minimum thickness of 2mm and minimum width 200 mm with aluminium strip edges as sealing below top of bunker and bottom of tripper floor to avoid coal dust nuisance.                                                                                                                                                                | 254      | RM  |                   |                |
| 22.18   | 2317  | Conducting radiography test on welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges, materials and labour as per specifications complete (over and above the work already specified in the specifications).                                                                                                                                   | 52       | RM  |                   |                |
| 22.19   | 2318  | Conducting ultrasonic test on welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges, materials & labour as per spec complete (over & above the work already specified in specification).                                                                                                                                                       | 38       | RM  |                   |                |
| 22.20   | 2319  | Conducting magnetic particle test on welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges, materials and labour as per spec complete (over & above the work already specified in specifications).                                                                                                                                             | 38       | RM  |                   |                |
| 22.21   | 2320  | Conducting dye penetration test on welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges, materials & labour as per spec complete (over & above the work already specified in specifications).                                                                                                                                                 | 38       | RM  |                   |                |
| 22.22   | 2321  | Conducting ultrasonic test on steel plates as per ASTM-A435 or equivalent wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges, materials and labour as per specifications complete (over and above the work already specified in the specifications).                                                                                              | 115      | SQM |                   |                |
| 23.0    | 2400  | ROAD WORK INCLUDING SUPPLY OF MATERIAL, COST OF LABOUR, MACHINERY ETC ALL COMPLETE AS PER SPEC, DRAWING, RELEVANT IRC & IS CODES AND AS DIRECTED BY THE ENGINEER-IN-CHARGE FOR FOLLOWING.                                                                                                                                                                                                                |          |     |                   |                |
| 23.1    | 2414  | Concrete of grade M-30 in roads etc complete with 20 mm nominal size graded aggregate, plasticiser etc. complete as per specification (cement shall be supplied by BHEL free of cost as per SCC).                                                                                                                                                                                                        | 2977     | CUM |                   |                |
| 23.2    | 2415  | Filling below concrete roads with stone (63 mm down graded), in layers not exceeding 200 mm thickness including breaking of boulders to required sizes, filling the interstices with selected sand and compacting to 85 % of original volume of stone stack for all lifts all complete as per instructions of engineer-in-charge.                                                                        | 2126     | CUM |                   |                |
| 24.0    | 2500  | MISCELLANEOUS 2                                                                                                                                                                                                                                                                                                                                                                                          |          |     |                   |                |
| 24.1    | 2501  | Construction of below ground earthing system test pits as per drawing / sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing and specification (excavation & backfilling only will be paid under applicable BOQ items)                                                                                                                                 | 100      | NO  |                   |                |
| 24.2    | 2502  | Construction of below ground earthing system test links as per drawing/ sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing & specification (excavation & backfilling only will be paid under applicable BOQ items).                                                                                                                                  | 24       | NO  |                   |                |

| SL NO        | ST NO                                                                             | DESCRIPTION                                                                                                                                                                                       | QUANTITY |              | UNIT RATE<br>(Rs) | AMOUNT<br>(Rs) |
|--------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------|-------------------|----------------|
| 24.3         | 2503                                                                              | Construction of below ground earthing system earth electrodes as per drawing and specification. ( Excavation and backfilling only will be paid under applicable BOQ items.)                       | 350      | NO           |                   |                |
| 24.4         | 2504                                                                              | Construction of below ground earthing system - Earth connection and riser pig tails as per drawing and specification. ( Excavation and backfilling only will be paid under applicable BOQ items.) | 1300     | NO           |                   |                |
| 24.5         | 2507                                                                              | Providing services of crane operator for operation of BHEL crane                                                                                                                                  | 300      | MAN-<br>HOUR |                   |                |
| <b>TOTAL</b> |                                                                                   |                                                                                                                                                                                                   |          |              |                   |                |
| 25.0         | For items not covered above, quote % above or below the CPWD schedule (DSR-2002). |                                                                                                                                                                                                   |          |              |                   |                |
| 25.1         | Rate of complete item                                                             |                                                                                                                                                                                                   |          |              |                   |                |
| 25.2         | Rate of supply of materials at site only.                                         |                                                                                                                                                                                                   |          |              |                   |                |
| 25.3         | Rate for execution complete excluding supply of materials.                        |                                                                                                                                                                                                   |          |              |                   |                |

|                  |                             |                                                      |
|------------------|-----------------------------|------------------------------------------------------|
| <b>TENDER NO</b> | <b>PSER:SCT:MJA-C752:07</b> |                                                      |
| <b>VOLUME</b>    | <b>IIIB</b>                 | <b>PRICE SCHEDULE, REV-1<br/>(PERCENTAGE VALUES)</b> |

|                 |                                                                                                                                                                                   |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>JOB</b>      | <b>CIVIL, STRUCTURAL ETC WORK OF POWER BLOCK 2<br/>COVERING POWER HOUSE INCLUDING MILL BAY,<br/>AUX BUILDINGS, ALONG WITH CW PUMP HOUSE AND<br/>CW DUCT, MISC CIVIL WORKS ETC</b> |
| <b>CAPACITY</b> | <b>2 x 500 MW UNIT # 1 &amp; 2</b>                                                                                                                                                |
| <b>PROJECT</b>  | <b>MEJIA-B THERMAL POWER STATION, WEST BENGAL</b>                                                                                                                                 |

**BHARAT HEAVY ELECTRICALS LIMITED**  
**(A Govt Of India Undertaking)**  
**POWER SECTOR – EASTERN REGION**  
**PLOT – DJ 9/1, SECTOR II, SALT LAKE**  
**KOLKATA – 700 091**

| <b>VOLUME-III B</b><br><b>PRICE SCHEDULE, REV-1</b>                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Civil, structural etc work of Power Block 2 covering power house including mill bay, aux buildings, alongwith CW pump house and CW duct, misc civil works etc of unit # 2 for 2x500 MW at Mejia-B TPS, West Bengal.</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>TENDER NO - PSER:SCT:MJA-C752:07</b>                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>PREAMBLE</b>                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 1.0                                                                                                                                                                                                                        | This preamble forms part of tender document and schedule of items. The tenderer should read this preamble carefully in rates for various items. Clauses under this preamble shall be read in conjunction with other volumes of tender as applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 2.0                                                                                                                                                                                                                        | The work shall be carried out strictly as per specifications, description of the items in these schedule and / or engineer's instructions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 3.0                                                                                                                                                                                                                        | Items of work provided in this schedule but not covered in this specification shall be executed strictly as per instruction of the engineer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 4.0                                                                                                                                                                                                                        | Unless specifically mentioned otherwise in the tender document, the tenderer shall quote for the finished items and shall provide for the complete cost towards power, fuel, tools, tackles, equipment, constructional plants, temporary works, labour, dismantling of all temporary piping, structures, valves, pumps, tanks & other misc. equipment, strengthening of roads/culverts/bridges etc. including arranging all clearances etc. required for carrying out different activities & tests, materials, levies, taxes, transport, layout, repairs, rectification, maintenance till handing over, supervisions, colonies, shops, establishments, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the work according to the tender document and this schedule. |
| 5.0                                                                                                                                                                                                                        | The quantities of the various items mentioned in this schedule of items are approximate, based on very preliminary information and may vary to any extent or be deleted altogether. The quoted rates of each item will remain firm throughout the period of execution including extension, for reasons whatsoever, as long as variation in the total value of work executed under any part of this contract including extra items, if any but excluding any price variation remains within thirty percent ( $\pm 30\%$ ) of the contract price.                                                                                                                                                                                                                                                                                             |
| 6.0                                                                                                                                                                                                                        | The rates quoted shall be inclusive of cleaning of site of any vegetation, dressing and leveling etc. including fixing of grid pillars, benchmarks etc. required for commencement of site activities. No separate payment will be made towards the same.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 7.0                                                                                                                                                                                                                        | Rates shall be quoted in figures and in words in clear legible writing. No overwriting is allowed. All scoring and cancellations should be countersigned and in case of illegibility the interpretation of engineer shall be final. All entries shall be in English language.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 8.0                                                                                                                                                                                                                        | All works item wise shall be measured upon completion and paid for at the rates quoted and accepted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 9.0                                                                                                                                                                                                                        | The tender shall be deemed to have studied the specifications, details of work to be done within the time schedule attached and to have acquainted himself of the conditions prevailing at site.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 10.0                                                                                                                                                                                                                       | Engineer's decision shall be final and binding on the contractor regarding clarification of items in the schedule with respect to the other sections/volumes of the contract.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| VOLUME-IIIB                                                                                                                                                                                                         |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |     |                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----|------------------------------------------------------------------------|
| PRICE SCHEDULE, REV-1                                                                                                                                                                                               |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |     |                                                                        |
| Civil, structural etc work of Power Block 2 covering power house including mill bay, aux buildings, alongwith CW pump house and CW duct, misc civil works etc of unit # 2 for 2x500 MW at Mejia-B TPS, West Bengal. |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |     |                                                                        |
| TENDER NO - PSER:SCT:MJA-C752:07.                                                                                                                                                                                   |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |     |                                                                        |
| SL NO                                                                                                                                                                                                               | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | QUANTITY |     | Price in percent (%) of total price for each item (in figures & words) |
| 1.0                                                                                                                                                                                                                 | 100   | EARTH WORK IN EXCAVATION, BACKFILLING & DISPOSAL AS PER SPECIFICATION & DRAWINGS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |     |                                                                        |
| 1.1                                                                                                                                                                                                                 | 101 A | Earth work in excavation upto <b>2m depth</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, Ducts, roads, embankment etc including setting out, clearing & grubbing, removal of debris, dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for all types of soils including ash, laterite, morrum, weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe and other mechanical means etc but does not require chiselling or blasting.        | 45,000   | CUM |                                                                        |
| 1.2                                                                                                                                                                                                                 | 101 B | Earth work in excavation upto <b>2m depth</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, Ducts, roads, embankment etc including setting out, clearing & grubbing, removal of debris, dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for hard rock requiring blasting/controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer. |          |     |                                                                        |
| 1.2.1                                                                                                                                                                                                               | a     | By means of controlled blasting including provision of sensor to assess the impact of blast on the adjacent structures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 400      | CUM |                                                                        |
| 1.2.2                                                                                                                                                                                                               | b     | By means of controlled blasting excluding provision of sensor .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 20000    | CUM |                                                                        |
| 1.2.3                                                                                                                                                                                                               | c     | In hard rock (blasting Prohibited) by means of chiselling, wedging etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 3000     | CUM |                                                                        |
| 1.3                                                                                                                                                                                                                 | 101 C | Earth work in excavation for depth exceeding <b>2.0m but not exceeding 4.0m</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, Ducts, roads, embankment etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for all types of soils including ash, laterite, morrum , weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe and other mechanical means etc but does not require chiselling or blasting.                          | 11685    | CUM |                                                                        |
| 1.4                                                                                                                                                                                                                 | 101 D | Earth work in excavation for depth exceeding <b>2.0m but not exceeding 4.0m</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, Ducts, roads, embankment etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for hard rock requiring blasting /controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer.                   |          | CUM |                                                                        |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | QUANTITY |     | Price in percent (%) of total price for each item (in figures & words) |
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| 1.4.1 | a     | By means of controlled blasting including provision of sensor to assess the impact of blast on the adjacent structures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 400      | CUM |                                                                        |
| 1.4.2 | b     | By means of controlled blasting excluding provision of sensor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 20400    | CUM |                                                                        |
| 1.4.3 | c     | In hard rock (blasting Prohibited) by means of chiselling, wedging etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1000     | CUM |                                                                        |
| 1.5   | 101 E | Earth work in excavation for depth exceeding <b>4.0m but not exceeding 7.0m</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, ducts, roads, embankment etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0 km etc complete for all types of soils including ash, laterite, morrum, weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe and other mechanical means etc but does not require chiselling or blasting.           | 2222     | CUM |                                                                        |
| 1.6   | 101 F | Earth work in excavation for depth exceeding <b>4.0m but not exceeding 7.0m</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, ducts, roads, embankment etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for hard rock requiring blasting /controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer.   |          |     |                                                                        |
| 1.6.1 | a     | By means of controlled blasting including provision of sensor to assess the impact of blast on the adjacent structures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 400      | CUM |                                                                        |
| 1.6.2 | b     | By means of controlled blasting excluding provision of sensor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 19000    | CUM |                                                                        |
| 1.6.2 | c     | In hard rock (blasting Prohibited) by means of chiselling, wedging etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 4000     | CUM |                                                                        |
| 1.7   | 101 G | Earth work in excavation for depth exceeding <b>7.0m but not exceeding 10.0m</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, Ducts, roads, embankment etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0km etc complete for all types of soils including ash, laterite, morrum, weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe and other mechanical means etc but does not require chiselling or blasting.           | 170      | CUM |                                                                        |
| 1.8   | 101 H | Earth work in excavation for depth exceeding <b>7.0m but not exceeding 10.0m</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, Ducts, roads, embankment etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/ disposal of surplus excavated material within a lead of 1.0 km etc complete for hard rock requiring blasting /controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer. |          |     |                                                                        |
| 1.8.1 | a     | By means of controlled blasting including provision of sensor to assess the impact of blast on the adjacent structures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 100      | CUM |                                                                        |
| 1.8.2 | b     | By means of controlled blasting excluding provision of sensor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 15000    | CUM |                                                                        |
| 1.8.3 | c     | In hard rock (blasting Prohibited) by means of chiselling, wedging etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 400      | CUM |                                                                        |

| SL NO  | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | QUANTITY |     | Price in percent (%)<br>of total price for<br>each item (in<br>figures & words) |
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| 1.9    | 101 J | Earth work in excavation for depth <b>exceeding 10.0m but not exceeding 15.0m</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, Ducts, roads, embankment etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and ramming the bottom, stacking/disposal of surplus excavated material within a lead of 1.0 KM etc complete for all types of soils including ash, laterite, morrum, weathered rock, decomposed rock, soft rock etc which can be excavated by means of crow bar, pick axe and other mechanical means etc but does not require chiselling or blasting.          | 230      | CUM |                                                                                 |
| 1.10   | 101 K | Earth work in excavation for depth <b>exceeding 10.0m but not exceeding 15.0m</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, Ducts, roads, embankment etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/ disposal of surplus excavated material within a lead of 1.0 km etc complete for hard rock requiring blasting /controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer. |          |     |                                                                                 |
| 1.10.1 | a     | By means of controlled blasting including provision of sensor to assess the impact of blast on the adjacent structures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 400      | CUM |                                                                                 |
| 1.10.2 | b     | By means of controlled blasting excluding provision of sensor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 12500    | CUM |                                                                                 |
| 1.10.3 | c     | In hard rock (blasting Prohibited) by means of chiselling, wedging etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 450      | CUM |                                                                                 |
| 1.11   | 101 L | Earth work in excavation for depth <b>exceeding 15.0m but not exceeding 20.0m</b> below ground level for foundation, trenches, pipe lines, storm water drains, RCC wall, Ducts, roads, embankment etc including dewatering if required, strutting, shoring/sheet piling if required, dressing the sides, levelling to grade and stacking/ disposal of surplus excavated material within a lead of 1.0 km etc complete for hard rock requiring blasting /controlled blasting and/or chiselling, wedging, line drilling, pre shearing or any other means including supply, storage, handling of blasting materials etc without damaging the existing structures and as approved by Engineer. |          |     |                                                                                 |
| 1.11.1 | b     | by means of controlled blasting excluding provision of sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 300      | CUM |                                                                                 |
| 1.12   | 104   | Extra over item 101 A to 101 L above respectively for carriage of all types of excavated materials beyond the initial lead of 1.0 KM dumping, levelling the dumped soil/ materials & levelling the area from where the material is transported, complete with all lifts as specified and directed by Engineer for following leads.                                                                                                                                                                                                                                                                                                                                                         |          |     |                                                                                 |
| 1.12.1 | i)    | Carriage beyond 1.0 KM and not exceeding 2 km.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 77663    | CUM |                                                                                 |
| 1.12.2 | ii)   | Carriage beyond 2 Km and not exceeding 5 km.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 56971    | CUM |                                                                                 |
| 1.12.3 | iii)  | Carriage beyond 5 Km and not exceeding 10 Km.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1971     | CUM |                                                                                 |
| 1.13   | 105   | <b>Filling</b> using selected excavated materials in trenches, plinths, sides of foundations and other underground structures, pipes, area levelling etc. in layers not exceeding 250 mm thickness including lead upto 5 KM and all lifts and including loading from stock pile, carting, unloading, filling, watering and compacting/ramming each layer, all complete as per specifications, drawings and as directed by the engineer to achieve the following densities.                                                                                                                                                                                                                 |          |     |                                                                                 |
| 1.13.1 | i)    | Ordinary manual compaction.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1473     | CUM |                                                                                 |
| 1.13.2 | ii)   | 90% Standard Proctor density.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 56306    | CUM |                                                                                 |
| 1.13.3 | iii)  | 95% Standard Proctor density.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 6473     | CUM |                                                                                 |

| SL NO    | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                   | QUANTITY |     | Price in percent (%)<br>of total price for<br>each item (in<br>figures & words) |
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| 1.14     | 106   | <b>Filling using selected excavated materials</b> directly from excavation area in trenches, plinths, sides of foundations & other underground structures, pipes, area levelling etc in layers not exceeding 250 mm thickness including all lifts, filling, watering & compacting/ ramming each layer, all complete as per spec, drawings and as directed by the engineer to achieve the following densities.                                 |          |     |                                                                                 |
| 1.14.1   | i)    | Ordinary manual compaction.                                                                                                                                                                                                                                                                                                                                                                                                                   | 218      | CUM |                                                                                 |
| 1.14.2   | ii)   | 90% Standard Proctor density.                                                                                                                                                                                                                                                                                                                                                                                                                 | 28131    | CUM |                                                                                 |
| 1.14.3   | iii)  | 95% Standard Proctor density.                                                                                                                                                                                                                                                                                                                                                                                                                 | 10228    | CUM |                                                                                 |
| 1.15     | 107   | <b>Filling</b> using selected materials in trenches, plinths, sides of foundations, in the space below the grade level slab and other under ground structures, pipes etc. in layers not exceeding 250 mm in thickness including all lifts and including excavating, loading, unloading, carting, filling, watering and compacting/ ramming each layer, all complete as per specification, drgs & as directed by engineer for following works. |          |     |                                                                                 |
| 1.15.1   | i)    | With selected soil brought from borrow areas arranged by contractor, including royalties, fees etc.for all leads and compacted to following densities.                                                                                                                                                                                                                                                                                        |          |     |                                                                                 |
| 1.15.1.1 | a     | 90% Standard Proctor density.                                                                                                                                                                                                                                                                                                                                                                                                                 | 12136    | CUM |                                                                                 |
| 1.15.1.2 | b     | 95% Standard Proctor density.                                                                                                                                                                                                                                                                                                                                                                                                                 | 10       | CUM |                                                                                 |
| 1.15.2   | ii)   | With selected <b>sand</b> brought from quarries/river bed arranged by contractor, and compacting to 80% relative density etc for all leads.                                                                                                                                                                                                                                                                                                   | 212      | CUM |                                                                                 |
| 1.16     | 108   | Filling in trenches, plinths, area paving and other underground structures with stone (63 mm down graded), in layers not exceeding 200 mm thickness including breaking of boulders to required sizes, filling the interstices with selected sand and compacting to 85 % of original volume of stone stack for all lifts all complete as per instructions of engineer-in-charge.                                                               | 5710     | CUM |                                                                                 |
| 1.17     | 109   | Filling in transformer pits etc, with clean 40 mm nominal size stone aggregate including all labour, materials, royalties, equipments etc complete as per instructions of engineer in charge.                                                                                                                                                                                                                                                 | 543      | CUM |                                                                                 |
| 1.18     | 110   | Buldozing earth for grading (max depth 500 mm) of ground including removable of vegetation complete including disposal of debris upto 5 kms.                                                                                                                                                                                                                                                                                                  | 2800     | SQM |                                                                                 |
| 1.19     | 111   | Cutting of trees, including transportation, stacking at storage yard and disposal of unused material as per direction of Engineer.                                                                                                                                                                                                                                                                                                            |          |     |                                                                                 |
| 1.19.1   | i)    | 300 mm upto 600 mm girth.                                                                                                                                                                                                                                                                                                                                                                                                                     | 22       | NO  |                                                                                 |
| 1.19.2   | ii)   | 601 mm upto 900 mm girth.                                                                                                                                                                                                                                                                                                                                                                                                                     | 23       | NO  |                                                                                 |
| 2.0      | 200   | PROVIDING & PLACING CONCRETE WORK INCLUDING COST OF LABOUR, MATERIALS & EQUIPMENT FOR HANDLING, TRANSPORTATION, BATCHING, MIXING, PLACING, VIBRATING AND CURING, (EXCLUDING COST OF CENTERING, SHUTTERING AND REINFORCEMENT) COMPLETE AS PER DRAWING AND SPECIFICATIONS UNLESS SPECIFIED OTHERWISE FOR THE FOLLOWING (CEMENT SHALL BE SUPPLIED BY BHEL FREE OF COST AS PER SCC)                                                               |          |     |                                                                                 |
| 2.1      | 201   | Plain Cement Concrete of proportion (1 part cement:4 part sand:8 part graded aggregates by volume ) as filling course at any level below finished floor level, under and around foundations/floors, mass dumps etc with 40 mm nominal size graded aggregate.                                                                                                                                                                                  | 1447     | CUM |                                                                                 |
| 2.2      | 202   | Plain cement Concrete of of proportion (1 part cement:3 part sand:6 part graded aggregates by volume) as lean concrete, levelling course, mud mat under and around foundations/floors etc with 20 mm nominal size graded aggregate.                                                                                                                                                                                                           | 5297     | CUM |                                                                                 |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | QUANTITY |     | Price in percent (%)<br>of total price for<br>each item (in<br>figures & words) |
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| 2.3   | 203   | Design mix Concrete of grade M20 in under floors, paving, pipe encasing etc complete with 20 mm nominal size graded aggregate, plasticiser etc complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 3278     | CUM |                                                                                 |
| 2.4   | 204   | Design mix concrete of grade M15 as under bed to floors including plasticiser etc complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 215      | CUM |                                                                                 |
| 2.5   | 205   | Design mix Concrete of grade M-25 in underground structures like foundations, columns below finish floor level, plinth beams, slab-on-grade, drains etc complete with 20 mm nominal size graded aggregate, plasticiser etc complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 16953    | CUM |                                                                                 |
| 2.6   | 206   | Design mix Concrete of grade M-25 in superstructure from finished floor level complete at all heights with 20 mm nominal size graded aggregate, plasticiser etc complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 5030     | CUM |                                                                                 |
| 2.7   | 207   | Design mix Concrete of grade M-25 in T.G. Block, column and machine foundations at all heights from finished floor level except mill foundation, top deck supported over vibration isolation system including addition of suitable plasticizer conforming to IS 9103-latest to achieve a slump more than 125mm in concrete as per manufacturer's recommendation with 20 mm nominal size graded aggregate.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          |     |                                                                                 |
| 2.7.1 | a)    | M25 (with 20mm nominal size graded stone aggregate), with Ultrasonic Pulse Velocity testing. (Ultrasonic pulse velocity testing to be conducted for T.G column and machine foundations through reputed agency / institution as per approval of Engineer.<br>Payment terms - a. After casting 80%; b. After receipt of ultrasonic test report - 20%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 340      | CUM |                                                                                 |
| 2.7.2 | b)    | M25 (with 20mm nominal size graded stone aggregate), without Ultrasonic Pulse Velocity testing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 3180     | CUM |                                                                                 |
| 2.8   | 208   | Providing & laying design mix cement concrete for reinforced concrete works using graded aggregate in mill foundation, top decks of machine fdns supported on vibration isolation system (VIS) (excluding supply & installation of VIS) at all levels including addition of suitable plastisizers conforming to IS9103 to achieve a slump more than 125 mm in concrete as per manufacturers recomendation, preperation of scheme for concreting, getting it approved by engineer, labour, materials, equipment, handling, batching, transporting, mixing, pumping, placing, leveling, vibrating, compacting, curing, testing, cleaning & rendering the exposed surface with cement sand mortar to give a smooth and even surface, maintaining & submitting records of concreting, petrographic examination and potential reactivity of aggregate etc all complete as per spec, drg and instructions of engineer, including UPV testing as directed by engineer, rectification of the defects in concreting observed by ultra-sonic pulse velocity (UPV) testing by cement/ epoxy grout etc, but excluding formwork, staging, reinforcement, embeddments & temperature control of concrete. |          |     |                                                                                 |
| 2.8.1 | i)    | M30 (with 20mm nominal size graded stone aggregate), without Ultrasonic Pulse Velocity testing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1120     | CUM |                                                                                 |
| 2.8.2 | ii)   | M35 (with 20mm nominal size graded stone aggregate), without Ultrasonic Pulse Velocity testing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 13       | CUM |                                                                                 |
| 2.8.3 | iii)  | M30 (with 20mm nominal size graded stone aggregate), with Ultrasonic Pulse Velocity testing for machine foundations. Ultrasonic pulse velocity testing to be conducted through reputed agency/ institution as per approval of Engineer.<br>Payment terms - a. After casting 80%; b. After receipt of Ultrasonic test report - 20%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 50       | CUM |                                                                                 |
| 2.8.4 | iv)   | M35 (with 20mm nominal size graded stone aggregate), with Ultrasonic Pulse Velocity testing for TG deck and machine foundations. (Ultrasonic pulse velocity testing to be conducted through reputed agency/ institution as per approval of engineer.<br>Payment terms - a. After casting 80%; b. After receipt of Ultrasonic test report - 20%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 850      | CUM |                                                                                 |

| SL NO  | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | QUANTITY |      | Price in percent (%)<br>of total price for<br>each item (in<br>figures & words) |
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| 2.9    | 209   | Extra over ST NO 208 above, for controlling of temperature of freshly laid concrete to less than 25 degree centigrade using ice, including all related arrangements for providing, storing and mixing of ice with water, cooling of aggregates etc, all complete as per specification, drawing and instruction of engineer.                                                                                                                                                                                                                                                                                                  | 1210     | CUM  |                                                                                 |
| 2.10   | 210 A | Screed concrete 1:2:4 conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof or various floors at any level or thickness, drains etc complete.                                                                                                                                                                                                                                                                                                                                                                                                                           | 247      | CUM  |                                                                                 |
|        | 210 B | Screed concrete 1:1.5:3 conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof or various floors at any level or thickness, drains etc complete.                                                                                                                                                                                                                                                                                                                                                                                                                         | 200      | CUM  |                                                                                 |
| 2.11   | 211   | Design mix Concrete of grade M-25 in precast works like roof slabs/trench covers, fins, lintels, chajas, beams, columns, wall panels, facias etc.at all levels in all kinds of work including formwork/moulds, curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, transpoting, all leads, erection without damage, setting in position with cement sand mortar (1:3), filling the gaps between adjusant precast units with M30 concrete or cement sand mortar (1:3) and including making of holes for bolts for fixing, welding etc.complete with graded aggregate (20/12.5/10 mm). | 100      | CUM  |                                                                                 |
| 2.12   | 212 A | Design mix Concrete of grade M25 in water retaining/conveying structures including addition of suitable plastisizer cum waterproofing cement additives confirming to IS 9103 latest to achieve a slump more than 125 mm in concrete as per manufacturers recommendation and subsequent reduction in cement content upto a maximum 10% complete and conforming to limits of permeability as per IS 2545 as per specification with 20 mm nominal size graded aggregate.                                                                                                                                                        |          |      |                                                                                 |
| 2.12.1 | i)    | Below Ground Level.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 19455    | CUM  |                                                                                 |
| 2.12.2 | ii)   | Above Ground Level.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 314      | CUM  |                                                                                 |
| 2.13   | 212 B | Providing with minimum two coats of bituminous painting of grade 85/25 @ 1.7 Kg/sqm for water/damp proofing conforming to IS 702 on foundation/ structure/wall surfaces in contact with soil.                                                                                                                                                                                                                                                                                                                                                                                                                                | 11,000   | SQMM |                                                                                 |
| 2.14   | 213   | Concrete of Grade M-15 in plinth protection, pipe encasing etc. complete with 20 mm nominal size graded aggregate.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 53       | CUM  |                                                                                 |
| 2.15   | 214   | Dismantling concrete work for all types of structures at all levels including stacking of servicable material to a lead of 500 m and disposal of unservicable material upto a lead of 2 km, cutting of reinforcement, labour, equipment, safety precautions etc all complete as per drawings, specification and instructions of engineer in charge.                                                                                                                                                                                                                                                                          |          |      |                                                                                 |
| 2.15.1 | i)    | Plain cement concrete of all grades                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 16       | CUM  |                                                                                 |
| 2.15.2 | ii)   | Reinforced cement concrete of all grades alongwith cutting of reinforcements etc complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 38       | CUM  |                                                                                 |
| 2.16   | 215   | Cutting of masonry / PCC / RCC work for making openings/pockets at any floors/walls of all levels and according to shapes and sizes as per drawing by using Power cutting tool ( DD2E of Hilti make or equivalent), disposal of waste materials upto a lead of 2 km as directed by engineer including equipment, making good broken edges/surfaces with cement mortar (1:3) etc complete as per instructions of BHEL. (Measurement shaii be paid as per cutting surface area of masonry/concrete and reinforcement).                                                                                                         | 140      | SQM  |                                                                                 |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                   | QUANTITY |     | Price in percent (%)<br>of total price for<br>each item (in<br>figures & words) |
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| 2.17  | 216   | Chipping manually (wherever machine cutting is not possible) of masonry / PCC / RCC work for making pockets, openings at any floors/ foundations of all levels and according to shapes and sizes as per drawing, including making good broken edges/surface with cement mortar (1:3), disposal of waste materials upto a lead of 2 km as directed by engineer. (Measurement shall be paid as per cutting surface area of masonry/concrete and reinforcement). | 32       | SQM |                                                                                 |
| 3.0   | 300   | SUPPLYING, FIXING AND REMOVING FORMWORK AT ANY ELEVATIONS FOR ALL STRUCTURES, AS PER SPECIFICATIONS AND INCLUDING ALL LABOUR MATERIAL, SCAFFOLDINGS AND CENTEREING COMPLETE INCLUDING POCKETS ETC. FOR THE FOLLOWING:                                                                                                                                                                                                                                         |          |     |                                                                                 |
| 3.1   | 301   | Ordinary form work below finished ground floor level for foundations, footings, bases of columns, walls, columns, pilasters, beams, mass concrete, trenches etc.                                                                                                                                                                                                                                                                                              | 25598    | SQM |                                                                                 |
| 3.2   | 302   | Fairface form work below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc. for exposed concrete works.                                                                                                                                                                                                                                                                   | 25096    | SQM |                                                                                 |
| 3.3   | 303   | Ordinary form work above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc. for all heights.                                                                                                                                                                                                                                                                  | 13745    | SQM |                                                                                 |
| 3.4   | 304   | Fairface form work above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc. for all heights.                                                                                                                                                                                                                                                                  | 8160     | SQM |                                                                                 |
| 3.5   | 305   | Formwork for TG superstructure-fairface. (above TG raft level)                                                                                                                                                                                                                                                                                                                                                                                                | 2720     | SQM |                                                                                 |
| 3.6   | 306   | Providing, fixing and removing formwork in block-outs/pockets and openings at all elevations including cutting, formation of all shapes and all other operations required for making the required shape and size all complete as per specification, drawing and instruction of engineer in charge.                                                                                                                                                            |          |     |                                                                                 |
| 3.6.1 | i)    | Upto 300 mm depth                                                                                                                                                                                                                                                                                                                                                                                                                                             | 40       | NO  |                                                                                 |
| 3.6.2 | ii)   | From 301 mm upto 600 mm depth                                                                                                                                                                                                                                                                                                                                                                                                                                 | 42       | NO  |                                                                                 |
| 3.6.3 | iii)  | From 601 mm upto 1000 mm depth                                                                                                                                                                                                                                                                                                                                                                                                                                | 24       | NO  |                                                                                 |
| 3.6.4 | iv)   | From 1001 mm upto 1500 mm depth                                                                                                                                                                                                                                                                                                                                                                                                                               | 24       | NO  |                                                                                 |
| 4.0   | 400   | REINFORCEMENTS (REINFORCEMENT STEEL SHALL BE SUPPLIED BY BHEL FREE OF COST AS PER SCC)                                                                                                                                                                                                                                                                                                                                                                        |          |     |                                                                                 |
| 4.1   | 401   | Transporting, Straightening, cutting, bending, placing in position at any level, binding of mild steel reinforcements in concrete including cost of binding wire, labour etc. complete all as per specifications & drawings.                                                                                                                                                                                                                                  | 15       | MT  |                                                                                 |
| 4.2   | 402   | Transporting, Straightening, cutting, bending, placing at any level, binding in position high yield strength steel reinforcements in concrete including cost of binding wire, labour etc. complete all as per specifications & drawings.                                                                                                                                                                                                                      | 3444     | MT  |                                                                                 |
| 4.3   | 403   | Transporting, Straightening, cutting, bending, placing in position at any level, binding of mild steel reinforcements in brickwork/concrete encasing work including cost of binding wire, labour etc. complete all as per specifications & drawings.                                                                                                                                                                                                          | 2        | MT  |                                                                                 |
| 4.4   | 404   | Transporting, straightening, cutting, bending, placing at any level, binding in position high yield strength steel reinforcements in brickwork/ concrete encasing work including cost of binding wire, labour etc. complete all as per specifications & drawings.                                                                                                                                                                                             | 15       | MT  |                                                                                 |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | QUANTITY |     | Price in percent (%)<br>of total price for<br>each item (in<br>figures & words) |
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| 5.0   | 500   | WATER PROOFING AS PER SPECIFICATIONS. (CONTRACTOR HAS TO FURNISH A GUARANTEE FOR MATERIAL AND WORKMANSHIP FOR A MINIMUM PERIOD OF 20 YEARS.). (CEMENT SHALL BE SUPPLIED BY BHEL FREE OF COST AS PER SCC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          |     |                                                                                 |
| 5.1   | 501   | Providing, laying & fixing roof water proofing treatment using two successive liquid coatings of high solid content urethane pre-polymers to form elastomeric membrane having overall dry film thickness of minimum 1.5mm subject to minimum 750gm/sqm/coat application rate including primer coat consisting of polyurethane or any other equivalent material, finishing coats and surface finish complete laid over cement plaster (1:6) grading on screed concrete (1:1.5:3) (cement plaster and screed concrete to be paid seperately) mix all complete including all labour, material, equipment, handling, scaffolding, transporting, testing and cost of wire mesh if any etc.complete as per drawing, specification and instructions of engineer. | 10228    | SQM |                                                                                 |
| 5.2   | 502   | Providing and laying foam concrete block insulation over roofs including minimum 15 mm cement sand plaster finished smooth over foam concrete and providing of expansion joints at intervals as per the recommendation of manufacturer. Thermal conductivity of the foam concrete shall not exceed 0.125 KCL/Sqmh degree C and weight shall be from 0.3 to 0.5 gm/cu.cm, all complete with fillets as per specification.                                                                                                                                                                                                                                                                                                                                  |          |     |                                                                                 |
| 5.2.1 | i)    | 75 thick                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 5673     | SQM |                                                                                 |
| 5.2.2 | ii)   | 100 thick                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3920     | SQM |                                                                                 |
| 5.3   | 503   | Providing & laying pressed precast concrete tiles over water proofing of minimum size 600x600 and min thickness 20 mm conforming to IS 13801 including 15 mm thick cement mortar (1:4) bedding inclusive of provision for thermal expansion for each roofing tile filled with polysulfide joint sealant (water proofing paid else where).                                                                                                                                                                                                                                                                                                                                                                                                                 | 9593     | SQM |                                                                                 |
| 5.4   | 504   | Providing and mixing approved water proofing compound in concrete or cement mortar for works wherever specified or directed as per specification/manufacturer's instructions, testing of samples for water proofing etc. complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 12422    | KG  |                                                                                 |
| 6.0   | 600   | SUPPLYING & INSTALLATION OF JOINT FILLER AND SEALING COMPOUND.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |          |     |                                                                                 |
| 6.1   | 601   | Supplying & installation of bitumin impregnated fibre board confirming to IS 1838 as joint filler at joints in concrete including nailing, coating of both faces with coal tar pitch/bitumin, labour, material, equipments etc all complete at all levels as per specification, drawings and instruction of engineer in charge:                                                                                                                                                                                                                                                                                                                                                                                                                           |          |     |                                                                                 |
| 6.1.1 | i)    | 12mm thick joints.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2        | SQM |                                                                                 |
| 6.1.2 | ii)   | 20mm thick joints.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 11       | SQM |                                                                                 |
| 6.1.3 | iii)  | 25mm thick joints.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 179      | SQM |                                                                                 |
| 6.1.4 | iv)   | 50mm thick joints.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1354     | SQM |                                                                                 |
| 6.2   | 602   | Supplying and filling in position hot applied bitumin sealing compound (Grade A) confirming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints at all levels including application of primer, labour, material, equipments etc. all complete as per specification/drawing, instruction of engineer in charge.                                                                                                                                                                                                                                                                                                                                                                                           | 583      | KG  |                                                                                 |
| 6.3   | 603   | Providing and filling polysulphide base sealant as per IS 12118 for 25 mm thick expansion joint over pre-moulded board                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1        | CUM |                                                                                 |
| 7.0   | 700   | M.S. EMBEDMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |     |                                                                                 |

| SL NO   | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | QUANTITY |     | Price in percent (%)<br>of total price for<br>each item (in<br>figures & words) |
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| 7.1     | 701   | Fabricating and fixing of embedments, MS inserts made of angle pieces, plates, channels and ISMBs of dimensions as required including cost of all labour, materials and equipment, transportation, loading, unloading, handling, welding, cutting, drilling, scaffolding and setting as per specifications and drawings. (STRUCTURAL STEEL SHALL BE SUPPLIED BY BHEL FREE OF COST AS PER SCC)                                                                                                                                                                                                                                                                             | 139      | MT  |                                                                                 |
| 7.2     | 702   | Supply, fabrication and fixing of embedments, MS inserts, sleeves, rails, guide rails, angle, channel, plates, beams of various diameters, plates of dimensions as required including cost of all labour, materials and equipment for fixing in position, scaffolding and setting in position, transportation from stores within the plant boundary to work spot, loading, unloading etc. complete as per specifications and drawings. (Vendor to supply all material).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                         | 72       | MT  |                                                                                 |
| 7.3     | 703   | Supply, fabricating, transporting, erecting and installing at all elevations miscellaneous steel/PVC pipes, expansion fasteners in concrete/brickwall, for all kind of works, including the cost of labour, material and equipment, setting material in concrete, layout, scaffolding, handling at site, cutting, forming, grinding, drilling, bolting, welding, jointing, testing etc. all complete as per drawings and specifications and instructions of engineer. (Vendor to supply all material).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                          |          |     |                                                                                 |
| 7.3.1   | i     | MS pipes of all diameters.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 27       | QTL |                                                                                 |
| 7.3.2   | ii    | PVC conduits of all sizes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 8        | QTL |                                                                                 |
| 7.3.3   | iii   | Expansion fasteners (galvanised) of HILTI make or equivalent of safe tension capacity as specified below:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |     |                                                                                 |
| 7.3.3.1 |       | 250 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 700      | NO  |                                                                                 |
| 7.3.3.2 |       | 500 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 490      | NO  |                                                                                 |
| 7.3.3.3 |       | 750 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 175      | NO  |                                                                                 |
| 7.4     | 704   | Supply, fabrication, transportation, delivery at site, erection, installation & alignment of MS foundation/anchor bolt (Grade-1 of IS:432 & IS:2062) assembly in concrete along with nuts, lock nuts (IS:1363, IS:1364 & IS:3138), anchor plates, stiffner plates, protective tape etc. upto and including 80 mm dia, 3000 mm long including furnishing of labour, materials, equipments, welding, cutting, grinding, threading, drilling, pipe sleeves etc all complete as per spec, drawing and instruction of the engineer. (Vendor to supply all material).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%. | 52       | MT  |                                                                                 |
| 7.5     | 705   | Placing, locking and releasing of vibration isolation spring modules over foundations at all elevations including transportation from stores, leveling, alignment all complete under the supervision of supplier, as per drawing and instructions of engineer in charge. (VIS TO BE SUPPLIED BY BHEL).                                                                                                                                                                                                                                                                                                                                                                    | 155      | NO  |                                                                                 |
| 8.0     | 800   | GROUTING AS PER SPECIFICATION FOR THE FOLLOWING:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |     |                                                                                 |
| 8.1     | 801   | Providing & grouting cement slurry mix at any elevation/depth with pressure pump for water retaining concrete structures, including fixing nozzles, cost of approved cement, admixture, curing, etc all complete as per specification and as directed by the Engineer. (CEMENT SHALL BE SUPPLIED BY BHEL FREE OF COST AS PER SCC)                                                                                                                                                                                                                                                                                                                                         | 14       | SQM |                                                                                 |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | QUANTITY |     | Price in percent (%) of total price for each item (in figures & words) |
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| 8.2   | 802   | Providing & grouting of pocket holes, pipe sleeves of any shape & size under base plate after erection, and alignment if necessary, of heavy machinery at any elevations including roughening surface, cleaning, ramming, curing, etc with ConbextraGPX-2 of 'Fosroc' or equivalent all complete as per spec (cost of all material & cleaning the pocket by compressed air shall be in contractor's scope).                                                                                                                                                                          | 28       | CUM |                                                                        |
| 8.3   | 803   | Providing & grouting of pocket holes, pipe sleeves of any shape and size under base plate after erection, and alignment if necessary, of main structural steel work at any elevations including roughening surface, cleaning, ramming, curing, etc with ConbextraGP-1 or equivalent all complete as per spec (cost of all material & cleaning the pocket by compressed air shall be in contractor's scope).                                                                                                                                                                          | 50       | CUM |                                                                        |
| 8.4   | 804   | Providing & grouting of pocket holes, pipe sleeves of any shape and size under base plate after erection and alignment if necessary, of secondary structures, machinery & pipe supporting structures at any elevations including roughening surface, cleaning, ramming, curing, etc with 1:1:2 cement - sand - 6 mm down stonechips all complete as per spec (cost of all material and cleaning the pocket by compressed air shall be contractor's scope and cement shall be supplied by BHEL free of cost as per SCC).                                                              | 12       | CUM |                                                                        |
| 9.0   | 900   | DOORS, WINDOWS, VENTILATORS, LOUVERS, ROOF VENTILATORS, ROLLING SHUTTERS, PARTIONS ETC. COMPLETE AT ALL ELEVATION INCLUDING FRAMING, KICK PLATES, STOPPERS AS PER SPECIFICATION AND DRAWINGS (ALL STEEL DOORS, WINDOWS AND ROLLING SHUTTERS ETC. SHALL BE BLAST CLEANED TO NEAR WHITE METAL SURFACE (SA 2 1/2), PAINTED WITH TWO COAT OF RED OXIDE ZINC PRIMER AND FINISHED WITH TWO COATS OF SYNTHETIC ENAMEL PAINT CONFIRMING TO IS2074). ALL MATERIALS TO BE SUPPLIED BY THE VENDOR.                                                                                              |          |     |                                                                        |
| 9.1   | 901   | Providing, fitting and fixing solid core flush door shutter as per IS 2202 part II, 35 mm thick homogeneous particle board bonded with BWR type phenol formaldehyde synthetic resin, particle board core conforming to IS 3087 type I, 35X12 mm thick teak wood beading all around including preparation of working drawings, butt hinges, tower bolt, sliding bolt handles, knobs, door stoppers (all fitting shall be anodised aluminium color dyed), final synthetic paint over primer, screws etc complete as per drawing, specification and instructions of engineer in charge. | 23       | SQM |                                                                        |
| 9.2   | 902   | Providing and fixing wooden frame conforming to IS 4021 made of best quality seasoned CP teakwood free from large or loose knots, cracks or other defects inclusive of sand paper smoothening, hold fasts, beading, primer including final synthetic painting etc. complete as per specifications with proper wood joinery, accurately set to required lines or levels and rigidly secured in place.                                                                                                                                                                                 | 4.321    | CUM |                                                                        |
| 9.3   | 903   | Providing, fitting and fixing panel door shutter as per IS 1003, with (35 mm thick, 150 mm wide vertical rail & 125 mm wide horizontal rail) teakwood shutter frame and (12 mm thick) interlocked panels of teakwood including beading, preparation of working drawings, butt hinges, tower bolt, sliding bolt handles, knobs, door stoppers (all fitting shall be anodised aluminium color dyed), final synthetic paint over primer, screws etc complete as per drawing, specification and instructions of engineer in charge with proper wood joinery.                             | 18       | SQM |                                                                        |
| 9.4   | 904   | Providing and fixing hard wood frame conforming to IS 4021 made of approved quality seasoned wood free from large or loose knots, cracks or other defects inclusive of sand paper smoothening, hold fasts, beading, primer including final synthetic painting etc. complete as per specifications with proper wood joinery, accurately set to required lines or levels and rigidly secured in place.                                                                                                                                                                                 | 0.184    | CUM |                                                                        |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | QUANTITY |     | Price in percent (%) of total price for each item (in figures & words) |
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| 9.5   | 905   | Providing and fixing steel single or double door shutters. Shutters shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm c/c. Side, top, bottom edges of shutter shall be of pressed steel channels of 1.2mm thk voids to be filled with mineral wool (48 kg/cum density) including all fittings like tower bolts, handles, stoppers, aldrops etc. and painting with minimum 2 coats of synthetic enamel paint on primer complete.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 104      | SQM |                                                                        |
| 9.6   | 906   | Providing and fixing fire proof steel doors (single or double shutter) with panic devices shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers including all fittings, shop painting with approved post office/signal red color fire resistant paint and mineral wool insulation (64 kg/cum density) complete and shall be fire proof as per IS:3614, TAC requirements and as per specification. Minimum ratings shall be 2 Hrs.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 103      | SQM |                                                                        |
| 9.7   | 907   | Providing & fixing anodised aluminium work of Indal, Hindalco or other equivalent approved make for doors, windows, ventilators, partitions, railing etc with extruded standard tubular & other sections including all fittings & fixtures & accessories of approved make conforming to IS733 & IS1285, anodised & electro color dyed to required shade according to IS 1868 (min anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom & sides with required PVC/ neoprene felt for bi-mettalic protection etc including preperation of working drgs, aluminium cleat angle, aluminium snap-on-beading for glazing/ panelling, stair case tread nosing, with all fittings & fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc), CP brass/ stainless steel screw, providing & fixing hinges/ pivots & making provision for fixing of fitting wherever required including cost of PVC/ neoprene gasket, all complete as per drg, spec & instructions of engr (glazing & panelling will be paid seperately).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%. | 20881    | KG  |                                                                        |
| 9.8   | 908   | Providing and fixing of over head heavy duty hydraulic door closers Yale make or equivalent quality as directed by Engineer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 68       | NO  |                                                                        |
| 9.9   | 909   | Providing and fixing floor mounted heavy duty Hydraulic door closer of approved make & best quality as directed by engineer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 65       | NO  |                                                                        |
| 9.10  | 910   | Providing & fixing pressed steel frames fabricated from 1.6 mm thk gauge MS sheet mortised, reinforced strikes, hold fasts, adjustable floor anchors, floor tiles/ weather bars, painting with min 2 coats of synthetic enamel paint on primer etc complete as per specifications.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1060     | KG  |                                                                        |
| 9.11  | 911   | Providing & fixing in position rolling shutters of approved make as per IS 6248, made of 75x1.2mm hot rolled double dipped galvanized steel laths interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside & outside locking including wire springs top cover, 3 coats of approved enamel paint etc, all complete as per specification, <b>mechanically operated</b> . Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 34       | SQM |                                                                        |

| SL NO   | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | QUANTITY |      | Price in percent (%)<br>of total price for<br>each item (in<br>figures & words) |
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| 9.12    | 912   | Providing & fixing in position rolling shutters of approved make as per IS 6248, made of 75x1.2mm hot rolled double dipped galvanized steel laths interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside & outside locking with push & pull operation including wire springs top cover, 3coats of approved enamel paint etc, all complete as per specification, <b>hand operated</b> .<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%. | 16       | SQM  |                                                                                 |
| 9.13    | 913   | Providing & fixing in position rolling shutters of approved make as per IS 6248, made of 75x1.2mm hot rolled double dipped galvanized steel laths interlocked together through their entire length & jointed together at the end by & locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside & outside locking including wire springs top cover, 3 coats of approved enamel paint etc, all complete as per specification, <b>electrically operated</b> .<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                       | 85       | SQM  |                                                                                 |
| 9.14    | 914   | Providing, fitting and fixing of glazing (including poly carbonate sheet) of superior (selected) quality, first grade class, at various elevations, where required, cleaning after fixing, gaskets, clips, hardware, with all labour and material etc. complete as per specification, drawing and instructions of engineer in charge.                                                                                                                                                                                                                                                                                                   |          |      |                                                                                 |
| 9.14.1  | i)    | 4 mm clear sheet glass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 88       | SQM  |                                                                                 |
| 9.14.2  | ii)   | 4 mm clear float glass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 125      | SQM  |                                                                                 |
| 9.14.3  | iii)  | 6 mm clear float glass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 327      | SQM  |                                                                                 |
| 9.14.4  | iv)   | 6 mm wired glass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 830      | SQM  |                                                                                 |
| 9.14.5  | v)    | 6 mm thick polycarbonate sheet multi (twin) wall fire retardant and ultra violet resistant with sealed open edges.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 45       | SQM  |                                                                                 |
| 9.14.6  | vi)   | 4 mm ground glass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 20       | SQM  |                                                                                 |
| 9.14.7  | vii)  | Two nos. 6 mm thick clear toughened float glass hermetically sealed and seperated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 53       | SQM  |                                                                                 |
| 9.14.8  | viii) | Two nos. 6 mm thick tinted toughened float glass hermetically sealed and seperated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 80       | SQM  |                                                                                 |
| 9.14.9  | ix)   | 6 mm thick toughened float glass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 70       | SQM  |                                                                                 |
| 9.14.10 | x)    | One outer 6mm thick tinted heat-reflecting type float glass and one inner 6mm thick plain float glass hermetically sealed and seperated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).                                                                                                                                                                                                                                                                                                                                                                                                          | 280      | SQM  |                                                                                 |
| 9.14.11 | xi)   | 6 mm thick laminated glass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 330      | SQM  |                                                                                 |
| 9.15    | 915   | Providing, fitting and fixing heavy duty minimum six lever mortised lock of godrej or equivalent make with handles or knobs to single and double leaf door (wooden/steel/aluminium) with duplicate set of keys and masterkeyed locks, openable from one side by the key and from the other side by the handle etc. all complete as per drawing, specification and instruction of engineer in charge.                                                                                                                                                                                                                                    | 38       | Each |                                                                                 |
| 9.16    | 916   | Providing and fixing PVC doors of sintex or equivalent make including all fitting & fixtures as per specification, drawing and instructions of engineer in charge.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 61       | SQM  |                                                                                 |
| 9.17    | 917   | Supplying & fixing weather stripping of approved make & quality consisting of Aluminium strips with fibre to doors as per instructions of engineer and spec complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 28       | RM   |                                                                                 |

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| 10.0   | 1000   | BRICKWORK MASONRY INCLUDING SUPPLY OF MATERIAL, COST OF LABOUR ETC. COMPLETE, AS PER SPECIFICATIONS. (CEMENT SHALL BE SUPPLIED BY BHEL FREE OF COST AS PER SCC)                                                                                                                                                                                                                                                                                                                                                                              |          |     |                                                                        |
| 10.1   | 1001   | Providing brick work in cement mortar 1:6 (1 part cement 6 parts coarse sand) in walls, chambers, foundations, pits etc in varying thickness, at all depths, places and positions below plinth including raking out joints, curing, scaffolding etc complete excluding plastering and painting.                                                                                                                                                                                                                                              |          |     |                                                                        |
| 10.1.1 | i)     | Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 6        | CUM |                                                                        |
| 10.1.2 | ii)    | Using clay ash bricks shall be as per IS 13757 with crushing strength of 75 kg/cm2 and minimum percentage of fly ash shall be 25%                                                                                                                                                                                                                                                                                                                                                                                                            | 10       | CUM |                                                                        |
| 10.1.3 | iii)   | Using ordinary bricks of class designation 75 of nominal dimension.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 310      | CUM |                                                                        |
| 10.1.4 | iv)    | Using locally available first class bricks of required crushing strength of nominal dimension approved by engineer in charge/customer.                                                                                                                                                                                                                                                                                                                                                                                                       | 6        | CUM |                                                                        |
| 10.2   | 1002   | Providing brick work in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc in thickness 250mm at all heights, places and position above plinth including raking out joints, curing, scaffolding etc complete excluding plastering and painting.                                                                                                                                                                                                                                                                               |          |     |                                                                        |
| 10.2.1 | i)     | Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2.                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 39       | CUM |                                                                        |
| 10.2.2 | ii)    | Using clay ash bricks shall be as per IS 13757 with crushing strength of 75 kg/cm2 & minimum percentage of fly ash shall be 25%.                                                                                                                                                                                                                                                                                                                                                                                                             | 79       | CUM |                                                                        |
| 10.2.3 | iii)   | Using ordinary bricks of class designation 75 of nominal dimension.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2722     | CUM |                                                                        |
| 10.2.4 | iv)    | Using locally available first class bricks of required crushing strength of nominal dimension approved by engineer in charge/customer.                                                                                                                                                                                                                                                                                                                                                                                                       | 39       | CUM |                                                                        |
| 10.3   | 1003   | Ruled pointing in masonry in CM 1:3 (1 cement and 3 fine sand) including raking out joints, curing etc. complete.                                                                                                                                                                                                                                                                                                                                                                                                                            | 53       | SQM |                                                                        |
| 10.4   | 1004   | Providing brick work in cement mortar 1:4 (1 cement 4 coarse sand) in partition walls, chambers etc in thickness 127 mm at all heights, places & position above or below plinth/graded level including providing HB wetting at every third layer, raking out joints, curing, scaffolding etc complete using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2 and clay ash bricks shall be as per IS 13757, minimum percentage of fly ash shall be 25%, excluding plastering and painting as per specification. |          |     |                                                                        |
| 10.4.1 | i)     | Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2.                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 6        | SQM |                                                                        |
| 10.4.2 | ii)    | Using clay ash bricks shall be as per IS 13757 with crushing strength of 75 kg/cm2 and min percentage of fly ash shall be 25%.                                                                                                                                                                                                                                                                                                                                                                                                               | 12       | SQM |                                                                        |
| 10.4.3 | iii)   | Using ordinary bricks of class designation 75 of nominal dimension.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 607      | SQM |                                                                        |
| 10.4.4 | iv)    | Using locally available first class bricks of required crushing strength of nominal dimension approved by engineer in charge/customer.                                                                                                                                                                                                                                                                                                                                                                                                       | 6        | SQM |                                                                        |
| 10.5   | 1005   | Breaking of existing brick work at all levels including plastering, removing the rubbish up to a distance of 500 m including transportation, loading, unloading etc. all complete as directed by the engineer.                                                                                                                                                                                                                                                                                                                               | 11       | CUM |                                                                        |
| 10.7   | 1007 A | Providing and encasing of structural steel member with masonry work with cement mortar (1:3) around flanges, webs etc and filling the gap between steel and masonry by minimum 12mm thick mortar. Encased member shall be wrapped with chicken wire mesh with 50mm lap etc. complete as per specification.                                                                                                                                                                                                                                   | 44       | CUM |                                                                        |

| SL NO | ST NO  | DESCRIPTION                                                                                                                                                                                                                                                                                                                                         | QUANTITY |     | Price in percent (%)<br>of total price for<br>each item (in<br>figures & words) |
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| 10.8  | 1007 B | Providing and encasing of structural steel member with RCC grade M-25 around flanges, webs etc. and filling the gap including concreting, placing/welding reinforcement/steel wire, shuttering, scaffolding, etc complete as directed by BHEL. (Reinforcement/steel wire shall be measured and paid separately as per ST item 403/404/1009).        | 44       | CUM |                                                                                 |
| 10.9  | 1009   | Supply and placing in position mild steel wire fabric of square mesh 25 mm size and wire diameter of 2 mm for encasing of steel sections in concrete including cutting, bending, fixing etc. complete.                                                                                                                                              | 813      | SQM |                                                                                 |
| 10.10 | 1010   | Providing and filling brick bats in soak pits, below plinth protection etc complete.                                                                                                                                                                                                                                                                | 12       | CUM |                                                                                 |
| 11.0  | 1100   | DAMP PROOF COURSE INCLUDING ALL MATERIALS LABOUR, SHUTTERING, CENTERING, CURING ETC., COMPLETE WITH THICKNESS AS SPECIFIED/SHOWN ON DRAWINGS.                                                                                                                                                                                                       |          |     |                                                                                 |
| 11.1  | 1101   | Damp Proof Course 40mm thk. 1:1.5:3 concrete (10mm down aggregate) with 2% of approved admixture of water proofing compound. Hot bitumen @ 1.7Kg/sqm shall be applied before & after the DPC as per specification. (CEMENT SHALL BE SUPPLIED BY BHEL FREE OF COST AS PER SCC)                                                                       | 74       | SQM |                                                                                 |
| 12.0  | 1200   | CEMENT MORTOR PLASTER INCLUDING ALL MATERIALS SCAFFOLDING, CURING ETC. COMPLETE AS PER SPECIFICATION. (CEMENT SHALL BE SUPPLIED BY BHEL FREE OF COST AS PER SCC)                                                                                                                                                                                    |          |     |                                                                                 |
| 12.1  | 1201   | Providing 12 mm thick plaster in cement mortar 1:6 on walls, floors, roof etc. finished to a smooth finish as per specification.                                                                                                                                                                                                                    | 12019    | SQM |                                                                                 |
| 12.2  | 1202   | Providing 12 mm thick plaster in cement mortar 1:6 on walls, with a rough finish as per specification.                                                                                                                                                                                                                                              | 2186     | SQM |                                                                                 |
| 12.3  | 1203   | Providing 12 mm thick plaster in cement mortar 1:6 on walls with a paste of neat cement @1kg/sqm and rubbed smooth with trowel as per specification.                                                                                                                                                                                                | 328      | SQM |                                                                                 |
| 12.4  | 1204   | Providing 18 mm thick plaster in two layers in cement mortar 1:6 on walls, floors, roof etc. f finished to a wooden float/smooth/rough finish as per spec.                                                                                                                                                                                          | 13196    | SQM |                                                                                 |
| 12.5  | 1205   | Providing 6mm thick plaster in cement mortar 1:4 on ceilings finished to a smooth finish as per specification.                                                                                                                                                                                                                                      | 8400     | SQM |                                                                                 |
| 12.6  | 1206   | Providing and making decorative cement plaster (1:4) over existing plastered surface of all types and design on walls, ceilings, arcs, columns with various thickness upto 20 mm including finishing all complete.                                                                                                                                  | 381      | SQM |                                                                                 |
| 12.7  | 1207 A | Providing Plaster of Paris (birla white or equivalent) 2 mm thick punning over finished plaster surface and finished with smooth surface as per specification.                                                                                                                                                                                      | 4665     | SQM |                                                                                 |
| 12.8  | 1207 B | Providing Plaster of white putty (birla white or equivalent) 2 mm thick punning over finished plaster surface and finished with smooth surface as per specification.                                                                                                                                                                                | 4665     | SQM |                                                                                 |
| 12.9  | 1208   | Providing screed/grading plaster of average 20 mm thickness in ratio 1:6 nominal by volume including finishing smooth and even etc. all complete at all levels above or below grade level.                                                                                                                                                          | 5597     | SQM |                                                                                 |
| 12.10 | 1209   | Providing and making decorative interior cement plaster (1:4) of heritage finish over existing plastered surface of all types and design on walls, ceilings, arcs, columns including finishing all complete.                                                                                                                                        | 105      | SQM |                                                                                 |
| 12.11 | 1210   | Forming groove of uniform size from 12X12 mm upto 20X15 mm in plastered surface as per approved pattern, using wooden battens nailed to the under layer, including removal of wooden battons, repair of the edges of plaster panel and finishing the groove etc. complete as per specification, drawing and the instructions of engineer in charge. | 70       | RM  |                                                                                 |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | QUANTITY |     | Price in percent (%) of total price for each item (in figures & words) |
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| 12.12 | 1211  | Providing drip coarse on plastered surface at all elevations for all type of work such as chajjas, parapet, projections etc. including scaffolding, finishing etc. complete with all labour, tools and plants as per                                                                                                                                                                                                                                                                                                                                                         | 85       | RM  |                                                                        |
| 12.13 | 1212  | Providing and laying encasement to box type steel beams at all levels with lath plaster 50 mm nominal thickness with cement plaster (1:4) over galvanised hexagonal chicken wire of 0.9 mm wire diameter and 19 mm mesh size as per IS3150 including all labour, materials, equipment, handling, transporting, mixing, placing, leveling, curing and cleaning, finishing the exposed surfaces etc including centering and shuttering all complete as per specification, drawing and instructions of enginner in charge (rate shall include the cost of GI chicken wire mesh) | 1152     | SQM |                                                                        |
| 13.0  | 1300  | FINISHES, PAINTING TO CONCRETE, PLASTERED SURFACES, SURFACE PREPARATION INCLUDING ALL MATERIALS, LABOUR, SCAFFOLDING ETC ALL COMPLETE (PAINTS OF REPUTED BRAND OF REPUTED MANUFACTURER LIKE ICI/ BERGER/ ASIAN PAINTS OR EQUIVALENT)                                                                                                                                                                                                                                                                                                                                         |          |     |                                                                        |
| 13.1  | 1301  | Providing and applying two or more coats of oil bound destemper as per IS 428 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline including plaster of paris punning minimum 2 mm.                                                                                                                                                                                                                                                                     | 728      | SQM |                                                                        |
| 13.2  | 1302  | Providing and applying two or more coats of acrylic destemper as per IS 428 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface or plaster of paris punning as per manufacturers guideline.                                                                                                                                                                                                                                                                                           | 10045    | SQM |                                                                        |
| 13.3  | 1303  | Two or more coats of cement paint ( for internal use) of approved brand and manufacture to give an even shade including priming coat complete.                                                                                                                                                                                                                                                                                                                                                                                                                               | 178      | SQM |                                                                        |
| 13.4  | 1304  | Providing & applying 2 or more coats of acid/alkali resistant paint of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying bitumen primer conforming to IS 158 complete all as per manufacturer's recommendations & as approved by engineer, at all heights above or below grade level, complete as per spec.                                                                                                                                                                                   | 1023     | SQM |                                                                        |
| 13.5  | 1305  | Two or more coats of oil resistant paints epoxy based and ammine cured, 150 micron over primer of approved grade and manufacture to give an even shade.                                                                                                                                                                                                                                                                                                                                                                                                                      | 259      | SQM |                                                                        |
| 13.6  | 1306  | Providing and applying two or more coats of acrylic emulsion paint as per IS 5411 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface or plaster of paris punning in walls, ceiling etc as per manufacturers guideline.                                                                                                                                                                                                                                                               | 6962     | SQM |                                                                        |
| 13.7  | 1307  | Providing and applying resin bonded granular textured finish, for external applications shall consist of granular textured paint/ Synthetic plaster composed of synthetic fibre and petroleum based chemical similar to RENOVO or equivalent and of approved natural color/shade applied on cured and dried plaster surface. The final finish shall have UV resistance, fungus, bacterial resistance properties all complete with grooves filled with poly sulfide sealant of matching color and shade as per specification/drawing/approval of engineer in charge.          | 2336     | SQM |                                                                        |
| 13.8  | 1308  | Providing and applying 2 or more coats of water proof cement paint of approved make and color on exterior surface at all heights including material, labour, scaffolding, curing etc complete as per specification.                                                                                                                                                                                                                                                                                                                                                          | 2921     | SQM |                                                                        |
| 13.9  | 1309  | Providing and applying 2 or more coats of weather paint of Asian make or approved equilent make and color on exterior surface at all heights including material, labour, scaffolding, curing etc complete as per specification.                                                                                                                                                                                                                                                                                                                                              | 54       | SQM |                                                                        |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | QUANTITY |     | Price in percent (%)<br>of total price for<br>each item (in<br>figures & words) |
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| 14.0  | 1400  | FLOORING & SKIRTING INCLUDING ALL MATERIALS, LABOUR, CURING, POLISHING, FINISHING, EXPANSION JOINTS, GROOVES, ETC COMPLETE IN ALL RESPECTS AS SHOWN ON DRAWINGS & DESCRIBED IN SPECIFICATION (CEMENT SHALL BE SUPPLIED BY BHEL FREE OF COST AS PER SCC)                                                                                                                                                                                                                                           |          |     |                                                                                 |
| 14.1  | 1401  | Providing and laying 40 mm thick heavy duty cement concrete flooring with metallic hardener pigmented topping of 12 mm thick uniform graded treated iron particles over underbed of 1 part cement, 1.5 part sand and 3 parts chips (10 mm down, well graded) by volume (only sufficient water added to give workable consistency) in flooring complete as per specification.                                                                                                                      | 15263    | SQM |                                                                                 |
| 14.2  | 1402  | Providing and laying 25 mm thick heavy duty cement concrete flooring with metallic hardener pigmented topping of 10 mm thick uniform graded treated iron particles in skirting and dado over underbed of 1 part cement, 1.5 part sand and 3 parts chips (10 mm down, well graded) by volume complete as per specification.                                                                                                                                                                        | 290      | SQM |                                                                                 |
| 14.3  | 1403  | Providing & fixing chemical resistant (Acid & Alkali) Tiles as per IS 4457 of minimum thickness 20 mm thick in flooring/Dado. The tiles shall be abrasion resistant and durable. The potassium silicate as per IS 4832, 6 mm thick mortar used for setting or for under bed shall be durable strong and chemical resistant epoxy mortar including pointing etc. after laying bitumen primer as per IS 158 and 12 mm thick bitumastic complete as per IS 9510 and IS 412 and as per specification. | 197      | SQM |                                                                                 |
| 14.4  | 1404  | Providing epoxy coating 150 micron over epoxy primer over MS Grating/Chequered plate/any other steel structure complete as per engineer in charge.                                                                                                                                                                                                                                                                                                                                                | 2        | SQM |                                                                                 |
| 14.5  | 1405  | Providing and laying polished Kota stone 16 mm thk in flooring, staircase over minimum 20 mm thick underbed of cement mortar (1 cement :3 sand). The kota stone slabs laid over under-bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, making corners, granite polishing etc. complete.                                              | 74       | SQM |                                                                                 |
| 14.6  | 1406  | Providing and laying polished Kota stone 16 mm thk in flooring laid in pattern with white marble strip 16 mm thick as per approved floor design over minimum 20 mm thick cement mortar (1 cement :3 sand) as underbedded coarse . The kota stone/marble slabs laid over under-bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface                                                                      | 1989     | SQM |                                                                                 |
| 14.7  | 1407  | Providing polished Kota stone 16 mm thk in skirting projecting 6mm from adjacent plaster all complete .                                                                                                                                                                                                                                                                                                                                                                                           | 36       | SQM |                                                                                 |
| 14.8  | 1408  | Providing and laying polished Granite stone of approved color and texture minimum 16 mm thk in flooring over under bed of cement mortar (1 cement : 3 sand) 20mm thick. The granite stone slabs/tiles laid over pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. complete .                                        | 45       | SQM |                                                                                 |
| 14.9  | 1409  | Providing and laying polished Granite stone 16 thk in skirting over under bed of cement mortar (1 cement : 3 sand) 10mm thick, facia and dado including pigments, curing, grinding, granite polishing etc complete.                                                                                                                                                                                                                                                                               | 65       | SQM |                                                                                 |
| 14.10 | 1410  | Providing & laying polished Granite slab 12 thk in skirting, facia and dado including pigments cement plaster 1:3, curing, grinding, granite polishing etc complete.                                                                                                                                                                                                                                                                                                                              | 26       | SQM |                                                                                 |

| SL NO   | ST NO  | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                            | QUANTITY |     | Price in percent (%)<br>of total price for<br>each item (in<br>figures & words) |
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| 14.11   | 1411   | Providing and laying 10 mm thk non-skid fully vitrified tiles of make 'MARBONITE' or 'FERRASTONE of BOSS Profile limited' or equivalent over 30 mm thick underbed of 1 part cement and 3 parts coarse sand by weight mixed with sufficient water, complete as per specification laid in pattern of following sizes.                                                                                                                                                    |          |     |                                                                                 |
| 14.11.1 | i)     | 400x400 mm.                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 266      | SQM |                                                                                 |
| 14.11.2 | ii)    | 600x600 mm.                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 856      | SQM |                                                                                 |
| 14.1    | 1412   | Providing and laying glazed ceramic tiles of approved color and design in dado of approved size of reputed manufacturer topped with 50 mm wide matching ceramic trims, with cement mortar 1:3, complete as per specification including all material, labour etc.                                                                                                                                                                                                       |          |     |                                                                                 |
| 14.12.1 | i)     | 5 mm thick.                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 173      | SQM |                                                                                 |
| 14.12.2 | ii)    | 7 mm thick.                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 189      | SQM |                                                                                 |
| 14.13   | 1413   | Providing and laying granite stone slab of 16 mm thickness single piece for wash basin slab, wall of black or approved colour with making corners, cutting and opening complete.                                                                                                                                                                                                                                                                                       | 18       | SQM |                                                                                 |
| 14.14   | 1414 A | Providing and laying of PVC flooring & skirting of minimum thickness 2 mm anti static flexible tiles as per IS                                                                                                                                                                                                                                                                                                                                                         | 35       | SQM |                                                                                 |
| 14.15   | 1414 B | Providing and laying of PVC flooring & skirting of minimum thickness 3 mm anti static flexible tiles as per IS                                                                                                                                                                                                                                                                                                                                                         | 35       | SQM |                                                                                 |
| 14.16   | 1415   | Providing and laying 12 mm thick cast in situ terrazo finish consisting of marble chips of size 1 mm to 12 mm nominal size laid in white/grey cement or mixture of both in proportion 1:1.5 (1 part cement, 1.5 parts chips) with marble powder 3:1 (3 parts cement, 1 part marble powder) in proportion mix dry in cement including pigments, rubbing, grinding, polishing etc in floors, skirtings, treads, risers and landings complete.                            | 20       | SQM |                                                                                 |
| 14.17   | 1416   | Providing and fixing dividing strips in joints of cast in situ floorings at various elevations, finishing, all labour, material etc. complete as per drawing, specification and instructions of engineer in charge.                                                                                                                                                                                                                                                    |          |     |                                                                                 |
| 14.17.1 | i)     | Glass strips 40 mm wide and minimum 6 mm thick.                                                                                                                                                                                                                                                                                                                                                                                                                        | 1980     | RM  |                                                                                 |
| 14.17.2 | ii)    | Aluminium strips 40 mm wide and minimum 3 mm thick                                                                                                                                                                                                                                                                                                                                                                                                                     | 706      | RM  |                                                                                 |
| 14.17.3 | iii)   | Brass strips 20 mm wide and minimum 4 mm thick.                                                                                                                                                                                                                                                                                                                                                                                                                        | 100      | RM  |                                                                                 |
| 14.18   | 1417   | Providing and laying 50 mm thick anti skid precast interlocking concrete (minimum M25 grade) pavers of approved shape as per the approval of engineer in charge and specifications complete including minimum 40 mm thick sand underbed.                                                                                                                                                                                                                               | 150      | SQM |                                                                                 |
| 14.19   | 1418   | Providing and laying 40 mm thick heavy duty cement concrete flooring with metallic hardener pigmented topping of 12 mm thick uniform graded treated iron particles including non-skid self leveling epoxy (1 mm) in flooring complete as per specification.                                                                                                                                                                                                            | 560      | SQM |                                                                                 |
| 14.20   | 1419   | Providing and laying polished Marble slabs (Aranga white) 20/25 mm thk of size 1500X600 mm in flooring over minimum 20 mm thick underbed of cement mortar (1 cement :3 sand). The marble slabs shall be laid over under-bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. complete. | 263      | SQM |                                                                                 |
| 14.21   | 1420   | Providing polished marble 20 mm thk in skirting projecting 6 mm from adjacent plaster, cement mortar 1:3 all complete .                                                                                                                                                                                                                                                                                                                                                | 5        | SQM |                                                                                 |

| SL NO   | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | QUANTITY |     | Price in percent (%) of total price for each item (in figures & words) |
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| 14.22   | 1421A | Providing and laying polished Marble slabs (Aranga white) 20 mm thk in staircase landing/skirting and corridors over minimum 20 mm thick underbed of cement mortar (1 cement :3 sand). The marble slabs shall be laid over under-bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, making corners, granite polishing etc. complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 35       | SQM |                                                                        |
| 14.23   | 1421B | Providing and laying Heavy Duty dust pressed Ceramic Tiles in floors of size 300x300x7mm thick of reputed manufacturer over 20 mm thick cement plaster 1:3 bed mortar, of approved finish shade and colour.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 25       | SQM |                                                                        |
| 14.24   | 1422  | Providing & fixing removable type flooring system consisting of fire resistant particle board of size 600x600x35mm with 0.05 mm thick aluminium foil lining at bottom & with 2mm thick anti static PVC topping including proprietary floor supporting system complete as per spec.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |     |                                                                        |
| 14.24.1 | a     | upto 600mm high                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 47       | SQM |                                                                        |
| 14.24.2 | b     | from 601mm to 800mm high                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 10       | SQM |                                                                        |
| 14.24.3 | c     | from 801 to 1000mm high                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 10       | SQM |                                                                        |
| 14.25   | 1426  | Providing and laying non-woven type carpet (unitex or equivalent) which shall be laid as manufacturers recommendations in matching grains including anti fungus and anti termite treatment complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 100      | SQM |                                                                        |
| 15.0    | 1500  | PROVIDING AND ERECTING ROOFING/SIDE CLADDING INCLUDING FLASHINGS (NO SEPERATE PAYMENT SHALL BE PAID FOR FLASHINGS), LAPS, SCAFFOLDING HOOKS, WASHERS, CORNER PIECES, ETC. COST OF ALL MATERIAL, LABOUR, EQUIPMENT, CLEATS, SHEETING RUNNER, RAILS MILD STEEL WIND TIES (HORIZONTAL/VERTICAL) AND ANY OTHER STEEL WORKS ETC. COMPLETE FOR THE FOLLOWING:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |     |                                                                        |
| 15.1    | 1501  | Designing, providing & fixing permanently color coated galvanised MS troughed metal sheet decking plate as per IS:513 over roof purlins as per relevant IS code & spec. Thickness of deck plate shall be min 0.8mm (base metal excluding coating), with min trough depth of 44 mm, with min yeild strength of 240Mpa and shall serve as permanent shuttering to the cast-in-situ roof slab 100mm thick measured over crest of metal decking & shall have adequate strength to support weight of green concrete, imposed loads & construction loads over a span of around 1800mm between purlins as per manufacturer's recommendations/ calculations/ test certificates for approval including fixing of plates to purlins, side lapping, end lapping etc complete as per engineers approval & spec. The sheet shall be permanently coated with silicon modified polyster paint of minimum 20 micron DFT on exposed surface (facing operating floor) and minimum 7 micron on other face over epoxy primer applied over hot dipped galvanising as per IS:277 at the rate of 275 gm/ sqm including fixing of sheet to purlin with self tapping self drilling white zinc plated heat treated high carbon steel screws of min 5.5 mm dia @ 260mm c/c in the trough & stich screwss between two adjacent sheets & sealing with epoxy sealant (height of trough required as per design should be included in the cost). Measurement shall be of the plan area of roof covered by MS trough metal decking.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%. | 5439     | SQM |                                                                        |

| SL NO | ST NO  | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | QUANTITY |     | Price in percent (%)<br>of total price for<br>each item (in<br>figures & words) |
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| 15.2  | 1502   | Designing, providing and fixing permanently color coated galvanized M.S. trough metal sheet roofing of approved profile and color over roof purlins as per IS 14246. Thickness of deck plate shall be minimum 0.6 mm and minimum trough depth of 38 mm and minimum yield strength of 250 Mpa. Silicon modified polyester paint shall be used for coating over galvanized surface with minimum rate of galvanization 275 gm/sqm. Outer side should have permanent color coating of minimum DFT 20 microns over primer and inner side shall be coated with silicon polyester paint of minimum DFT 12 microns.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 435      | SQM |                                                                                 |
| 15.3  | 1502 A | Providing and fixing self tapping self drilling shear connectors of 16mm dia and minimum 75 mm projected length above purlin of mild steel studs passing through metal decking as per relevant IS codes and specification.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 10       | QTL |                                                                                 |
| 15.4  | 1503   | Design, supply & erection of permanent colour coated thermally insulated double skin sandwichted metal cladding of approved color for external walls comprising of profiled external sheet of 0.55 mm TCT (total coated thickness) permanently color coated zincalume steel (150 gsm Zinc - aluminium alloy coating) having 300 Mpa yield strength with color coating of SMP/ super polyester XRW. The inner sheeting of 0.6 mm TCT of SMP/ super polyester XRW coated zincalume steel 150 gsm having 550 Mpa yield strength or 180 gsm galvanised of 240 Mpa including color coating of 20 microns finish coat over a 5 micron primer coat on the exposed side & a back coat of 5 micron over a primer coat of 5 micron on reverse side (on both external & internal sheet). External sheet having 500 mm cover width, 47 mm high crests at 250 mm c/c with special male/ female side laps & siphoning feature to prevent leakage & inner sheet having 980 mm cover width, 28 mm high crest at 195 mm c/c with special male/ female side laps & siphoning feature to prevent leakage including fixing of inner sheet to the structure by self drilling fasteners & concealed clips<br>(including sub-girts of size 50x50x50 mm manufactured out of 16G GI 'Z' shape) to connect external sheet (without penetrating the external sheet) & including an insulation of 50 mm thick rockwool (Rockloyd-300 or equivalent) of density 48 KG/cum conforming to IS 8183 between the two sheets including flashings complete as per spec (structural steel required for internal bracings, ties & strengthening of claddings will be supplied by BHEL as per SCC and payment to be made as per item-2301).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%. | 3293     | SQM |                                                                                 |
| 15.5  | 1504   | Design, supply & erection of permanent colour coated single skin metal cladding (external sheet) of approved color for external walls comprising of profiled sheet of 0.55 mm TCT (Total Coated Thickness) permanently color coated zincalume steel (150 gsm Zinc - aluminium alloy coating) having 300 Mpa yield strength with color coating of SMP/super polyester XRW including color coating of 20 microns finish coat over a 5 micron primer coat on the exposed side and a back coat of 5 micron over a primer coat of 5 micron on the reverse side. The sheet having 500 mm cover width, 47 mm high crests at 250 mm c/c with special male/female side laps and siphoning feature to prevent leakage including fixing of sheet by concealed clips (including sub-girts of size 50X50X50 mm manufactured out of 16G GI 'Z' shape, without penetrating the external sheet) complete including flashings as per specification. (Structural Steel required for internal bracings, ties and strengthening of claddings will be supplied by BHEL as per SCC and payment to be made as per item-2301).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 6115     | SQM |                                                                                 |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | QUANTITY |     | Price in percent (%) of total price for each item (in figures & words) |
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| 15.6  | 1505  | Design, supply & erection of permanent colour coated single skin metal cladding (internal sheet) of approved color comprising of 0.6 mm TCT of SMP/super polyester XRW coated socalume steel 150 gsm having 550 Mpa yield strength or 180 gsm galvanised of 240 Mpa including color coating of 20 microns finish coat over a 5 micron primer coat on the exposed side and a back coat of 5 micron over a primer coat of 5 micron on the reverse side. The sheet having 980 mm cover width, 28 mm high crest at 195 mm c/c with special male/female side laps and siphoning feature to prevent leakage including fixing of sheet to the structure by self drilling fasteners complete including flashings as per specification. (Structural Steel required for internal bracings, ties and strengthening of claddings will be supplied by BHEL as per SCC and payment to be made as per item-2301).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%. | 822      | SQM |                                                                        |
| 15.7  | 1506  | Providing & fixing 50 mm thick insulation of rockwool (rockloyd-300 or equivalent) of density 48 KG/cum conforming to IS 8183 including wrapping in black polythene black supported over weld mesh 75x75x1.6mm dia to hold in position as per manufacturers recommendations, all labour, material, scaffolding, equipment etc all complete as per spec, drg & instructions of engineer in charge.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 822      | SQM |                                                                        |
| 15.8  | 1507  | Providing and fixing insulation of resin bonded mineral wool of specified thickness (25/50 mm nominal) conforming to IS 8183 having a density of 32 kg/cum glass wool or 48 kg/cum for rock wool, for under deck insulation including application of glue and tying with lacing wire, for glass/rock wool as per manufacturers recommendations, all labour, material, scaffolding, equipment etc all complete as per specification, drawing and instructions of engineer in charge.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                | 55       | CUM |                                                                        |
| 15.9  | 1508  | Providing and installing under deck insulation using minimum 0.05 mm thick aluminium foil on exposed surface followed by 0.56 mm dia and 25 mm mesh GI wire netting, fixed at various elevations with rawl plugs including clips, all labour, material, scaffolding, equipment etc (but excluding cost of insulation) all compete as per specification, drawing and instructions of engineer in charge.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 956      | SQM |                                                                        |
| 15.10 | 1509  | Providing and fixing non metal opaque PVC sheet heavy duty similar to ONDEX roofing or equivalent including all fixing accessories, labour material, scaffolding etc all complete as per specification, drawing and instructions of engineer in charge.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 150      | SQM |                                                                        |
| 16.0  | 1600  | PROVIDING AND FIXING FALSE CEILING INCLUDING SUPPLY OF CEILING MATERIAL, WORKING LAYOUT DRAWINGS AND DETAILS, SUSPENSION SYSTEM AND ALL OTHER MATERIALS REQUIRED FOR THE WORK INCLUDING MAKING RECESS FOR LIGHT FIXTURES, ALUMINIUM DIFUSERS, FIRE ALARMS ETC., POLISHING/PAINTINGS, LABOUR ETC., ALL COMPLETE AS PER SPECIFICATION.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |     |                                                                        |
| 16.1  | 1601  | Providing and fixing glass reinforced gypsum (GRG) ceiling system consisting of supporting grid system forming panels of specified size, suspended from RCC slab/structural steel or catwalkway grid above with 4 mm (minimum) galvanised wires (rods) with special height adjustment clips, including preperation of working drawing, providing openings for AC ducts, return air grills, light fixtures etc (but excluding the cost of catwalkway grid) all complete as per drawings, specification and instructions of the engineer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |     |                                                                        |

| SL NO  | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | QUANTITY |     | Price in percent (%) of total price for each item (in figures & words) |
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| 16.1.1 | i)    | 12 mm thick GRG board with galvanised light gauge steel load bearing supporting GI frame & finished flat.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 33       | SQM |                                                                        |
| 16.1.2 | ii)   | 12 mm thick GRG board in profile (dome etc.) with galvanised light gauge steel load bearing supporting GI frame and finished flat.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 17       | SQM |                                                                        |
| 16.1.3 | iii)  | 12 mm thick GRG board in tile of 600mmX600mm with double web design, galvanised steel with prepainted steel capping of approved shade and color, supporting Tee frame (24mmX38mm).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 15       | SQM |                                                                        |
| 16.2   | 1602  | Providing, fixing and laying permanently colour coated aluminium false ceiling of approved colour with stove enamel finish and Luxalon of Hunter Douglas make or equivalent with corrosion resistance aluminium alloys panels of minimum thickness 0.5mm including 50mm thick mineral wool insulation (as per IS:8183) bound in polythene bags on top of panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 75) grid 1200 c/c maximum shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. The work to be complete as per specifications, drawings and direction of engineer (suitable structural platform grid made up of MS channel/ beam/ angle shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance (materials for structural platform grid made up of MS channels/ beams/ angles shall be supplied by BHEL and shall be paid under ST NO 2301).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%. | 1147     | SQM |                                                                        |
| 16.3   | 1603  | Providing, fixing and laying anodised natural colour matt finished aluminium false ceiling of Indal make or equivalent with corrosion resistance aluminium alloys panels of minimum thickness 0.5mm including 50mm thick mineral wool insulation (as per IS:8183) bound in polythene bags on top of panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. AC ducts etc. suitable MS channel (minimum MC 75) grid shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc (suitable structural platform grid made up of MS channel/ beam/ angle shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance (materials for structural platform grid made up of MS channels/ beams/ angles shall be supplied by BHEL and shall be paid under ST NO 2301)                                                                                                                                                                                                                                                                         | 18       | SQM |                                                                        |
| 16.4   | 1604  | Special purpose partition manufactured by Anutone Acoustic Ltd or equivalent having rigid framework consisting of GI studs of adequate size @600mm c/c and floor ceiling and intermediate channels to provide a wall system capable of supporting wall hung C.C.T.V. at different locations. The framing system shall be integrated with independent floor supported structural framework of digital display board. The front side of the frame shall have Excelsior Acoustical Panels-Elega finish-2400/1200X600X19 mm thick FABRICO Sound Soak- Plane Texture of approved colour. The rear side of the partition shall have Excelsior Acoustical Panels-Elega finish-specially Sound Smart-Burl of size 2400/1200 X600X19 mm thick smooth finished with gypsum plaster and finished with acrylic paint. The entire wall to have Class I fire rating as per BS code. The entire partition wall to have concealed framing system and to have monolithic fabric finish of approved colour or composition of two different colour as per approved design to entire exposed surface including door panels on control room side. The work to be complete as per specification.                                                | 51       | SQM |                                                                        |
| 17.0   | 1700  | PROVIDING AND FIXING RAIN WATER DOWN TAKE PIPES INCLUDING 2 COATS OF APPROVED PAINT OVER A PRIMARY COAT, ALL SPECIALS AND ACCESSORIES ETC. COMPLETE AS PER SPECIFICATION.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |     |                                                                        |

| SL NO  | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                    | QUANTITY |     | Price in percent (%)<br>of total price for<br>each item (in<br>figures & words) |
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| 17.1   | 1701  | GI down take pipes conforming to IS1239/IS3589 as per specification of following dia.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                |          |     |                                                                                 |
| 17.1.1 | i)    | 100 mm dia                                                                                                                                                                                                                                                                                                                                                                                     | 166      | RM  |                                                                                 |
| 17.1.2 | ii)   | 150 mm dia                                                                                                                                                                                                                                                                                                                                                                                     | 1256     | RM  |                                                                                 |
| 17.1.3 | iii)  | 200 mm dia                                                                                                                                                                                                                                                                                                                                                                                     | 452      | RM  |                                                                                 |
| 18.0   | 1800  | MISCELLANEOUS 1                                                                                                                                                                                                                                                                                                                                                                                |          |     |                                                                                 |
| 18.1   | 1801  | Providing and fixing PVC water stops 225mm wide, 6 mm thick.                                                                                                                                                                                                                                                                                                                                   | 88       | RM  |                                                                                 |
| 18.2   | 1802  | Supplying and installation of 25mm thick vibration damping, resilient pads RESISTOFLEX or equivalent around foundation of vibrating equipment and other locations as directed by the Engineer-in-charge including cost of all materials labour equipment etc. complete as per drawing and specifications.                                                                                      | 18       | SQM |                                                                                 |
| 18.3   | 1803  | Providing 50mm thick premix carpet surfacing laid to slope in two layers 30mm and 20mm respectively with 12mm and down broken stone chips mixed with 80/100 grade bitumen @ 52 Kg/Cu.M including compaction and cost of all material, labour all complete as per specification and as directed by the Engineer.                                                                                | 150      | SQM |                                                                                 |
| 18.4   | 1804  | Providing 50mm thick anticorrosive layer laid to slope consisting of compacted crushed stone screenings, fine gravel, clean sand or similar material as directed by the Engineer, mixed in hot asphalt 10% by volume and rolled or compacted complete as per drawings and specifications, below fuel oil tanks and at such other places as per specifications and as directed by the Engineer. | 150      | SQM |                                                                                 |
| 18.5   | 1805  | Providing and fixing aluminium strips minimum 18 SWG thk and 300mm wide over expansion joints with minimum lap of 50mm length including aluminium screws, rawl plugs all complete as per specification.                                                                                                                                                                                        | 18       | RM  |                                                                                 |
| 18.6   | 1806  | Providing, laying and fixing transformer rails including guide rails in concrete including joining of rails. Anchoring lugs etc. complete as per specification. (Vendor to supply all materials).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                    | 29       | MT  |                                                                                 |
| 18.7   | 1807  | Providing and fixing weep holes in Drains consisting of 100 mm dia LDPE pipe sleeves along with single side covering for the pipe mouth with galvanised welded wire fabric of 20 mm sq. opening along with 300 X 300 mm sq., 300 mm deep, 40 mm aggregates to cover fabric mesh mouth complete as directed by engineer in charge.                                                              | 150      | NO  |                                                                                 |
| 18.8   | 1808  | Laying of earthing mats/rods including transportation from yard stores, loading, unloading, cutting to length, welding etc. complete as per specification and as directed by Engineer-in-charge. (Earthing MS Round shall be supplied by BHEL free of cost as per SCC)                                                                                                                         | 45       | MT  |                                                                                 |

| SL NO   | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | QUANTITY |     | Price in percent (%)<br>of total price for<br>each item (in<br>figures & words) |
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| 18.9    | 1809  | Design, supply, fabrication, erection of stoplog gates in CW pumps as per spec with embedments required, lifting beams, special tools & plants, spare parts for 3 years, machining, casting, all materials such as structural steel, cast steel, stainless steel, brass used for seals, rubber seals, gears, ball & roller bearing, branch bushings, greasing, bolts, nuts, lugs, threaded fastners etc, cleaning, sand blasting, cold galvanisation (application of EPILUX-4 of Berger or equivalent zinc rich primer - 63992 with catalyst-635901 followed by one coat of black EPILUX-5 CTE -65580 with catalyst 655921 & 2nd coat after final erection having min total paint thickness of 80 microns), along with a second stage concreting to true plumb & levels, submission of drgs/ fabrication drgs for engrs approval etc, all complete as per spec & appvd drgs. The leakage through rubber seal shall not be more than 5 lit/ min/ mtr length of seal under max head (only weight of structural steel including embedments shall be considered for payment purpose) (Vendor to supply all materials).<br><br>Payment terms - a. Design & engg - 4%; b. On fab, inspection & receipt of materials at site - 60%; c. On completion of ern & fixing - 26%; d. On testing - 10%. | 174      | MT  |                                                                                 |
| 18.10   | 1810  | Supplying, fabricating, erecting in position and testing / examining bolted and / or welded structural steel work at all levels for stationary screens made out of rolled sections and / or plates including cutting, straightening if required, edge preparation, bolting / welding of joints, cleaning, sand blasting, cold galvanisation (application of EPILUX-4 of Berger or equivalent zinc rich primer - 63992 with catalyst-635901 followed by one coat of black EPILUX-5 CTE -65580 with catalyst 655921 and second coat after final erection having minimum total paint thickness of 80 microns), complete as per drawing and directed. (Vendor to supply all materials).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 16       | MT  |                                                                                 |
| 18.11   | 1811  | Providing and fixing GI rungs in concrete/brick walls at all elevations including zinc coating of minimum 900 g/sqm all complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 234      | KG  |                                                                                 |
| 18.12   | 1812  | Providing and fixing PVC pressure release valve of minimum dia 90mm in water retaining structure including 160 mm dia housing pipe of minimum length 3.75 m with perforation as per IS4558, nylon jali, perforated end plug, collar, graded filter, excavation, fixing in concrete slab/wall all complete as per specification, drawing and instruction of engineer in charge.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 130      | NO  |                                                                                 |
| 18.13   | 1813  | Providing and fixing LDPE pipes in cable duct banks, openings in RCC work at all elevations of following sizes including cutting, fixing and levelling in position as per drawings, specifications all complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |     |                                                                                 |
| 18.13.1 |       | i) 100 mm dia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 170      | RM  |                                                                                 |
| 18.13.2 |       | ii) 150 mm dia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 140      | RM  |                                                                                 |
| 18.13.3 |       | iii) 200 mm dia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 140      | RM  |                                                                                 |
| 18.14   | 1814  | Providing & laying Bentonite Powder (Sodium base) mixed with water in electronic earthing pit as per drawing & direction below ground level including all materials, transportation, labour, incidental etc. all complete as per specification.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 80       | CUM |                                                                                 |
| 19.0    | 2000  | FENCING AND GATES.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |     |                                                                                 |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | QUANTITY |     | Price in percent (%)<br>of total price for<br>each item (in<br>figures & words) |
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| 19.1  | 2001  | Supplying and erecting in position 2.4 m high PVC coated gavanised chain linked fencing of minimum 8 gauge (including PVC coating ) of mesh size 75 mm and galvanised concertina. The diameter of the steel wire for chain link fencing excluding PVC coating shall not be less than 12 gauge. GI barbed wire fencing confirming to IS 298 at top of chain link fencing shall be provided with 4 stands of height of 600 mm including all accesories as per specification all complete.<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                   | 594      | SQM |                                                                                 |
| 19.2  | 2002  | Supplying and fixing 1.8 m high fencing with angle iron 50x50x6 mm / 65x65x8 mm angle post placed at every 2 meter / 2.5 meter centre to centre, embedded in cement concrete blocks (1part cement:2 part sand:4 part 20mm graded stone aggregates), provided with horizontal lines and two diagonals interwoven with horizontal wires, of G.I. barbed wire 9.38 Kg per 100 meter (minimum) between the two post fitted and fixed with GI staples, turn buckles etc. complete. {payment of structural item viz.angle post and struts etc. ( as per item ST no. 2301) , earthwork , concrete work, filling work will be paid separately as per respective BOQ item}. {payment for this item shall be made as per total running meter length of GI barbed wire provided in the works}. | 13402    | MTR |                                                                                 |
| 19.3  | 2003  | Supply, fabrication and installing in position and testing galvanised MS Gates out of channels, joists, angles, flats, plates, pipes & sheets including stiffners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, ball bearing arrangements, castor wheels, anti corrosive synthetic enamel painting over two coats of primer etc. all complete as per drawing, specification and as directed by Engineer-in-charge with 600mm high GI barbed wire fencing at top all complete. (All Steel to be supplied by Vendor)                                                                                                                                                                                                | 2        | MT  |                                                                                 |
| 20.0  | 2100  | WATER SUPPLY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |     |                                                                                 |
| 20.1  | 2101  | Providing & fixing in position tested heavy duty type chromium plated brass long neck bib cocks including sockets, union, nut etc. complete 15mm nominal bore.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 47       | NO  |                                                                                 |
| 20.2  | 2102  | Providing and fixing in position heavy duty brass stop cock of approved quality including all specials etc. complete as directed by Engineer 15mm nominal bore.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 21       | NO  |                                                                                 |
| 20.3  | 2103  | Providing and fixing in position heavy duty brass full way valve with wheel of approved quality 25mm nominal bore.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 8        | NO  |                                                                                 |
| 20.4  | 2104  | Providing and fixing in position heavy duty brass full way valve with wheel of approved quality 50mm nominal bore.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 5        | NO  |                                                                                 |
| 20.5  | 2105  | Providing & fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc and clamps including cutting and making good the walls etc complete (internal work) 15 mm nominal bore.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 107      | RM  |                                                                                 |
| 20.6  | 2106  | Providing & fixing GI pipes of class B-Medium complete with GI fittings a clamps including cutting and making good the walls etc. complete (internal work) 20 mm nominal bore.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 90       | RM  |                                                                                 |
| 20.7  | 2107  | Providing and fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc. and clamps including cutting and making good the walls etc.complete (internal work) 25 mm nominal bore (N.B).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 90       | RM  |                                                                                 |
| 20.8  | 2108  | Providing and fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc. complete (external work) 15mm nominal bore (N.B).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 50       | RM  |                                                                                 |

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| 20.9    | 2109  | Providing and fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc.complete (external work) 20mm nominal bore (N.B).                                                                                                                                                                                                                                                                              | 50       | RM |                                                                                 |
| 20.10   | 2110  | Providing and fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc.complete (external work) 25mm nominal bore (N.B).                                                                                                                                                                                                                                                                              | 50       | RM |                                                                                 |
| 20.11   | 2111  | Providing and fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc.complete (external work) 50mm nominal bore (N.B).                                                                                                                                                                                                                                                                              | 50       | RM |                                                                                 |
| 20.12   | 2112  | Providing and fixing 610mmx453mmx6mm thk mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets etc. complete with CP screws as per specification.                                                                                                                                                                                                                                                                                             | 45       | NO |                                                                                 |
| 20.13   | 2113  | Providing & fixing 610mmx127mmx6mm thk clearglass with CP guard rails and mounted on CP brackets etc complete as per spec.                                                                                                                                                                                                                                                                                                                                                                           | 45       | NO |                                                                                 |
| 20.14   | 2114  | Providing & fixing 20mm dia chromium plated MS pipes wall mounted towel rod with CP brackets etc all complete as per spec.                                                                                                                                                                                                                                                                                                                                                                           | 12       | NO |                                                                                 |
| 20.15   | 2115  | Providing and fixing C.P. soap holder mounted with C.P. screws etc.complete as per specification.                                                                                                                                                                                                                                                                                                                                                                                                    | 45       | NO |                                                                                 |
| 20.16   | 2116  | Providing and fixing C.P. liquid soap dispenser. Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on C.P. brackets etc.complete as per specification.                                                                                                                                                                                                                                                                                                        | 45       | NO |                                                                                 |
| 20.17   | 2117  | Providing & fixing glazed vitreous wall mounted paper holder with suitable cover cum cutter fitted with CP screws etc complete as per specification                                                                                                                                                                                                                                                                                                                                                  | 20       | NO |                                                                                 |
| 20.18   | 2118  | Providing and fixing chromium plated brass shower rose with 15 or 20 mm inlet all complete.                                                                                                                                                                                                                                                                                                                                                                                                          | 8        | NO |                                                                                 |
| 20.19   | 2119  | Providing & fixing P.V.C. water tank (Syntex or equivalent) in position. The work to including making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc. all complete as per specification at all heights and levels                                                                                                                                                                                                                                                               |          |    |                                                                                 |
| 20.19.1 | i)    | 2000 Litre capacity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2        | NO |                                                                                 |
| 20.19.2 | ii)   | 5000 Litre capacity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1        | NO |                                                                                 |
| 20.20   | 2120  | Providing & fixing approved stainless steel sink with integrated drainboard complete including painting the fittings, cutting and making good the wall where required as per specification.The work to be complete as per                                                                                                                                                                                                                                                                            | 1        | NO |                                                                                 |
| 21.0    | 2200  | SANITARY WORKS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |    |                                                                                 |
| 21.1    | 2201  | Supply and fixing vitreous china wash basin (white / light coloured) size 600x450 with R.S. or C.I. brackets painted white, 15mm chromium plated brass hot & cold faucets with nylon washers, chromium plated brass chain with rubber plug 32mm chromium plated brass bottle trap and waste of standard pattern, 32mm dia chromium plated brass trap unions, plastic connection pipe with chromium plated nuts, cutting and making good the walls where required etc. complete as per specifications | 45       | NO |                                                                                 |
| 21.2    | 2202  | Providing and fixing approved vitreous china acid/alkali resistant laboratory sink of size 600x450x200mm with R.S. or C.I. brackets, chromium plated brass chain with rubber plug 40mm, CP brass waste and 40mm CP brass bottle trap with necessaary union complete including painting the fittings, cutting and making good the wall where required as per specification.                                                                                                                           | 1        | NO |                                                                                 |

| SL NO   | ST NO  | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                   | QUANTITY |    | Price in percent (%) of total price for each item (in figures & words) |
|---------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----|------------------------------------------------------------------------|
| 21.3    | 2203   | Providing and fixing colour European type water closet (white / light coloured) with siphon, open front solid plastic seat and plastic cover, low level 12.5 litre glazed stone water flushing cistern with valveless fittings, necessary C.P connections etc. complete as per specification.                                                                 | 8        | NO |                                                                        |
| 21.4    | 2204   | Providing and fixing glazed vitreous china pan (white / light coloured) with foot rests and high level 12.5 litre C.I flushing cistern with valveless fittings, necessary C.P connections, foot rests shall be made of white glazed vitreous china with chequered surface allcomplete with cistern painting, C.I brackets etc. as per specification.          | 26       | NO |                                                                        |
| 21.5    | 2205   | Providing and fixing wall type glazed vitreous china sensor type (white / light coloured) urinals with flush pipes, sensors, lead pipes, gratings, CP bottle traps and necessary C.P fittings all complete as per specifications.                                                                                                                             | 30       | NO |                                                                        |
| 21.6    | 2206   | Supply, laying and jointing 75mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, lead cocking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.                                                    | 92       | RM |                                                                        |
| 21.7    | 2207   | Supply, laying and jointing 100mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, lead caulking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.                                                  | 92       | RM |                                                                        |
| 21.8    | 2208   | Supply, laying and jointing 150mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, a coat of bitumenous paint, M.S holder bats/clam lead caulking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications. | 40       | RM |                                                                        |
| 21.9    | 2209   | Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. as per specifications for dia:                                                                                                                                                                    |          |    |                                                                        |
| 21.9.1  | i)     | 300mm                                                                                                                                                                                                                                                                                                                                                         | 10       | RM |                                                                        |
| 21.9.2  | ii)    | 400mm                                                                                                                                                                                                                                                                                                                                                         | 16       | RM |                                                                        |
| 21.9.3  | iii)   | 600mm                                                                                                                                                                                                                                                                                                                                                         | 20       | RM |                                                                        |
| 21.9.4  | iv)    | 800mm                                                                                                                                                                                                                                                                                                                                                         | 20       | RM |                                                                        |
| 21.9.5  | iv)    | 1000mm                                                                                                                                                                                                                                                                                                                                                        | 20       | RM |                                                                        |
| 21.10   | 2210   | Providing, laying light duty non pressure NP2 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. as per specifications for dia:                                                                                                                                                                    |          |    |                                                                        |
| 21.10.1 | i)     | 150mm                                                                                                                                                                                                                                                                                                                                                         | 35       | RM |                                                                        |
| 21.10.2 | ii)    | 250mm                                                                                                                                                                                                                                                                                                                                                         | 35       | RM |                                                                        |
| 21.10.3 | iii)   | 300mm                                                                                                                                                                                                                                                                                                                                                         | 18       | RM |                                                                        |
| 21.10.4 | iv)    | 400mm                                                                                                                                                                                                                                                                                                                                                         | 7        | RM |                                                                        |
| 21.10.5 | v)     | 500mm                                                                                                                                                                                                                                                                                                                                                         | 3        | RM |                                                                        |
| 21.10.6 | vi)    | 600mm                                                                                                                                                                                                                                                                                                                                                         | 3        | RM |                                                                        |
| 21.10.7 | vii)   | 750mm                                                                                                                                                                                                                                                                                                                                                         | 3        | RM |                                                                        |
| 21.11   | 2210 A | Providing, laying light duty non pressure NP4 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. as per specifications for dia:                                                                                                                                                                    |          |    |                                                                        |
| 21.11.1 | i)     | 300mm                                                                                                                                                                                                                                                                                                                                                         | 5        | RM |                                                                        |
| 21.11.2 | ii)    | 500mm                                                                                                                                                                                                                                                                                                                                                         | 5        | RM |                                                                        |

| SL NO   | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | QUANTITY |    | Price in percent (%)<br>of total price for<br>each item (in<br>figures & words) |
|---------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----|---------------------------------------------------------------------------------|
| 21.11.3 | iii)  | 600mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 5        | RM |                                                                                 |
| 21.11.4 | iv)   | 900mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 5        | RM |                                                                                 |
| 21.12   | 2211  | Providing and fixing C.I. Heavy duty Manhole cover of size 600mmx450mm including frame from reputed manufacture all complete as per specifications.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 6        | NO |                                                                                 |
| 21.13   | 2212  | Providing and fixing circular heavy duty man hole cover of 600mm dia with frame all complete as per specification.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1        | NO |                                                                                 |
| 21.14   | 2213  | Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside) the weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg as per drawing and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 5        | NO |                                                                                 |
| 21.15   | 2214  | Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside) the weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg as per drawing and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1        | NO |                                                                                 |
| 21.16   | 2215  | Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside) the weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg as per drawing and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 5        | NO |                                                                                 |
| 21.17   | 2216  | Providing and fixing C.I. floor traps with C.P jalli complete as per specification.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 49       | NO |                                                                                 |
| 21.18   | 2217  | Providing and installing approved brand single tap water cooler of 80 L cooling capacity complete in all respect.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 5        | NO |                                                                                 |
| 21.19   | 2218  | Providing and installing approved brand single tap water cooler of 150 L cooling capacity complete in all respect.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3        | NO |                                                                                 |
| 21.20   | 2219  | Providing and fixing white vitreous urinal partitions all complete as per specification.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 22       | NO |                                                                                 |
| 22.0    | 2300  | STRUCTURAL STEEL WORKS (STRUCTURAL STEEL, GI/MS PIPES for HAND RAIL, CHEQUERED PLATES, STAIN LESS STEEL LINER SHALL BE SUPPLIED BY BHEL FREE OF COST AS PER SCC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |    |                                                                                 |
| 22.1    | 2301  | Fabrication, erection, alignment, welding, primer painting (primer coat consisting of 2 coats of redoxide zinc-chromate as per IS:2074 & IS:1477 (Parts I & II). One coat to be applied at shop and the other after erection of structural steel made from mild steel conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052 and mild steel rounds, at all elevations involving rolled sections (including mild steel rounds), built up sections fabricated out of plates, rolled sections & combination of plates & rolled sections, in columns, beams, gantry girders, bunkers, silos, hoppers, roof trusses, gratings, portals, laced purlins, space frames, shear connectors, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking & seal plates, diaphragm, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails (GI & MS), toeplate, MS rung, insert plate, edge angle, embedment, lug, post, stay, louver, lacing, gusset plates, etc, collection of | 9459     | MT |                                                                                 |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | QUANTITY |    | Price in percent (%) of total price for each item (in figures & words) |
|-------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----|------------------------------------------------------------------------|
|       |       | steel from stores, transportation, straightening, making cutting plan, cutting, bending, rolling, grinding, drilling, bolting, erection bolts & nuts (weight erection bolts & nuts not payable, supply of permanent bolt of grade C mild steel bolts & nuts to be paid separately under ST NO 2309 (i)), assembly, edge preparation, preheating (min preheat & interpass temperature of 66 deg centigrade for welding over 40 mm and upto 63 mm & 110 deg centigrade for thickness over 63 mm) & use of low hydrogen/ radiogenic electrodes as per spec, post heating, testing of welders, inspection of welds, visual inspection, non destructive & special testing, rectification & correction of defective welding works, production test plate, inspection & testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures (scaffolding, access ladders, working platforms etc), setting column bases, surface preparation by means of manual or mechanical power tools as per IS:1477 part 1, touch-up painting, dismantling & removal of all temporary structures (weight of temporary structure not payable) complete with all labour, material, electrodes and other consumables, equipment, testing (mechanical and non- destructive), preparation of fabrication drawings, joint design calculations and all other general and special requirements including appointment of a separate agency, approved by BHEL, for review and approval of fabrication drawings, in consultation with BHEL, prepared by the bidder and all other activities required for completion of the work including return of surplus/ waste steel materials to store etc. as per specification, drawings and instructions of the Engineer. Approval of fabrication drawings does not relieve the bidder from the responsibility of its correctness and accuracy. (Steel as per SCC will be supplied by BHEL free of cost).<br>Payments terms - a. Fabrication - 65%; b. Erection - 25%; c. Alignment - 10%. |          |    |                                                                        |
| 22.2  | 2302  | Extra over ST NO 2301 for blast cleaning of steel structures to near white metal surface(Sa 2 1/2 ) and applying epoxy based zinc phosphate primer in coats of minimum 25 micron (DFT) at shop and 25 micron (DFT) after erection, instead of primer coat of red oxide zinc-chromate, including touch-up painting etc complete as per specification.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 20       | MT |                                                                        |
| 22.3  | 2303  | Extra over ST NO 2301 for providing and application of two coats of primer consisting of chemical resistant epoxy resin and hardener (Minimum 1 Kg of primer mix shall be consumed for priming of 4 to 5 m2 area of surface) instead of primer coat of red oxide zinc-chromate, including touch up painting as per specification and instruction of the Engineer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 20       | MT |                                                                        |
| 22.4  | 2304  | Providing & application of synthetic enamel paint of Berger or approved equivalent make and colour in two coats of minimum 50 micron total thickness (DFT) already having primer coats (as per ST NO. 2301) at all elevations to achieve an even shade with all materials, labour, equipment, handling, including protection and cleaning, scaffolding etc. complete as per specification, drawings and instructions of the Engineer.(Total thickness (DFT) including primer shall not be less than 110 micron.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 5528     | MT |                                                                        |
| 22.5  | 2305  | Providing & application of epoxy based colour finish paint in two coats with minimum 50 micron total thickness (DFT) of approved make and shade over steel sections already having primer coats (as per ST NO. 2302) at all elevations to achieve an even shade with all materials, labour, equipment, handling including protection and cleaning, scaffolding etc. complete as per specification, drawings and instruction of the Engineer.(Total thickness (DFT) including primer shall not be less than 100 micron.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 20       | MT |                                                                        |

| SL NO | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | QUANTITY |     | Price in percent (%) of total price for each item (in figures & words) |
|-------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----|------------------------------------------------------------------------|
| 22.6  | 2306  | Providing & application of anti corrosive synthetic enamel paint of Berger or approved equivalent make and colour in two coats of minimum 50 micron total thickness (DFT) already having primer coats (as per ST NO. 2301) at all elevations to achieve an even shade with all materials, labour, equipment, handling, including protection and cleaning, scaffolding etc. complete as per specification, drawings and instructions of the Engineer.(Total thickness (DFT) including primer shall not be less than 110 micron).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3289     | MT  |                                                                        |
| 22.7  | 2307A | Supplying, fabrication , transportation, erection and alignment of factory made electroforged galvanised gratings of steel (having minimum galvanisation of 610 g/sqm) conforming to IS:2062 at all elevations including preparation of design drawings and fabrication drawings in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads, fixing clamps etc. complete with other fittings and fixtures including all taxes, duties, transportation, packing, grinding, drilling, bolting (supply of permanent grade `C' mild steel bolts and nuts to be paid separately under ST NO. 2309 (i), all welding, edge preparation, blast cleaning of steel surfaces to near white metal surface (Sa 2 1/2), testing, complete as per specifications, drawings and instructions of the Engineer. (Vendor to supply all materials).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%. | 110      | MT  |                                                                        |
|       | 2307B | Supplying, fabrication , transportation, erection and alignment of galvanised gratings of steel (having minimum galvanisation of 610 g/sqm) conforming to IS:2062 at all elevations including preparation of design drawings and fabrication drawings in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads, fixing clamps etc. complete with other fittings and fixtures including all taxes, duties, transportation, packing, grinding, drilling, bolting (supply of permanent grade `C' mild steel bolts and nuts to be paid separately under ST NO. 2309 (i), all welding, edge preparation, blast cleaning of steel surfaces to near white metal surface (Sa 2 1/2), testing, complete as per specifications, drawings and instructions of the Engineer. (Vendor to supply all materials).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                            | 44       | MT  |                                                                        |
| 22.9  | 2309A | Supplying and fixing in position of permanent mild steel bolts (class 4.6 as per IS : 1367 and grade `C' as per IS: 1363) and nuts, washers etc. up to and inclusive of 39 mm diameter and upto 300mm long for structural steel work complete as per specification, drawings and instructions of the Engineer. (Vendor to supply all materials).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 7        | QTL |                                                                        |
| 22.10 | 2309B | Supply and fixing in positing of high strength structural bolts (of property class 8.8 and product grade `C' as per IS: 1367) and conforming to IS: 3757 and high strength structural hardened and tempered nuts (of property class `8' as per IS:1367) conforming to IS:6623 with hardened and tempered washers as per IS:6649 etc. up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work complete as per specification, drawings and instructions of the Engineer. (Vendor to supply all materials).<br>Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                         | 169      | QTL |                                                                        |

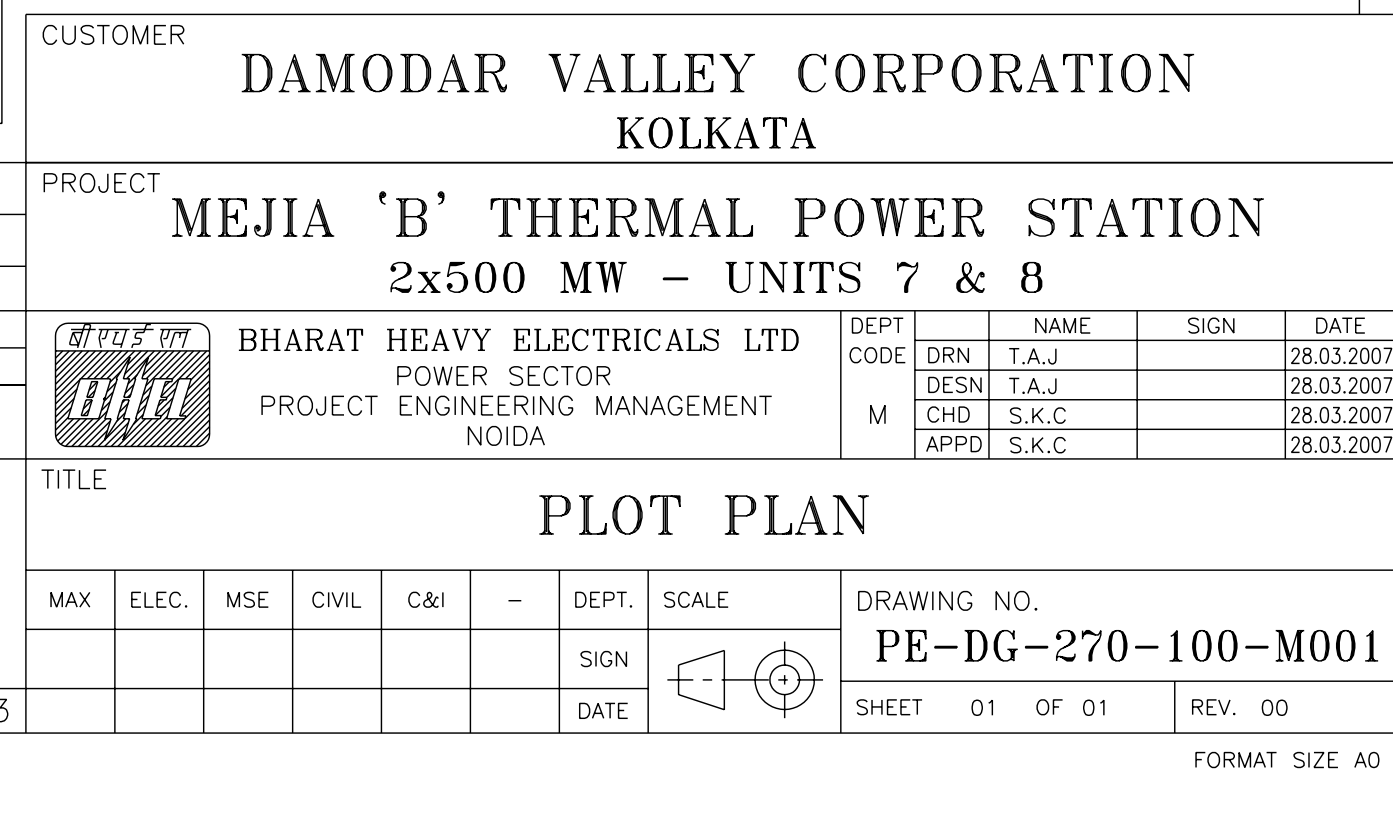
| SL NO   | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | QUANTITY |    | Price in percent (%)<br>of total price for<br>each item (in<br>figures & words) |
|---------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----|---------------------------------------------------------------------------------|
| 22.11   | 2310  | Dismantling of steel structure at any elevation, lowering of material and carriage of the dismantled material up to field fabrication shop, or, return to projects storage including temporary dismantling, cutting, re-welding, supporting, and restoring to correct position all temporarily dismantled members, re-alignment of all adjacent connected members to their correct positions, ( weight of such adjacent members and temporarily dismantled members not payable) including scaffolding, staging, tools & tackles, gas cutting, welding, consumables, etc complete as per specification, drawings and instructions of the Engineer.                                                                                                                                                                                                                                                                                            | 39       | MT |                                                                                 |
| 22.12   | 2311  | Addition to, alterations in and/or modification of "Erection Marks" either in erected position or in the shop including cutting of parts, gouging of welds, cutting, grinding, fabrication, welding, drilling holes, straightening, removal of bends, raising to the required level, painting, transportation, return of unutilised steel pieces to the project store, temporarily dismantling, cutting, re-welding, supporting and restoring to correct position of all the temporarily dismantled members, realignment of adjacent connected members, (weight of such temporarily dismantled and adjacent members not payable), complete as per specifications, drawings and instructions of the Engineer.                                                                                                                                                                                                                                 |          |    |                                                                                 |
| 22.12.1 |       | In erected position                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 6        | MT |                                                                                 |
| 22.12.2 |       | In fabrication yard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 12       | MT |                                                                                 |
| 22.13   | 2312  | Re-erection of dismantled fabricated structural steel members requiring additions, modification, (dismantling and additions to, alterations in and/or modification to be paid separately under ST NO. 2310 and 2311 respectively) including carriage of modified "Erection Marks" from the field fabrication shop to erection site, lifting to required position, aligning in position, tack welding, final welding and touch up painting including temporary dismantling and re-erection of temporarily dismantled members, cutting, rewelding, supporting and restoring to the correct position of all temporarily dismantled members, re-alignment of adjacent connected members, (weight of such temporarily dismantled members and adjacent members not payable) including scaffolding, staging, tools & tackles, gas cutting, welding, consumables, etc complete as per the specifications, drawings and instructions of the Engineer. | 9        | MT |                                                                                 |
| 22.14   | 2313  | Fabrication and erection of 4 mm thick stainless steel liner of grade AISI-304; Finish Grade 2B (Cold rolled, Annealed & Pickled and Skin passed) on M.S. plate for inside surfaces of hopper & mouth of hopper of bunkers as directed by the Engineer including fixing with stainless steel studs, bolting (including countersunk), welding etc. complete as per specifications and IS standards. Electrode classification shall be E308L for welding of stainless steel to stainless steel and E309 for stainless steel to mild steel etc. complete as per specifications, drawings and instructions of the Engineer. (stainless steel liner plate shall be supplied by BHEL free of cost as per SCC)                                                                                                                                                                                                                                      | 84       | MT |                                                                                 |
| 22.15   | 2314  | Supply, fabrication and delivery at site, transportation, loading/unloading of various sizes, seamless 40 dia stainless steel hand railing of approved shape/design including Stainless steel posts, fixing as per specification, labour and material complete for heavy duty class. (All Steel to be supplied by Vendor). Payment terms - a. On receipt of materials at site - 70%; b. On completion of erection & fixing - 30%.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 350      | KG |                                                                                 |
| 22.16   | 2315  | Providing and fixing in position PTFE type sliding bearings of reputed manufacturer, individual bearing suitable for required vertical loads as per the construction drawings and for maximum displacement of (+or -) 50 mm including all taxes, duties, transportation, installation, drilling, bolting, erecting, aligning etc complete as per specification, drawing and instruction of the engineer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |          |    |                                                                                 |
| 22.16.1 | i)    | Vertical Load of 20 Tons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 7        | NO |                                                                                 |

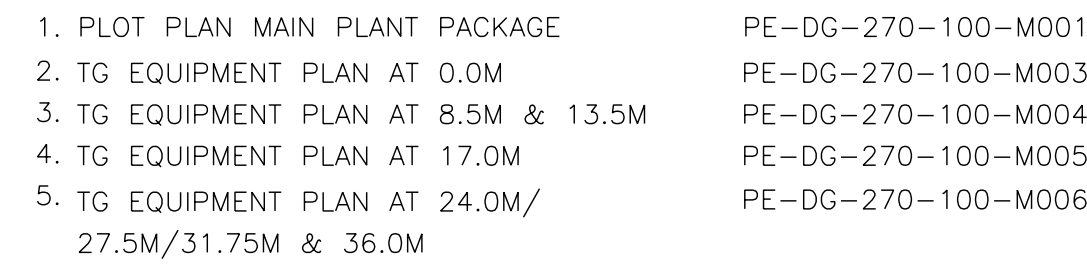
| SL NO   | ST NO | DESCRIPTION                                                                                                                                                                                                                                                                                                                       | QUANTITY |     | Price in percent (%)<br>of total price for<br>each item (in<br>figures & words) |
|---------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----|---------------------------------------------------------------------------------|
| 22.16.2 | ii)   | Vertical Load of 25 Tons                                                                                                                                                                                                                                                                                                          | 6        | NO  |                                                                                 |
| 22.16.3 | iii)  | Vertical Load of 40 Tons                                                                                                                                                                                                                                                                                                          | 3        | NO  |                                                                                 |
| 22.16.4 | iv)   | Vertical Load of 50 Tons                                                                                                                                                                                                                                                                                                          | 1        | NO  |                                                                                 |
| 22.16.5 | v)    | Vertical Load of 60 Tons                                                                                                                                                                                                                                                                                                          | 4        | NO  |                                                                                 |
| 22.17   | 2316  | Providing and fixing flexible open ended bellow strap of neoprene of minimum thickness of 2mm and minimum width 200 mm with aluminium strip edges as sealing below top of bunker and bottom of tripper floor to avoid coal dust nuisance.                                                                                         | 254      | RM  |                                                                                 |
| 22.18   | 2317  | Conducting radiography test on welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges, materials and labour as per specifications complete (over and above the work already specified in the specifications).                                                            | 52       | RM  |                                                                                 |
| 22.19   | 2318  | Conducting ultrasonic test on welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges, materials & labour as per spec complete (over & above the work already specified in specification).                                                                                | 38       | RM  |                                                                                 |
| 22.20   | 2319  | Conducting magnetic particle test on welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges, materials and labour as per spec complete (over & above the work already specified in specifications).                                                                      | 38       | RM  |                                                                                 |
| 22.21   | 2320  | Conducting dye penetration test on welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges, materials & labour as per spec complete (over & above the work already specified in specifications).                                                                          | 38       | RM  |                                                                                 |
| 22.22   | 2321  | Conducting ultrasonic test on steel plates as per ASTM-A435 or equivalent wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges, materials and labour as per specifications complete (over and above the work already specified in the specifications).                       | 115      | SQM |                                                                                 |
| 23.0    | 2400  | ROAD WORK INCLUDING SUPPLY OF MATERIAL, COST OF LABOUR, MACHINERY ETC ALL COMPLETE AS PER SPEC, DRAWING, RELEVANT IRC & IS CODES AND AS DIRECTED BY THE ENGINEER-IN-CHARGE FOR FOLLOWING.                                                                                                                                         |          |     |                                                                                 |
| 23.1    | 2414  | Concrete of grade M-30 in roads etc complete with 20 mm nominal size graded aggregate, plasticiser etc. complete as per specification (cement shall be supplied by BHEL free of cost as per SCC).                                                                                                                                 | 2977     | CUM |                                                                                 |
| 23.2    | 2415  | Filling below concrete roads with stone (63 mm down graded), in layers not exceeding 200 mm thickness including breaking of boulders to required sizes, filling the interstices with selected sand and compacting to 85 % of original volume of stone stack for all lifts all complete as per instructions of engineer-in-charge. | 2126     | CUM |                                                                                 |
| 24.0    | 2500  | MISCELLANEOUS 2                                                                                                                                                                                                                                                                                                                   |          |     |                                                                                 |
| 24.1    | 2501  | Construction of below ground earthing system test pits as per drawing / sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing and specification (excavation & backfilling only will be paid under applicable BOQ items)                                                          | 100      | NO  |                                                                                 |
| 24.2    | 2502  | Construction of below ground earthing system test links as per drawing/ sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing & specification (excavation & backfilling only will be paid under applicable BOQ items).                                                           | 24       | NO  |                                                                                 |
| 24.3    | 2503  | Construction of below ground earthing system earth electrodes as per drawing and specification. ( Excavation and backfilling only will be paid under applicable BOQ items.)                                                                                                                                                       | 350      | NO  |                                                                                 |

| SL NO | ST NO                                                                                                                                                                                     | DESCRIPTION                                                                                                                                                                                       | QUANTITY |          | Price in percent (%)<br>of total price for<br>each item (in<br>figures & words) |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|---------------------------------------------------------------------------------|
| 24.4  | 2504                                                                                                                                                                                      | Construction of below ground earthing system - Earth connection and riser pig tails as per drawing and specification. ( Excavation and backfilling only will be paid under applicable BOQ items.) | 1300     | NO       |                                                                                 |
| 24.5  | 2507                                                                                                                                                                                      | Providing services of crane operator for operation of BHEL crane                                                                                                                                  | 300      | MAN-HOUR |                                                                                 |
| TOTAL |                                                                                                                                                                                           |                                                                                                                                                                                                   |          |          | 100.00%                                                                         |
| 25.0  | For items not covered above, quote % above or below the CPWD schedule (DSR-2002).                                                                                                         |                                                                                                                                                                                                   |          |          |                                                                                 |
| 25.1  | Rate of complete item                                                                                                                                                                     |                                                                                                                                                                                                   |          |          |                                                                                 |
| 25.2  | Rate of supply of materials at site only.                                                                                                                                                 |                                                                                                                                                                                                   |          |          |                                                                                 |
| 25.3  | Rate for execution complete excluding supply of materials.                                                                                                                                |                                                                                                                                                                                                   |          |          |                                                                                 |
| NOTE  |                                                                                                                                                                                           |                                                                                                                                                                                                   |          |          |                                                                                 |
| 1.0   | Bidder to fill only percent against each items out of total (100%). These percents are to be worked out based on amount works out against each items with respect to total quoted amount. |                                                                                                                                                                                                   |          |          |                                                                                 |







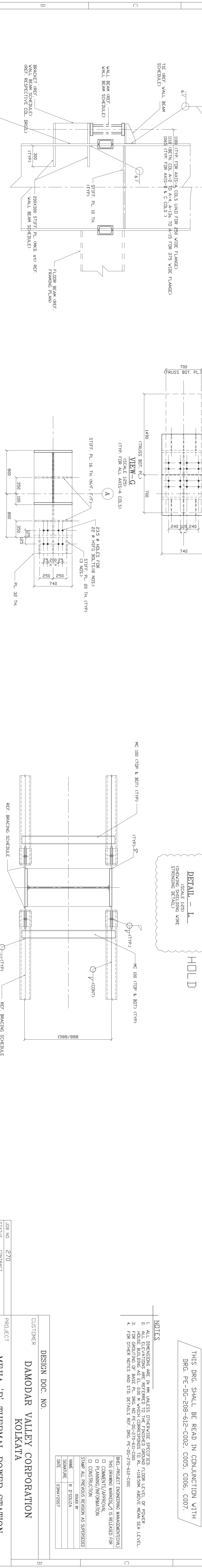
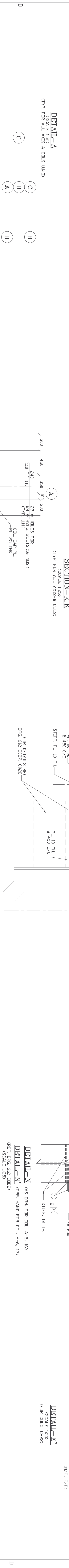
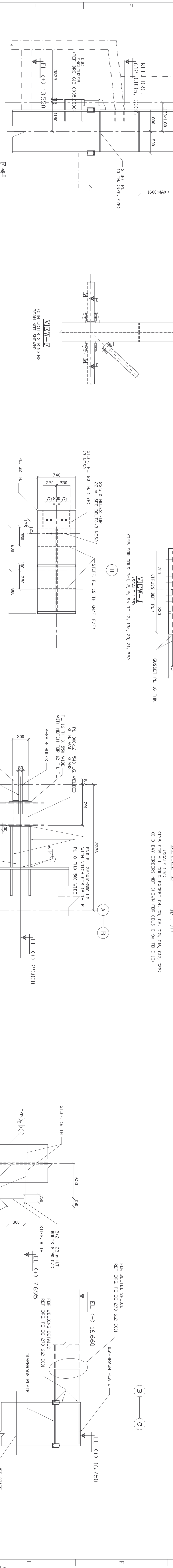
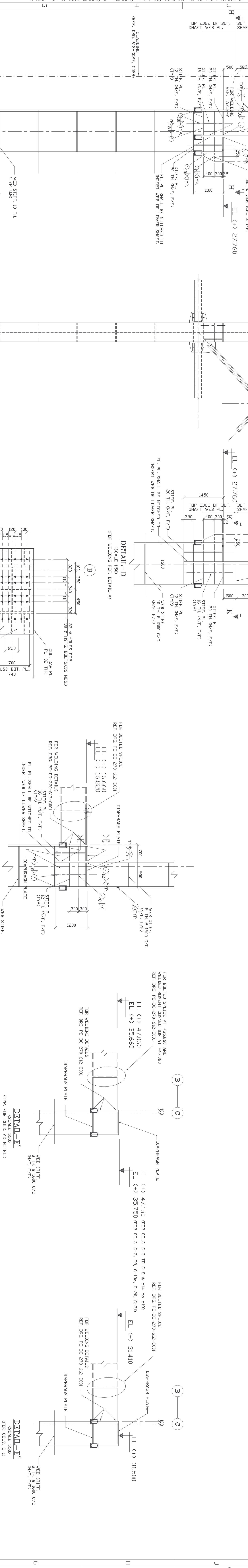


|                |      |            |      |
|----------------|------|------------|------|
| JOB NO.        |      | : 270      |      |
| STATUS         |      | : CONTRACT |      |
| DISTRIBUTION : |      |            |      |
| TO             |      |            |      |
| No. OF         |      |            |      |
| REV            | DATE | ALTD       | CHD  |
|                |      |            | APPD |
|                |      |            |      |
|                |      |            |      |

[illegible]





[illegible]

THIS DRG. SHALL BE READ IN CONJUNCTION WITH  
DRG. PE-DG-208-612-C002, C005, C006, C007.

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. ALL ELEVATIONS ARE REFERRED TO THE FINISHED GROUND FLUID LEVEL OF POWER HOUSE BUILDING AS EL. 000 M WHICH CORRESPONDS TO RL. +18.50M ABOVE MEAN SEA LEVEL.
3. FOR GROUPING OF BASE PL. DRG. NO PE-DG-270-61-0001
4. FOR OTHER NOTES AND STD. DETAILS REF. DRG. PE-DG-270-612-0001

|                                                                                                                                                                                                                                                                  |              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| BEL-PROJECT ENGINEERING MANAGEMENT (OVL)<br><input checked="" type="checkbox"/> THIS DRAWING MARKED ✓ IS RELEASED FOR<br><input type="checkbox"/> COMMENT/S, APPROVAL<br><input type="checkbox"/> PLANNING/ INFORMATION<br><input type="checkbox"/> CONSTRUCTION |              |
| STAMP ALL PREVIOUS REVISION AS SUPERSEDED                                                                                                                                                                                                                        |              |
| ISSUED BY                                                                                                                                                                                                                                                        |              |
| NAME                                                                                                                                                                                                                                                             | R. D. SOLUZA |
| SIGNATURE                                                                                                                                                                                                                                                        |              |
| DATE                                                                                                                                                                                                                                                             | 03MAY2007    |

DESIGN DOC. NO.

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DAMODAR VALLEY CORPORATION  
KOIKATA

| PROJECT INFORMATION |                             | PROJECT NAME |                             | PROJECT LOCATION |                             | PROJECT TYPE |                             |
|---------------------|-----------------------------|--------------|-----------------------------|------------------|-----------------------------|--------------|-----------------------------|
| NO.                 | DESCRIPTION                 | NO.          | DESCRIPTION                 | NO.              | DESCRIPTION                 | NO.          | DESCRIPTION                 |
| 1                   | PROJECT NAME                | 1            | PROJECT NAME                | 1                | PROJECT NAME                | 1            | PROJECT NAME                |
| 2                   | PROJECT LOCATION            | 2            | PROJECT LOCATION            | 2                | PROJECT LOCATION            | 2            | PROJECT LOCATION            |
| 3                   | PROJECT TYPE                | 3            | PROJECT TYPE                | 3                | PROJECT TYPE                | 3            | PROJECT TYPE                |
| 4                   | PROJECT DESCRIPTION         | 4            | PROJECT DESCRIPTION         | 4                | PROJECT DESCRIPTION         | 4            | PROJECT DESCRIPTION         |
| 5                   | PROJECT OWNER               | 5            | PROJECT OWNER               | 5                | PROJECT OWNER               | 5            | PROJECT OWNER               |
| 6                   | PROJECT MANAGER             | 6            | PROJECT MANAGER             | 6                | PROJECT MANAGER             | 6            | PROJECT MANAGER             |
| 7                   | PROJECT START DATE          | 7            | PROJECT START DATE          | 7                | PROJECT START DATE          | 7            | PROJECT START DATE          |
| 8                   | PROJECT END DATE            | 8            | PROJECT END DATE            | 8                | PROJECT END DATE            | 8            | PROJECT END DATE            |
| 9                   | PROJECT BUDGET              | 9            | PROJECT BUDGET              | 9                | PROJECT BUDGET              | 9            | PROJECT BUDGET              |
| 10                  | PROJECT STATUS              | 10           | PROJECT STATUS              | 10               | PROJECT STATUS              | 10           | PROJECT STATUS              |
| 11                  | PROJECT RISK                | 11           | PROJECT RISK                | 11               | PROJECT RISK                | 11           | PROJECT RISK                |
| 12                  | PROJECT IMPACT              | 12           | PROJECT IMPACT              | 12               | PROJECT IMPACT              | 12           | PROJECT IMPACT              |
| 13                  | PROJECT BENEFIT             | 13           | PROJECT BENEFIT             | 13               | PROJECT BENEFIT             | 13           | PROJECT BENEFIT             |
| 14                  | PROJECT COST                | 14           | PROJECT COST                | 14               | PROJECT COST                | 14           | PROJECT COST                |
| 15                  | PROJECT REVENUE             | 15           | PROJECT REVENUE             | 15               | PROJECT REVENUE             | 15           | PROJECT REVENUE             |
| 16                  | PROJECT PROFIT              | 16           | PROJECT PROFIT              | 16               | PROJECT PROFIT              | 16           | PROJECT PROFIT              |
| 17                  | PROJECT LOSS                | 17           | PROJECT LOSS                | 17               | PROJECT LOSS                | 17           | PROJECT LOSS                |
| 18                  | PROJECT BREAK-EVEN          | 18           | PROJECT BREAK-EVEN          | 18               | PROJECT BREAK-EVEN          | 18           | PROJECT BREAK-EVEN          |
| 19                  | PROJECT ROI                 | 19           | PROJECT ROI                 | 19               | PROJECT ROI                 | 19           | PROJECT ROI                 |
| 20                  | PROJECT NPV                 | 20           | PROJECT NPV                 | 20               | PROJECT NPV                 | 20           | PROJECT NPV                 |
| 21                  | PROJECT IRR                 | 21           | PROJECT IRR                 | 21               | PROJECT IRR                 | 21           | PROJECT IRR                 |
| 22                  | PROJECT PAYBACK             | 22           | PROJECT PAYBACK             | 22               | PROJECT PAYBACK             | 22           | PROJECT PAYBACK             |
| 23                  | PROJECT SENSITIVITY         | 23           | PROJECT SENSITIVITY         | 23               | PROJECT SENSITIVITY         | 23           | PROJECT SENSITIVITY         |
| 24                  | PROJECT SCENARIO            | 24           | PROJECT SCENARIO            | 24               | PROJECT SCENARIO            | 24           | PROJECT SCENARIO            |
| 25                  | PROJECT RISK RANKING        | 25           | PROJECT RISK RANKING        | 25               | PROJECT RISK RANKING        | 25           | PROJECT RISK RANKING        |
| 26                  | PROJECT RISK MITIGATION     | 26           | PROJECT RISK MITIGATION     | 26               | PROJECT RISK MITIGATION     | 26           | PROJECT RISK MITIGATION     |
| 27                  | PROJECT RISK MONITORING     | 27           | PROJECT RISK MONITORING     | 27               | PROJECT RISK MONITORING     | 27           | PROJECT RISK MONITORING     |
| 28                  | PROJECT RISK REPORTING      | 28           | PROJECT RISK REPORTING      | 28               | PROJECT RISK REPORTING      | 28           | PROJECT RISK REPORTING      |
| 29                  | PROJECT RISK COMMUNICATION  | 29           | PROJECT RISK COMMUNICATION  | 29               | PROJECT RISK COMMUNICATION  | 29           | PROJECT RISK COMMUNICATION  |
| 30                  | PROJECT RISK EVALUATION     | 30           | PROJECT RISK EVALUATION     | 30               | PROJECT RISK EVALUATION     | 30           | PROJECT RISK EVALUATION     |
| 31                  | PROJECT RISK REVIEW         | 31           | PROJECT RISK REVIEW         | 31               | PROJECT RISK REVIEW         | 31           | PROJECT RISK REVIEW         |
| 32                  | PROJECT RISK ACTION PLAN    | 32           | PROJECT RISK ACTION PLAN    | 32               | PROJECT RISK ACTION PLAN    | 32           | PROJECT RISK ACTION PLAN    |
| 33                  | PROJECT RISK IMPLEMENTATION | 33           | PROJECT RISK IMPLEMENTATION | 33               | PROJECT RISK IMPLEMENTATION | 33           | PROJECT RISK IMPLEMENTATION |
| 34                  | PROJECT RISK MONITORING     | 34           | PROJECT RISK MONITORING     | 34               | PROJECT RISK MONITORING     | 34           | PROJECT RISK MONITORING     |
| 35                  | PROJECT RISK REPORTING      | 35           | PROJECT RISK REPORTING      | 35               | PROJECT RISK REPORTING      | 35           | PROJECT RISK REPORTING      |
| 36                  | PROJECT RISK COMMUNICATION  | 36           | PROJECT RISK COMMUNICATION  | 36               | PROJECT RISK COMMUNICATION  | 36           | PROJECT RISK COMMUNICATION  |
| 37                  | PROJECT RISK EVALUATION     | 37           | PROJECT RISK EVALUATION     | 37               | PROJECT RISK EVALUATION     | 37           | PROJECT RISK EVALUATION     |
| 38                  | PROJECT RISK REVIEW         | 38           | PROJECT RISK REVIEW         | 38               | PROJECT RISK REVIEW         | 38           | PROJECT RISK REVIEW         |
| 39                  | PROJECT RISK ACTION PLAN    | 39           | PROJECT RISK ACTION PLAN    | 39               | PROJECT RISK ACTION PLAN    | 39           | PROJECT RISK ACTION PLAN    |
| 40                  | PROJECT RISK IMPLEMENTATION | 40           | PROJECT RISK IMPLEMENTATION | 40               | PROJECT RISK IMPLEMENTATION | 40           | PROJECT RISK IMPLEMENTATION |
| 41                  | PROJECT RISK MONITORING     | 41           | PROJECT RISK MONITORING     | 41               | PROJECT RISK MONITORING     | 41           | PROJECT RISK MONITORING     |
| 42                  | PROJECT RISK REPORTING      | 42           | PROJECT RISK REPORTING      | 42               | PROJECT RISK REPORTING      | 42           | PROJECT RISK REPORTING      |
| 43                  | PROJECT RISK COMMUNICATION  | 43           | PROJECT RISK COMMUNICATION  | 43               | PROJECT RISK COMMUNICATION  | 43           | PROJECT RISK COMMUNICATION  |
| 44                  | PROJECT RISK EVALUATION     | 44           | PROJECT RISK EVALUATION     | 44               | PROJECT RISK EVALUATION     | 44           | PROJECT RISK EVALUATION     |
| 45                  | PROJECT RISK REVIEW         | 45           | PROJECT RISK REVIEW         | 45               | PROJECT RISK REVIEW         | 45           | PROJECT RISK REVIEW         |
| 46                  | PROJECT RISK ACTION PLAN    | 46           | PROJECT RISK ACTION PLAN    | 46               | PROJECT RISK ACTION PLAN    | 46           | PROJECT RISK ACTION PLAN    |
| 47                  | PROJECT RISK IMPLEMENTATION | 47           | PROJECT RISK IMPLEMENTATION | 47               | PROJECT RISK IMPLEMENTATION | 47           | PROJECT RISK IMPLEMENTATION |
| 48                  | PROJECT RISK MONITORING     | 48           | PROJECT RISK MONITORING     | 48               | PROJECT RISK MONITORING     | 48           | PROJECT RISK MONITORING     |
| 49                  | PROJECT RISK REPORTING      | 49           | PROJECT RISK REPORTING      | 49               | PROJECT RISK REPORTING      | 49           | PROJECT RISK REPORTING      |
| 50                  | PROJECT RISK COMMUNICATION  | 50           | PROJECT RISK COMMUNICATION  | 50               | PROJECT RISK COMMUNICATION  | 50           | PROJECT RISK COMMUNICATION  |
| 51                  | PROJECT RISK EVALUATION     | 51           | PROJECT RISK                |                  |                             |              |                             |

|       |                                                                                   |                    |    |        |
|-------|-----------------------------------------------------------------------------------|--------------------|----|--------|
| DEPT. | SCALE                                                                             | DRAWING NO.        |    |        |
| SIGN  |  | PE-DG-270-612-C009 |    |        |
| DATE  |                                                                                   | SHEET              | OF | REV. 0 |