Enabling Works- 1X800 MW Darlipali STPP, Stage -II

VOLUME- IA: TECHNICAL CONDITIONS OF CONTRACT (TCC)

PACKAGE- A – Immovable Items

Immovable Items of Design, manufacturing, supply, receipt at site, civil & architectural works, erection, internal electrification, painting & finishing works etc. and handing over to site of, Removable/ Re-Erectable type Pre-engineered, Pre- fabricated Steel Closed Storage Sheds (6 nos. of 900 SqM each), Supply and installation of Steel water storage tank of approx. 250 KL for construction water, Supply and installation of Pit-less Type Electronic Weigh Bridge of 100 MT Capacity including foundation, Mess Building etc., Supply and installation of portable toilet blocks, Development of storage yard with internal roads and drains, hard crusting, supply of precast concrete sleepers, Fencing and Gate for storage yard and BHEL Office area, Civil and Sub-structure works of the diverted Office shed till flooring PCC, Civil and architectural work of Safety park , Mess building, Civil Quality Lab, Watch Tower etc. at 1X800 MW Darlipali Super Thermal Power Project, Stage-II.

PACKAGE-B- Movable Items

Movable Items of Design, manufacturing, supply, receipt at site, civil & architectural works, erection, internal electrification, painting & finishing works etc. and handing over to site of, Removable/ Re-Erectable type Pre-engineered, Pre- fabricated Steel Closed Storage Sheds (6 nos. of 900 SqM each), Supply and installation of Steel water storage tank of approx. 250 KL for construction water, Supply and installation of Pit-less Type Electronic Weigh Bridge of 100 MT Capacity including foundation, Mess Building etc., Supply and installation of portable toilet blocks, Development of storage yard with internal roads and drains, hard crusting, supply of precast concrete sleepers, Fencing and Gate for storage yard and BHEL Office area, Civil and Sub-structure works of the diverted Office shed till flooring PCC, Civil and architectural work of Safety park , Mess building, Civil Quality Lab, Watch Tower etc. at 1X800 MW Darlipali Super Thermal Power Project, Stage-II.

BHARAT HEAVY ELECTRICALS LIMITED

1.0	**PROJECT INFORMATION**	
Sl. No.	**Description**	**Details**
1	**Project Title**	1X800 MW Darlipali Super Thermal Power Project, Stage-II
2	**Customer**	M/s NTPC LIMITED
3	**Location**	Darlipali Super Thermal Power Station is located in Sundargarh District of Odisha. Sundargarh is connected to all major towns in Odisha by road. The latitude and longitude of the project are 21°55'00" (N) 83°53'35" (E) respectively.
4	**Nearest Airport**	The nearest commercial airport, Veer Surendra Sai Airport Jharsuguda, is about 40 Km from the project site.
5	**Access By Road/Rail/Major Cities**	It is connected to Rourkela and Sambalpur by State Highway SH-10. The Project is located north of Raigarh – Jharsuguda National Highway, NH-200 and is approachable from Gandhi Chowk (near Brajrajnagar) through 15 Km long road. Nearest major town is Jharsuguda, located at a distance of 25 Km from the project. The nearest Railway Station is Brajarajnagar at 20 Km on SEC Railway.
6	**Temperature**	Climatological data from nearest observatory is placed as per Technical Specification of Darlipalli is attached as Annexure-II
7	**Seismic Zone**	As per Technical Specification of Civil Works Seismic Design Criteria attached as Annexure-E
8	**Wind Speed**	As per Technical Specification of Civil Works Wind Design Criteria attached as Annexure-D
1.1.	**INSTRUCTIONS TO BIDDERS**	

1.1.1.	The Bidder shall visit project sites and acquire full knowledge and information about conditions prevailing at site and in & around the plant premises, together with site conditions, transportation routes, various distances, all the statutory, obligatory, mandatory requirements of various authorities and all information that may be necessary for preparing the bid and entering into the Contract. All costs for and associated with site visits shall be borne by the bidder.
1.1.2.	Other contractors would be working in this area and their structures are to be protected. The material brought and stacked for construction should not make hindrance to other contractors.
1.1.3.	The information given herein is for general guidance and shall not be contractually binding on BHEL/Owner. All relevant site data /information as may be necessary shall have to be obtained /collected by the Bidder.
1.1.4.	The contractor, in the event of this work awarded to him, shall establish an office at site and keep posted an authorized, responsible officer with valid Power of Attorney for the purpose of the contract. Any order or instructions of the `Engineer' or his duly authorized representative, communicated to the contractor's representative at site office will be deemed to have been communicated to the contractor at his legal address.
1.1.5.	No claim will be entertained by BHEL on ground of lack of knowledge and the contractor's rates shall be deemed to have taken this into account.
1.1.6.	Bidders may fix up their site visit in consultation with below mentioned contact person:

Name:	Shri Ramesh Babu Kolakaluri
Designation:	Addl GM (Project Director (Darlipali)
Email:	kramesh.babu@bhel.in
Ph no:	7077728548

Note: - The bidder is advised to visit and examine the site of WORKS and its surroundings and obtain for himself on his own responsibility all information that may be necessary for preparing the bid and entering into the CONTRACT. All costs for and associated with site visits shall be borne by the bidder.

2.0	**SCOPE OF WORK**
2.1.	Design, manufacturing, supply, receipt at site, civil & architectural works, erection, internal electrification, painting & finishing works etc. and handing over to site of, Removable/ Re-Erectable type Pre-engineered, Pre- fabricated Steel Closed Storage Sheds, Supply and installation of Steel water storage tank of approx. 250 kL for construction water, Supply and installation of Pit-less Type Electronic Weigh Bridge of 100 MT Capacity including foundation, Mess Building etc., Supply and installation of portable toilet blocks, Development of storage yard with internal roads and drains, hard crusting, supply of precast concrete sleepers, Fencing and Gate for storage yard and BHEL Office area, Civil and Sub-structure works of the diverted Office shed till flooring PCC, Civil and architectural work of Safety park , Mess building, Civil Quality Lab, Watch Tower etc. at 1X800 MW Darlipali Super Thermal Power Project, Stage-II**.** **PACKAGE- A – Immovable Items** Immovable Items of Design, manufacturing, supply, receipt at site, civil & architectural works, erection, internal electrification, painting & finishing works etc. and handing over to site of, Removable/ Re-Erectable type Pre-engineered, Pre- fabricated Steel Closed Storage Sheds (6 nos. of 900 SqM each), Supply and installation of Steel water storage tank of approx. 250 kL for construction water, Supply and installation of Pit-less Type Electronic Weigh Bridge of 100 MT Capacity including foundation, Mess Building etc., Supply and installation of portable toilet blocks, Development of storage yard with internal roads and drains, hard crusting, supply of precast concrete sleepers, Fencing and Gate for storage yard and BHEL Office area, Civil and Sub-structure works of the diverted Office shed till flooring PCC,Civil and architectural work of Safety park , Mess building, Civil Quality Lab, Watch Tower etc. at 1X800 MW Darlipali Super Thermal Power Project, Stage-II**.** **PACKAGE-B- Movable Items** Movable Items of Design, manufacturing, supply, receipt at site, civil & architectural works, erection, internal electrification, painting & finishing works etc. and handing over to site of, Removable/ Re-Erectable type Pre-engineered, Pre- fabricated Steel Closed Storage Sheds (6 nos. of 900 SqM each), Supply and installation of Steel water storage tank of approx. 250 kL for construction water, Supply and installation of Pit-less Type Electronic Weigh Bridge of 100 MT Capacity including foundation, Mess Building etc., Supply and installation of portable toilet blocks, Development of storage yard with internal roads and drains, hard crusting, supply of precast concrete sleepers, Fencing and Gate for storage yard and BHEL Office area, Civil and Sub-structure works of the diverted Office shed till flooring PCC,Civil and architectural work of Safety park , Mess building, Civil Quality Lab, Watch Tower etc. at 1X800 MW Darlipali Super Thermal Power Project, Stage-II**.**

	The above two packages shall be awarded as a two separate contracts to one agency only. The scope hereunder is given applicable for both the packages. Bidder has to give lump sum price for complete scope of work as per price bid.
2.2.	The scope shall include but not limited to following major works: a. Supply, Receipt at Site, Erection and Handing over to site Removable/Re-erectable type Pre-Engineered, Pre-fabricated ***Closed Storage Shed with C&I Room*, In-charge Room, Common Hall, Computer Room, Side Racks, Pantry & Toilet etc.** – **01 No. (approx. Size: 15mx60mx6m)** including Civil Works, Foundations, Electricals, Furniture, Lighting & Fixtures, Site Painting etc. all complete. b. Supply, Receipt at Site, Erection and Handing over to site Removable/Re-erectable type Pre-Engineered, Pre-fabricated ***Closed Storage Shed with Side Rack for storage purpose, Store Room etc.- 05 Nos.*** **(approx. Size: 15mx60mx6m)** including Civil Works, Foundations, Electricals, Furniture, Lighting & Fixtures, Site Painting etc. all complete. c. Supply, Receipt at Site, Erection and Handing over to site Removable/Re-erectable type Pre-Engineered, Pre-fabricated ***Closed Storage Shed with Side Rack for storage purpose, Store Room etc.- 01 Nos.*** **(approx. Size: 600SqM)** including Civil Works, Foundations, Electricals, Furniture, Lighting & Fixtures, Site Painting etc. all complete. d. Supply and installation of **1 No.** Zinc-alume water storage tank of approx. 250 kL for construction water. e. Supply and installation of **1No.** Pit-less Type Electronic Weigh Bridge of 100 MT Capacity including foundation, etc. f. Development of storage yard with internal roads and drains – approx. 1,25,400 Sq. M area – Area will be allocated as received from the customer. g. Supply of Precast concrete Sleepers – 12,000 Nos h. Supply of portable toilet blocks- 2 Nos. i. Supply of security cabin-2 nos. j. Fencing and Gate for storage yard and BHEL Office area. k. Civil Lab (approx. 150sqm), l. Safety Park (approx. 210sqm). m. Mess building (approx. 72 sqm). n. Supply and installation Weigh Bridge.

	o. Watch towers. p. Civil works for of diverted Office Building, Closed Storage Shed, High Mast Lights etc. q. Hard crusting of 50000 sqm of the yard area r. Any other related civil works at site. Work under this tender includes supply of all required materials, labour, consumables, transportation, sample testing such as cement, TMT, Structural Steel, permanently colour coated GI Sheets, false ceiling, steel / wooden door, bricks, aggregates etc. for completion of Tender Scope in all respect. All above jobs shall be executed as per BHEL Engineer's instructions, drawings, detailed specifications and respective BOQ cum Rate Schedule. The scope of works as mentioned above is indicative only, and is not limited to the above list.
2.3.	**DRAWINGS**
2.3.1.	The tentative drawings and specifications will form part of the tender documents. BHEL reserves the right to modify/alter the tender drawings, if necessary during the actual execution at site. However, the Drawings/Sketches are to be read along with specifications and shall be treated as in the scope of work. a. **For Storage Sheds and others: -** Preparation of detailed drawings with design calculations as per relevant standard codes is in the scope of the contractor. b. Civil & Structural Drawings For Mess building, Civil Lab, Safety Park, High Mast Towers, shall be provided by BHEL during execution. c. All other drawings as required for plumbing, electrical & other works shall be in the scope of the contractor. d. Connection design & preparation of fabrication drgs, as per specification and drawing shall be in the scope of Contractor.
2.3.2.	**Drawings are for reference purpose meant to give an idea to tenderers about nature of job.** Any changes in the layout, plan, section, partition, truss, etc. are felt necessary to suit the site soil strata/ work requirement, the same shall be done by contractor as per revised sketches / detailed drawings prepared by contractor in consultation with BHEL Engineer after approval of these drawings by BHEL. Contractor shall ensure/ascertain the stability, safety of the said work. **Any modification/variation from the said drawings, if necessary as suggested by the contractor will have to be approved from BHEL in writing**.

2.4.	BHEL at its discretion may include other area works limited to 15% of awarded contract value, which are not mentioned in above scope of works. Contractor shall execute such works as desired and as directed by BHEL Engineer. The item rates & contract conditions shall remain unchanged for such works.
2.5.	The work under this contract shall be carried out as per BOQ Cum Rate Schedule and in compliance of tender conditions including technical specifications and approved drawings/ documents.
2.6.	**General Scope:**
2.6.1.	Providing all incidental items not shown or specified but reasonably implied or necessary for the successful completion of the work in accordance with contract.
2.6.2.	The drawings enclosed with this tender are intended to give the tenderer a general idea of the type and extent of work involved. The drawings are as such only indicative and not to be considered as the exact construction drawings. Works shall be carried out as per the approved drawings by BHEL.
2.6.3.	Further, this is to be noted that the drawings and the documents furnished along with this specification are the sole property of BHEL. It must not be used directly or indirectly in any way detrimental to the interest of the company.
2.6.4.	Furnishing all labour, materials, supervision, construction plans, equipment, supplies, transport, to and from the site, fuel, electricity, compressed air, water, transit and storage insurance and all other incidental items and temporary works not shown on specified but reasonably implied or necessary for the proper completion, maintenance and handling over the works in accordance with the stipulations laid down in the contract documents and additional stipulations as may be provided by the BHEL Engineer during the course of works.
2.6.5.	The area of work shall be cleared of all vegetation, rubbish and other objectionable matter and materials. No separate payment for these operations shall be made for such works.
2.6.6.	All the works areas shall be adequately flood lighted to the satisfaction of the Engineer-in-Charge when the work is in progress during the night shifts.
2.6.7.	All necessary arrangement for safety like Hard Barricading around deep excavation area with scaffolding pipes, providing of safety net on the slope and PPEs as required is in contractor's scope. Contractor shall comply with all safety requirements as per statutes,

	BHEL and Customer as applicable for execution of works. Safety rules and guidelines are provided elsewhere.
2.6.8.	Giving all notices, paying all fees, taxes etc., in accordance with the general conditions of contract, that is required for all works including temporary works.
2.6.9.	Carrying out survey and to establish levels and coordinates at suitable intervals from existing grid levels and coordinates furnished by the owner established bench marks, setting out the locations and levels of proposed structures, constructions and marking of reference pillars and other identification works etc., The contractor shall provide the owner/BHEL such a assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any material used.
2.6.10.	The complete works shall be carried out as per BOQ cum Rate schedule. If any work covered in the scope of contract cannot be executed using items available in BOQ, additional / extra items shall be made and rates for such items shall be worked out as per GCC clause 2.15.7. However, contractor shall be bound to execute all the works under the scope of the contract and decision whether an extra item is applicable or not, shall be taken by BHEL Engineer, which will be binding on the contractor.
2.6.11.	Any activity, which is necessarily required for satisfactory execution of any item of BOQ in line with applicable standard technical specifications / IS code shall be deemed included in BOQ item even if it is not described in the item description and no extra payment, shall be made against such activity.
2.7.	**Field Quality Assurance:**
2.7.1.	The contractor shall be responsible for day-to-day quality checks for civil, structural and architectural works including concrete and other building materials during the progress of work. All quality records and log sheets shall be maintained as per the requirement of BHEL/ Customer and as per FQP approved by BHEL.
2.7.2.	Contractor shall furnish the manufacturers test certificate for the steel & cement procured by them. Apart from this all the field test shall be arranged by contractor for cement, bricks, coarse & fine aggregate either at site or nearby Field Quality Lab, approved by BHEL if so desired by BHEL's Engineer. All the expenses in these regards shall be borne by contractor.

	Contractor shall procure reinforcement steel, structural steel & Cement* from reputed manufacturer & approval for the same shall be obtained from BHEL well in advance before ordering for the materials. ***Cement shall be 'PPC CONFIRMING TO IS 1489 (Part-I) unless otherwise specified.**
2.7.3.	**Setting Up of Laboratory Works:** The contractor shall set up a laboratory in the close vicinity of the work site as per required field QA & QC laboratory set up and as directed by engineer-in-charge. The laboratory shall be equipped with latest testing equipment in sufficient number to carry out all the tests as required under this contract. The contractor should ensure that the equipment is available well in advance of starting of the work to avoid stoppage of work on this account. All the tests shall be carried out by the contractor in the presence of BHEL's representative and a joint record of all observations and results thereof shall be maintained and made available to Engineer-In-Charge. Minimum Testing Facilities to be arranged by contractor at site are as under: **1. Soil Works:** 1a. Facilities for HDD 1b. Field Compaction Test (Core Cutter / Sand Replacement Method). 1c. Atterberg Limit Test of Soil. 1d. Grain Size Distribution Test. **2. Road Works:** 2a. Facilities for mechanical strength of aggregates. 2a (i). Impact and Abrasion Value. 2a (ii). Crushing Value. 2a (iii). Water Absorption **3. Concreting Works:** 3a. Facilities for sieve Analysis for both fine and coarse aggregates. 3b. Facilities for workability test of concrete by Slump cone / BV. 3c. Facilities for Cube Strength. **Alternatively, Contractor may tie up with BHEL approved third party Lab/Existing Lab of any other contractor at site, for testing of material / works during execution of works under the contract.**

2.7.4.	In case the description / specifications as per BOQ are found to be incomplete, Indian Standard Codes (IS Codes) specifications as applicable for the work shall be followed.
2.7.5.	The contractor shall provide and maintain at his own cost pumps and other equipment to keep the work free from water and continue to do so until the handing over of the work. The contractor shall clear all trees, rubbish, vegetation, brickbats etc. and dispense them suitably in allotted areas at his own cost.
2.8.	**HEIRARCHY:** In case of any conflict/deviations amongst various documents, the order of precedence shall be as follows: 1. Items Description in BOQ Cum Rate Schedule 2. Technical Conditions of Contract (TCC) 3. IS Standard

3.0	T&Ps and MMEs to be deployed by Contractor			
Sl. No.	Description	SCOPE		REMARKS
		BHEL	BIDDER	
3.1	**Establishment:**			
3.1.1	**For Construction Purpose:**			
a	Open space for office (as per availability within project premises)	Yes		Location will be finalized after joint survey with owner.
b	Open space for storage (as per availability within project premises)	Yes		Location will be finalized after joint survey with owner.
c	Construction of bidder's office, canteen and storage building including supply of materials and other services		Yes	At bidder's own cost
d	Bidder's all office equipments, office / store / canteen consumables		Yes	At bidder's own cost
e	Canteen facilities for the bidder's staff, supervisors and engineers etc.		Yes	At bidder's own cost
f	Firefighting equipment like buckets, extinguishers etc.		Yes	At bidder's own cost
g	Development of land provided for office, storage, fabrication yard, etc.		Yes	At bidder's own cost
h	Fencing of storage area, office, canteen etc of the bidder		Yes	At bidder's own cost
3.1.2	**For living purpose of the bidder:**			
a	Open space for labour colony		Yes	Contractor has to make his own arrangements for shelter and transportation of labours as per requirement.
b	Labour Colony with internal roads, sanitation, complying with statutory requirements		Yes	At bidder's own cost

3.2	**Electricity:**			
3.2.1	**Electricity for construction purposes**		Yes	At bidder's own cost
a	Single point source (Chargeable)		Yes	At bidder's own cost
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	At bidder's own cost
c	Duties and deposits including statutory clearances if applicable		Yes	At bidder's own cost
3.2.2	**Electricity for office, stores, canteen etc. of the bidder within project premises**			
a	Single point source (Chargeable)		Yes	Contractor has to make his own arrangements
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	At bidder's own cost
c	Duties and deposits including statutory clearances if applicable		Yes	At bidder's own cost
3.2.3	**Electricity for living accommodation of the bidder's staff, engineers, supervisors, labour Hutment etc.**			**Contractor has to make his own arrangements**
a	Single point source		Yes	At bidder's own cost
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	At bidder's own cost
c	Payment/Duties and deposits including statutory clearances if applicable		Yes	At bidder's own cost
3.3	**Water Supply:**			
3.3.1	**For construction, bidder's office, stores, canteen purposes:**			**Contractor has to make his own arrangements**
a	Making the water available at single point		Yes	At bidder's own cost
b	Further distribution and treatment as per the requirement of work including supply of materials and execution		Yes	At bidder's own cost

3.3.2	**Water supply for Living Purpose**			**Contractor has to make his own arrangement**
a	Making the water available at single point		Yes	At bidder's own cost
b	Further distribution and treatment as per the requirement of work including supply of materials and execution		Yes	At bidder's own cost
3.4	**Lighting**			
a	For construction work (Supply and execution of the lighting work/ arrangements)		Yes	Contractor has to make his own arrangements
	1. At office/storage area			
	2. At the preassembly area			
	3. At the construction site /area			
b	Lighting for the living purposes of the bidder at the colony / quarters		Yes	
3.5	**Communication facilities for site operations of the bidder**			
a	Telephone, internet, intranet, e-mail etc		Yes	
3.6	**Demobilization of all the above facilities**		Yes	
3.7	**Erection Facilities**			
3.7.1	Engineering works for construction:			
a	Providing the erection/constructions drawings for all the equipment / structures covered under this scope	Yes		
b	Drawings for construction methods	Yes	Yes	In consultation with BHEL
c	As-built drawings where ever deviations observed and executed and also based on the decisions taken at site		Yes	Changes are to be marked in drawing & handover to BHEL on completion of work.
d	Preparation of site erection schedules and other input requirements as per Form-14.	Yes	Yes	In consultation with BHEL

e	Review of performance and revision of site erection schedules in order to achieve the end dates and other commitments	Yes	Yes	In consultation with BHEL
f	TRANSPORTATION For site personnel of the bidder For bidder's equipment and consumables of the bidder		Yes	

3.8.	**Land/Open Space: -**
3.8.1.	Availability of land within plant boundary is very limited and the contractor has to plan and use the existing land considering the use of land by other Civil /mechanical/ electrical contractors and the storage of plant machineries and materials. The existing land shall be shared by all erections agencies. BHEL shall provide free of charge limited open space for office, storage shed and laydown area as and where made available by Customer. It is the responsibility of the contractor to construct sheds, fabrication yard, provide all utilities and dismantle and clear the site after completion of work or as and when required, as a part of his scope of work.
3.9.	**Labour and Staff Colony:** **Following are in the Bidder's scope of work for labour & staff colony:**
3.9.1.	Labour colony is to be developed by bidder for all the labourers required to be deployed for the works. All labour colony set-up is to be developed as per attached drawing and in compliance of statutory requirements. **Alternatively, bidder can also arrange for labour accommodations meeting the statutory norms as well as the minimum facilities as per attached guidelines.**
3.9.2.	Land for labour colony shall be arranged by Contractor at their own cost as per availability outside project area within 5Km; Necessary levelling/dressing of land shall be done by the contractor. All arrangement for electricity and drinking/service water to be arranged by the contractor within his quoted price.
3.9.3.	Development of Bidder's temporary staff colony and labour colony having adequate no. of rest rooms along with toilets & fencing etc.
3.9.4.	All Civil and Structural work associated with drinking and service water for Bidder's labour and other personnel at the work site/colony/offices including pump houses, pipes, overhead tank, tube wells etc.

3.9.5.	Providing and maintaining facilities for safety, welfare, drinking water and sanitation, hygiene, biennial health check-up etc. for construction workers at their workplaces as well as at labour & staff colonies.
3.9.6.	Development and maintenance of above facilities for construction workers deployed by the Contractor shall solely rest with the Contractor.
3.9.7.	Rectification and Corrections in labour hutment/ accommodation as pointed out by BHEL/Customer shall be bidder's responsibility and any cost incurred by BHEL to complete the works, in case of non-compliance of the instructions by bidder, same shall be recovered from his RA Bills along with 5% overheads.
3.10.	Installation of necessary amenities and temporary infrastructure – for construction activities at Project site locations - Following are the minimum amenities to be provided by the bidder within the quoted price including removal/disposal of the same in environment friendly manner after its intended use/completion of scope of work: i. Labour rest sheds near work spot. ii. Canteen facility creation. iii. Drinking water facility. iv. Labour Bio toilets near work spot in sufficient nos. with regular cleaning & maintenance arrangement. v. Labour colony should have all hygienic condition, dining hall, toilets, proper sewerage system, good drinking water arrangements. vi. Royalty challan and statutory documents shall be submitted along with RA Bills for processing of Bills.
3.11.	**Construction Power:**
3.11.1.	Construction power shall be arranged by the contractor at his own cost and services. Contractor shall be responsible for fulfilment of all requirements including statutory requirements in this regard.
3.11.2.	Contractor shall deploy and install required cables, fuses, distribution boards, switchboards, bus bars, earthing arrangements, protection devices and any other installation as specified by statutory authority/act.
3.11.3.	Contractor shall make necessary arrangements for onward distribution of construction power taking due care of surrounding construction activities like movement of cranes & vehicles, civil

	work, fabrication/construction/assembly/ erection etc. and safety of personnel. It may become necessary to relocate some of the installations to facilitate work by other agencies or by him.
3.11.4.	It shall be the responsibility of the Contractor to provide, maintain the complete installation on the load side of the supply with due regard to the safety requirements at site. All cabling and installations shall comply in all respects with the appropriate statutory requirements. The installation and maintenance of this shall be done by licensed and experienced electrician.
3.11.5.	The contractor shall also take the approval/ permission of statutory authorities for his DG set installation. The Contractor has to make his own arrangement for the same as required to carry out the job under the scope of work within the quoted rate. Nothing extra shall be paid on this account of DG set up and running for construction and office maintenance etc.
3.11.6.	The bidder will have to Procure & install General mobile illumination system during construction right from start of his work. This system will include temporary pole lighting, portable lighting towers with DG back up, within the quoted price. The illumination should be such that minimum illumination requirement as specified by Indian standards for general illumination is maintained.
3.12.	**Construction water:**
3.12.1.	Construction water shall be arranged by bidder. Bidder has to make arrangement of further distribution of water at his own cost. No extra payment shall be made under this account.
3.12.2.	The Contractor should make arrangements for storage of sufficient quantity of water required for work. The agency should also construct sumps (if required) of suitable size for storage of construction water as per their requirement for use in batching plant and construction purposes.
3.12.3.	Contractor to satisfy himself that the water drawn by him is fit for construction / consumption and adequately treat such water at his cost when it is not found fit for the said purposes.
3.13.	**CONTRACTOR'S OBLIGATION ON COMPLETION** On completion of work, all the temporary buildings, structures, pipe lines, cables etc. shall be dismantled and levelled and debris shall be removed as per instructions of BHEL by the contractor at his cost. In the event of his failure to do so, the expenditure towards clearance of the same will be recovered from the contractor. The decision of BHEL Engineer in this regard is final.
3.13.1.	**DEWATERING:** Contractor shall ensure at all times that his work area & approach/ access roads are free from accumulation of water, so that the materials are safe and the erection/ progress schedule are not affected. No separate claim in this regard shall be admitted by BHEL. No separate payments for dewatering of subsoil, surface water or catchments water, if required, at any time during execution of the work including monsoon period shall be considered by BHEL.

3.14.	**BID DRAWINGS** Refer Chapter-XI for Tender Drawings. The drawings are only typical drawings for tender purpose. The works shall be executing as per the final drawings issued by the BHEL Site Engineer in charge. Any other drawings/ any other structures also, shall be executed as per the drawings issued by the BHEL Site Engineer in charge.
3.15.	**RECORDS TO BE MAINTAINED AT SITE** **The under mentioned Records/ Log-books/ Registers applicable to be maintained.** i. Hindrance Register. ii. Site Order Book. iii. Test Check of measurements. iv. Records of Test reports of Field tests. v. Records of manufacture's test certificates for bought out items as per BHEL's requirement **vi.** Records of disposal of scraps generated during and after the work completion.

4.0	**LIST OF TOOL & PLANTS TO BE DEPLOYED BY THE CONTRACTOR**	
4.1.	**Tools and Plants:** Nos. of T&Ps to be deployed at site shall be decided w.r.t. monthly plan and review format (F-14) based on site requirement. Below given No./ Nos. are tentative for planning purposes by the bidder.	
Sl. No.	**Description of T&P**	**Tentative Quantity**
4.2.	**For Civil Works**	
4.2.1.	Hydraulic Excavator /Poclain	02 No.
4.2.2.	JCB	02 No.
4.2.3.	Dumper	04 Nos.
4.2.4.	Trailer- 15 MT	02 No.
4.2.5.	Mobile Batching Plant	02 No.
4.2.6.	Concrete Mixture Machine	02 No.
4.2.7.	Vibrators (electrical/diesel)	04 Nos.
4.2.8.	Reinforcement bending machine	02 No.
4.2.9.	Reinforcement cutting machine	02 No.
4.2.10.	Vibro Roller (8-10 MT Capacity)	01 No.
4.2.11.	Farana crane (Required Capacity) **Note- Hydra is not allowed at project site**	01 Nos.
4.2.12.	Earth Compactor- 3MT Capacity (Minimum)	01 Nos.
4.2.13.	Total Station	01 Nos.
4.2.14.	Auto level & staff	01 No.
4.2.15.	Water Tanker with sprinkler attachment	01 Nos.
4.2.16.	Curing / dewatering pump – 1.5 / 2 HP	APR*
4.2.17.	De-watering pump (diesel operated) – 20 HP & 30 HP	APR*
4.2.18.	Plate compactor	APR*
4.2.19.	Self-priming Dewatering pump of various capacity (Diesel/Electric) From 2 HP to 15 HP	APR*

4.2.20.	Ply Shuttering board with adequate supporting structure – (Old steel shuttering plates will not be allowed).	APR*
4.2.21.	MS Scaffolding Pipes.	APR*
4.2.22.	Tractor mounted grader/ loader	APR*
4.2.23.	Man lift crane of Minimum 20m reach	APR*
4.2.24.	DG Set of adequate capacity	APR*
4.2.25.	Construction Cable and Water Pipe Line	APR*
4.3.	**For Structural Steel Works**	
4.3.1.	Crawler / Tyre Mounted Crane (Required Capacity)	APR*
4.3.2.	Farana crane (Required Capacity) **Note- Hydra is not allowed at project site**	01
4.3.3.	Magnetic Base Drill Machine	APR*
4.3.4.	Submerged Arc Welding Machine	02
4.3.5.	Welding Rectifier	02
4.3.6.	Trailer (20MT Capacity)	01
4.3.7.	Torque Tightening Machine	APR*
4.3.8.	Power Winch- 03 MT	APR*
4.3.9.	Pipe Cutting Machine	APR*
4.3.10.	Heating Ovens	APR*
4.3.11.	Portable Ovens	APR*
4.3.12.	Spray Painting Equipment	APR*
4.3.13.	APR*- As per Requirement	
4.4.	Measuring and Monitoring Equipment (MMEs): To be finalized as per site requirement.	
4.5.	T&Ps shown in the above-mentioned list is suggestive requirement. However, mobilization schedule as mutually agreed at site for major T&Ps, have to be adhered to. Capacity/Numbers/time of requirement will be reviewed from time to time at site and contractor will provide required T&Ps/equipment to ensure completion of entire work within schedule/target date of completion without any additional financial implication to BHEL.	

	Contractor will give advance intimation & certification regarding capacity etc. prior to dispatch of heavy equipment. Also, on completion of the respective activity, demobilization of T&Ps in total or in part can be done with the due approval of Engineer-In-Charge. Retaining of the T&Ps during the contract period will be mutually agreed in line with construction requirement.
4.6.	The contractor shall arrange crane operator, diesel, petrol and other consumables including electrical / water / air connections required for the tools and plants, equipment etc. Preventive and routine maintenance of T & P are also to be arranged by the contractor at his cost without any delay. Required number of experienced mechanics and helpers for routine maintenance of the above T&Ps shall be provided by the contractor within his quoted rate.
4.7.	Other terms and conditions regarding T&Ps to be deployed by Contractor shall be as per clause No. 4.2 of SCC.

5.0	**LIST OF T&P TO BE PROVIDED BY BHEL FREE OF HIRE CHARGES ON SHARING BASIS:** BHEL shall not provide any T&Ps for this scope of work. All T&Ps required for handling of items / materials to be arranged by bidder.

6.0 TIME SCHEDULE

6.1. INITIAL MOBILIZATION

After receipt of LOA (though Fax/courier/email), Contractor shall report to Project Manager / Construction Manager/ Site in charge of BHEL at site within seven (07) days from date of LOA and submit detailed mobilization plan to start the work within 15 days from date of LOA, unless instructed by BHEL to differ start of work in writing.

The contractor has to subsequently augment his resources in such a manner that the entire works are completed within the contract period of **13 (Thirteen) Months from the date of start of work in a manner required by BHEL to match with the project schedule**.

Date of Start of work shall be considered as 15 days after date of LOA or as instructed by BHEL in writing.

6.2. SCHEDULE OF COMPLETION: (For both Package-A and Package-B)

The entire work under the scope of this contract shall be carried out in such a manner that the following listed major milestones are achieved as per completion schedule given against each activity.

6.2.1. **Work shall be completed and handed over progressively as below:**

Sl. No.	Activity	Quantity	Schedule of completion from date of start of work
1.	Hard crusting in Open Yard of 50,000 Sq **(M1)**	50000 sqm	03rd Month
2.	Supply and installation of Weigh Bridge (01 Nos.) **– including civil works**.		03rd Months
3.	Civil Quality Lab (150 Sqm) **– including civil, structure, electrical and illumination work but excluding testing equipment**		04th Months
4.	Closed Storage Sheds with office (900 SQM)	1 No.	4th Month
5.	Closed Storage Sheds without office (900 SQM)	5 Nos.	
a)	Closed Storage Sheds	1st	5th Month
b)	Closed Storage Sheds **(M2)**	2nd & 3rd	6th Month
c)	Closed Storage Sheds	4th & 5th	7th Month
6.	Safety Park (210 SQM)	1 No.	4th month
7.	Yard development	100000 Sqm	6th Month

	8.	Completion of Balance Works and Handing Over the complete works	------	13th Month

6.3. The above schedule is only tentative. The above schedule shall be advanced, if there are requirements to advance the project schedule and the civil works in the scope of the contractor is to be advanced to meet the project requirement. No extra payment whatsoever shall be paid on this account.

6.4. In order to meet the above schedule in general, and any other intermediate targets set, to meet customer/ project schedule requirements, Contractor shall arrange & augment all necessary resources from time to time on the instructions of BHEL Engineer.

6.5. **Intermediate milestones: (For both Package-A and Package-B)**

Two Major Intermediate Milestones are identified as M1 and M2 hereunder:

6.5.1.

Activity	Milestones	Schedule of completion from start of work
Hard crusting in Open Yard of 50,000 Sq	**M1**	3rd Month
Closed Storage Sheds without office - Closed Storage Sheds-2nd & 3rd	**M2**	6th Month

6.5.2. **Provision of Penalty in case of slippage of Intermediate Milestones:** In case of slippage of Two Major Intermediate Milestones, mentioned as M1 & M2 above, delay Analysis shall be carried out on achievement of each of these two Intermediate Milestones in reference to F-14.

6.5.3. In case of slippage of these identified Intermediate Milestones, Delay Analysis shall be carried out on achievement of each of these two Intermediate Milestones.

6.5.4. In case delay in achieving M1 Milestone is solely attributable to the contractor, 0.5% per week of executable contract value*, limited to maximum 2% of executable contract value, will be withheld.

6.5.5. In case delay in achieving M2 Milestone is solely attributable to the contractor, 0.5% per week of executable contract value*, limited to maximum 3% of executable contract value, will be withheld.

6.5.6. Amount already withheld, if any against slippage of M1 milestone, shall be released only if there is no delay attributable to contractor in achievement of M2 Milestone.

6.5.7. Amount required to be withheld on account of slippage of identified intermediate milestone(s) shall be withheld out of respective milestone payment (corresponding RA Bill) and balance amount (if any) shall be withheld @10% of RA Bill amount from subsequent RA bills.

6.5.8. Final deduction towards LD (if applicable), on account of delay attributable to contractor shall be based on final delay analysis on completion/ closure of contract. Withheld amount, if any due to slippage of identified intermediate milestone(s) shall be adjusted against LD or released as the case may be.

6.5.9.	In case of termination of contract due to any reason attributable to contractor before completion of work, the amount already withheld against slippage of intermediate milestones shall not be released and be converted into recovery.
6.5.10.	Common activities shall be completed in Phase wise manner/ Instruction of Engineer within the Contractual time.
6.5.11.	Above milestone dates has to be completed in parallel.
6.5.12.	Bidders are requested to submit Resource deployment plan Area wise with detail program in line with above schedule in the form of Bar Chart/ MS project planer along with their offer.
6.5.13.	*** Executable Contract Value** - Value of work for which inputs/ fronts were made available to contractor and were scheduled for execution till the date of achievement of that milestone.
6.6.	**COMPLETION OF WORK AND COMMENCEMENT OF GUARANTEE PERIOD (For both Package-A and Package-B)**
6.6.1.	The works shall be completed to the entire satisfaction of the Engineer and in accordance with the completion schedule as specified in the Contract, and all unused stores and materials, tools, plant, equipment, temporary buildings, site office, labour hutments and other things shall be removed and the site and work cleared of rubbish and all waste materials and delivered up clean and tidy to the satisfaction of the Engineer at the Contractor's expenses.
6.6.2.	BHEL shall have power to take over from the Contractor from time to time such sections of the work as have been completed to the satisfaction of the Engineer. Such work however shall not be treated as have been completed until the remaining / pending works are executed to the satisfaction of Engineer.
6.6.3.	The Engineer shall certify to the contractor the date on which the work is completed and the date thereof for commencement of Guarantee Period. Guarantee Period shall be as given in GCC.

7.0	**TERMS OF PAYMENT:**
7.1.	**Progressive Payment/ Final Payment: The** payments for works under the scope of this contract shall be as per clause no 2.6; 2.22; 2.23 of General Conditions of Contract and Volume-IB, Chapter-X of SCC.
7.2.	**Documents required for RA Bill:** • GST Complied Invoice of the work done as per approved BBU. • WAM -6 for RA Bill. • Jointly signed Measurement sheet. • Power of Attorney before submission of Bill. • Validity of Bank Guarantees as applicable under the contract. **HR/IR compliance documents:** • Wages payment sheet as per applicable minimum wages. • Proof of PF contribution submission. • Proof of ESI/ WC contribution submission. • Proof of Bonus payment as per Bonus Act if applicable. • Proof of EL payment if applicable. • Any other statutory document if applicable.
7.3.	**DOCUMENTS REQUIRED FOR FINAL BILL:** The final bill is drawn as soon as the entire work is completed. From the final amount due, all amounts already claimed up to the previous running account bill will be deducted. It should be ensured that in the final bill the following additional particulars have been provided: • Final Bill in WAM-7 Format. • 'No claim' certificate from the contractor. • Clearance certificates where ever applicable viz. Clearance Certificates from Customer, various Statutory Authorities like Labour department, PF Authorities, Commercial Tax Department etc. • Final Material re-conciliation statement duly approved by BHEL. • Indemnity Bond as per prescribed format. • Deviation statement showing the difference between the actuals and as per the contract. • Final Delay Analysis.
7.4.	**SECURED RECOVERABLE ADVANCES: (For both Package-A and Package-B)**

<table>
<tr><td></td><td>Interest Free Secured Mobilization Advance as per GCC Clause No. 2.13.1 will be payable under exceptional circumstances on certification of BHEL Construction Manager at Site. Interest Free Mobilization Advance shall be disbursed in specifically mentioned stages of major resource mobilization as specified hereunder:

<table>
<tr><td>7.4.1.</td><td>For Mobilization of Excavator -1 No., JCB- 1 No., Dumper- 2 Nos., Grader/Dozer – 1No. - 2.0%</td></tr>
<tr><td>7.4.2.</td><td>For Mobilization – Farana Crane- 1 No. Welding Machine 1 No., Trailer 1 No.- 1%</td></tr>
<tr><td>7.4.3.</td><td>For Mobilization of Contractor's Site Infrastructure by contractor i.e. site office, stores, labour accommodations. - 2%</td></tr>
</table></td></tr>
<tr><td>7.5.</td><td>-VOID-</td></tr>
<tr><td>7.6.</td><td>Notes:
BHEL Site-CM shall be the deciding authority for assessing the admissibility of advance payment to contractor.
In case contractor do not fulfil the agreed conditions of payment of 1st mobilization advance, BHEL Construction Manager will have the authority to not allow the 2nd mobilization advance to contractor.</td></tr>
</table>

8.0	**TAXES & DUTIES**
8.1	The contractor shall pay all (save the specific exclusions as enumerated in this clause) taxes, fees, license, charges, deposits, duties, tools, royalty, commissions, other charges, etc. which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes/duties, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit. However, provisions regarding **GST** on output supply (goods/service) and TDS/TCS as per Income Tax Act shall be as per following clauses.
8.2	**GST (Goods and Services Tax)**
8.2.1	GST as applicable on output supply (goods/services) are excluded from contractor's scope; therefore, contractor's price/rates shall be **exclusive** of GST. Reimbursement of GST is subject to compliance of following terms and conditions. BHEL shall have the right to deny payment of GST and to recover any loss to BHEL on account of tax, interest, penalty etc. for non-compliance of any of the following condition.
8.2.2	The admissibility of GST, taxes and duties referred in this chapter or elsewhere in the contract shall be limited to direct transactions between BHEL & its Contractor. BHEL shall not consider GST on any transaction other than the direct transaction between BHEL & its Contractor. For discharging GST liability, **Package-A (Immoveable items)** is to be treated as "**Works Contract" and Package-B (Moveable items)** is to be treated as "**Contract for Supply of Goods". GST for Package-A** is to be charged as per applicable rate under respective head of "Services" and GST for Package-B is to be charged as per applicable rate under respective head of "Goods" for "Composite supply of works contract as defined in clause 119 of section 2 of CGST Act"
8.2.3	Contractor shall obtain prior written consent of BHEL before billing the amount towards such taxes. Where the GST laws permit more than one option or methodology for discharging the liability of tax/levy/duty, BHEL shall have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Contractor.
8.2.4	Contractor has to submit GST registration certificate of the concerned state. Contractor also needs to ensure that the submitted GST registration certificate should be in active status during the entire contract period.
8.2.5	Contractor/Vendor has to issue Invoice/Debit Note/Credit Note indicating HSN/SAC code, Description, Value, Rate, applicable tax and other particulars in compliance with the provisions of relevant GST Act and Rules made thereunder.
8.2.6	Vendor has to submit GST compliant invoice within the due date of invoice as per GST Law. In case of delay, BHEL reserves the right of denial of GST payment if there occurs any

	hardship to BHEL in claiming the input thereof. In case of goods, vendor has to provide scan copy of invoice & GR/LR/RR to BHEL before movement of goods starts to enable BHEL to meet its GST related compliances. Special care should be taken in case of month end transactions.
8.2.7	Vendor has to ensure that invoice in respect of such services which have been provided/completed on or before end of the month should not bear the date later than last working day of the month in which services are performed.
8.2.8	Subject to other provisions of the contract, GST amount claimed in the invoice shall be released on fulfilment of all the following conditions by the Contractor: - a. Supply of goods and/or services have been received by BHEL. b. Original Tax Invoice has been submitted to BHEL. c. Contractor/ Vendor has submitted all the documents required for processing of bill as per contract/ purchase order/ work order. d. In cases where e-invoicing provision is applicable, vendor/contractor is required to submit invoice in compliance with e-invoicing provisions of GST Act and Rules made thereunder. e. Contractor has filed all the relevant GST return (e.g. GSTR-1, GSTR-3B, etc.) pertaining to the invoice submitted and submit the proof of such return along with immediate subsequent invoice. In case of final invoice/ bill, contractor has to submit proof of such return within fifteen days from the due date of relevant return. f. Respective invoice has appeared in BHEL's GSTR - 2A for the month corresponding to the month of invoice and in GSTR-2B of the month in which such invoices has been reported by the contractor along with status of ITC availability as "YES" in GSTR-2B. Alternatively, BG of appropriate value may be furnished which shall be valid at least one month beyond the due date of confirmation of relevant payment of GST on GSTN portal or sufficient security is available to adjust the financial impact in case of any default by the contractor. g. Contractor has to submit an undertaking confirming the payment of all due GST in respect of invoices pertaining to BHEL.
8.2.9	Any financial loss arises to BHEL on account of failure or delay in submission of any document as per contract/purchase order/work order at the time of submission of Tax invoice to BHEL, shall be deducted from contractor's bill or otherwise as deemed fit.
8.2.10	TDS as applicable under GST law shall be deducted from contractor's bill.
8.2.11	Contractor shall comply with the provisions of e-way bill wherever applicable. Further wherever provisions of GST Act permits, all the e-way bills , road permits etc. required for transportation of goods needs to be arranged by the contractor.
8.2.12	Contractor shall be solely responsible for discharging his GST liability according to the provisions of GST Law and BHEL will not entertain any claim of GST/interest/penalty or any other liability on account of failure of contractor in complying the provisions of GST Law or discharging the GST liability in a manner laid down thereunder.

8.2.13	In case declaration of any invoice is delayed by the vendor in his GST return or any invoice is subsequently amended/altered/deleted on GSTN portal which results in any adverse financial implication on BHEL, the financial impact thereof including interest/penalty shall be recovered from the Contactor's due payment.
8.2.14	Any denial of input credit to BHEL or arising of any tax liability on BHEL due to non-compliance of GST Law by the Contractor in any manner, will be recovered along with liability on account of interest and penalty (if any) from the payments due to the Contactor.
8.2.15	In the event of any ambiguity in GST law with respect to availability of input credit of GST charged on the invoice raised by the contractor or with respect to any other matter having impact on BHEL, BHEL's decision shall be final and binding on the contractor.
8.2.16	**Variation in Taxes & Duties:** Any upward variation in GST shall be considered for reimbursement provided supply of goods and services are made within schedule date stipulated in the contract or approved extended schedule for the reason solely attributable to BHEL. However downward variation shall be subject to adjustment as per actual GST applicability. In case the Government imposes any new levy/tax on the output service/goods after price bid opening, the same shall be reimbursed by BHEL at actual. The reimbursement under this clause is restricted to the direct transaction between BHEL and its contactor only and within the contractual delivery period only. In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer but before opening of the price Bid, the Bidder/Contractor must convey its impact on his price duly substantiated by documentary evidence in support of the same before opening of price bid. Claim for any such impact after opening the price bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.
8.3	**Income Tax:** TDS/TCS as applicable under Income Tax Act, 1961 or rules made thereunder shall be deducted/collected from contractor's bill.

8.4 BOCW Act & Cess Act

8.4.1 BOCW Cess is not to be borne by contractor. Refer Annexure-I for BOCW Act & Cess Act.

	Annexure-I:
Bidder may please note that the sub-contractor/bidder of BHEL engaging building or construction worker in connection with building or other construction work, are required to follow the procedures enumerated below:	
1.	It shall be the sole responsibility of the contractor as employer to ensure compliance of all the statutory obligations under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.

2.	It shall be sole responsibility of the contractor engaging Building Workers in connection with the building or other construction works in the capacity of employer to apply and obtain registration certificate specifying the scope of work under the relevant provisions of the Building and Other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 from the appropriate Authorities.
3.	It shall be responsibility of the contractor to furnish a copy of such Registration Certificate within a period of one month from the date of commencement of Work.
4.	It is responsibility of the contractor to register under the Building and other Construction Workers' Welfare Cess Act, 1996 and deposit the required Cess for the purposes of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 at such rate as the Central Government may, by notification in the Official Gazette, from time to time specify. However, before registering and deposit of Cess under the Building and other Construction Workers' Welfare Cess Act, 1996, the contractor will seek written prior approval from the Construction Manager.
5.	It shall be sole responsibility of the contractor as employer to get registered every Building Worker, who is between the age of 18 to 60 years of age and who has been engaged in any building or other construction work for not less than ninety days during the preceding twelve months as Beneficiary under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996.
6.	It shall be sole responsibility of the contractor as employer to maintain all the registers, records, notices and submit returns under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.
7.	It shall be sole responsibility of the contractor as employer to provide notice of poisoning or occupation notifiable diseases, to report of accident and dangerous occurrences to the concerned authorities under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the rules made thereunder and to make payment of all statutory payments & compensation under the Employees' Compensation Act, 1923.
8.	It shall be the responsibility of the sub-contractor as employer to make payment/deposit of applicable cess amount on the extent of work involving building or construction workers engaged by the sub-contractor within a period of one month from the receipt of payment. It shall also be responsibility of the Contractor to furnish BHEL on monthly basis, Receipts/ Challans towards Deposit of the Cess under the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder along with following statistics: (i)Number of Building Workers employed during preceding one month. (ii) Number of Building workers registered as Beneficiary during preceding one month. (iii)Disbursement of Wages made to the Building Workers for preceding wage month. (iv) Remittance of Contribution of Beneficiaries made during the preceding month
9.	**BHEL shall reimburse the contractor the Cess amount deposited for the purposes of the Building and other Construction Workers' (Regulation of Employment and Conditions of**

	Service) Act, 1996 under the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder. However, BHEL shall not reimburse the Fee paid towards the registration of establishment, fees paid towards registration of Beneficiaries and Contribution of Beneficiaries remitted.
10.	It shall be responsibility of the Building Worker engaged by the Contractor and registered as a beneficiary under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 to contribute to the Fund at such rate per mensem as may be specified by the State government by notification in the Official Gazette. Where such beneficiary authorizes the contractor being his employer to deduct his contribution from his monthly wages and to remit the same, the contractor shall remit such contribution to the Building and other construction Workers' Welfare Board in such manner as may be directed by the Board , within the fifteen days from such deduction.
11.	**Bidders may please note that though the quoted price is exclusive of BOCW (which will be reimbursed by BHEL as per sub-clause 9 above) , however, If at any point of time during the contract period, non-compliance of the provisions of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder is observed, BHEL reserves the right to deduct the applicable cess (1%) on the contract value and penalty (if any, imposed by Cess Authorities) from the payables on account of non-compliance.**
12.	The contractor shall declare to undertake any liability or claim arising out of employment of building workers and shall indemnify BHEL from all consequences / liabilities / penalties in case of non-compliance of the provisions of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.

9.0	**MATERIALS**
9.1	The contractor shall, at his own expenses (Inclusive of Taxes), provide all materials required for the work.
9.2	All materials to be provided by the Contractor shall be of the best kind in conformity with the specifications laid down in the contract or as per relevant Indian standard and the Contractor shall, if requested by the BHEL Engineer, furnish proof to the satisfaction of BHEL Engineer that the materials so comply.
9.3	The Contractor shall, at his own expense and without delay, supply to the BHEL Engineer samples of materials proposed to be used in the works. The BHEL Engineer shall within seven days of supply of samples or within such further period as he may require will intimate to the Contractor in writing, whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the BHEL Engineer for his approval fresh samples complying with the specifications laid down in the Contract. Any delay in approval of samples (original or fresh ones) shall not make the contractor eligible for any compensation.
9.4	The BHEL Engineer shall have full powers for removal of any or all of the materials brought to site by the Contractor which are not in accordance with the Contract specifications or do not conform in character or quality to samples approved by him. In case of default on the part of the Contractor in removing rejected materials, the BHEL Engineer shall be at liberty to have them removed by other means. The BHEL Engineer shall have full powers to procure other proper material to be substituted for rejected materials and in the event of the Contractor refusing to comply; he may cause the same to be supplied by other means. All costs, which may attend upon such removal and / or substitution, shall be borne by the Contractor.
9.5	The Contractor shall indemnify BHEL, its representatives or employees against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties or other charges which may be payable in respect of any article or material or part thereof included in the Contract. In the event of any claim being made or action being brought against BHEL or any agent, servant or employee of BHEL in respect of any such matters as aforesaid, the Contractor shall immediately be notified thereof, provided that such indemnity shall not apply when such infringement has taken place in complying with the specific directions issued by BHEL but the Contractor shall pay any royalties or other charges payable in respect of any such use, the amount so paid being reimbursed to the Contractor only if the use was the result of any drawings / specifications issued after submission of the tender.
9.6	The BHEL Engineer shall be entitled to have tests carried out as specified in the Contract for any materials supplied by the Contractor other than those for which, as stated above, satisfactory proof has already been furnished, at the cost of the Contractor and the Contractor shall provide at his expense all facilities which the Engineer may require for the purpose. If no tests are specified in the Contract, and such tests are required by the Engineer, the Contractor

	shall provide all facilities required for the purpose and the charges for these tests shall be borne by the Contractor only. The cost of materials consumed in tests shall be borne by the Contractor in all cases except when otherwise provided.
9.7	In addition, the Contractor shall perform / submit at his own cost such tests / samples as may be required by the BHEL Engineer out of the materials used by the company except for the costs of materials used in such tests/ samples.
9.8	After acceptance of the Contract, if Contractor desires BHEL to supply any other materials, such material may be supplied by BHEL, if available, at rates to be fixed by the BHEL Engineer along with prevailing departmental charges. BHEL reserve the right not to issue any material. The non-issue of such material will not entitle the Contractor for any compensation whatsoever either in time or in cost.
9.9	Material required for the works, whether brought by the Contractor or supplied by BHEL, shall be stored by the Contractor only at places approved by the Engineer. Storage and safe custody of material shall be the responsibility of the contractor.
9.10	BHEL's officials concerned with the Contract shall be entitled at any time to inspect and examine any materials intended to be used in or on the works, either on the Site or at factory or workshop or other place(s) where such materials are assembled, fabricated, manufactured or at any place (s) where these are lying or from which these are being obtained and the Contractor shall give such facilities as may be required for such inspection and examination.
9.11	All materials brought to the Site shall become and remain the property of BHEL and shall not be removed off the Site without the prior written approval of the BHEL Engineer. But whenever the Works are finally completed and advance, if any, in respect of any such material is fully recovered, the Contractor shall at his own expense forthwith remove from the Site all surplus material originally supplied by him and upon such removal, the same shall re-vest in and become the property of the Contractor.

10.0	**TECHNICAL SPECIFICATIONS**
10.1.	SPECIFICATION FOR CIVIL WORK, PLUMBING WORK, SANITARY WORK, ELECTRIFICATION WORK FOR OFFICE, CLOSED STORAGE SHEDS, SAFETY PARK ETC.
10.1.1.	Standard specifications for various items of work for building construction as per the relevant IS-codes (latest edition) shall be applicable for this work. The work has to be executed as per relevant standards, IS Codes specifications, approved drawings and as directed by BHEL Engineer to the satisfaction of BHEL.
10.2.	**SAFETY PARK:**
10.2.1.	**SAFETY PARK:** SIZE: 210 SQM (01 NO.) Clear Height: 3M **Safety Park also includes supply and installation of Vertigo Test Structure.** **Details:** Office shall be constructed as Pre-Engineered, Pre-fabricated, Removable and Re-erectable type building. Detailed construction drawings shall be prepared in consideration of the technical / construction specifications as mentioned hereafter and submitted to BHEL for approval:
10.2.2.	**FRAME STRUCTURE:** Office shall be constructed as frame structure with Structural Columns, Trusses, Foundations and Plinth Beam for supporting self-loads, live-loads, wind loads, seismic loads etc. Drawings provided herein are tentative only for tendering purpose only, works shall be carried out as per the detail drawings to be prepared by contractor and approved from BHEL.
10.2.3.	**MAIN EXTERNAL WALLS:** The main structural walls shall be made out of PUF Panel with color coated GI sheet of 0.5 mm thickness on Inner and Outer Side and 60 mm thick PUF of 38 Kg /m3 sandwiched between the sheets. The fixture should be joined together by tongue and groove method to ensure 100% leak proof. The base frame for PUF panels shall be fabricated with ISMC 75x40x3mm or as per approved design, MS "T" welded for securing panels. The above panels with base frame shall be grouted to the Plinth / Floor by means of expansion fasteners. To maintain the aesthetic look of office, PUF Panels should be flushed with Inner face of columns and columns shall be covered with the color coated GI sheet. The entrance will be provided with portico made up of PUF Panels, of approx. 4m X 3m.
10.2.4.	**ROOF:** Roof should be made up of structural steel truss using sections as per approved drawing to suit roof structure and permanently color coated galvanized MS troughed roof sheet fixed with fasteners including rain water gutters etc. all complete. Office roof shall be leak proof and gaps (if any) shall be filled with sealants.
10.2.5.	**FLOORING:** As per approved drawing.

	Note: Final design of RCC Structures shall be as per approved drawings.
10.2.6.	**ARCHITECTURAL DETAILS**
10.2.6.1.	Finish flooring above Cement Concrete (CC) shall be of vitrified ceramic tiles of polished variety including underbed of cement mortar 1:3 minimum 20mm thick for flooring and 12mm thick underbed for dado/skirting with neat cement slurry @3.3Kg/sqm including pointing the joints with white cement and matching pigment etc. all complete. The Finished Floor Level (FFL) shall be minimum 400 mm up from the Natural Ground Level NGL). Finish flooring for toilets shall be of vitrified ceramic tiles of matt finish (antiskid) including underbed of cement mortar 1:3 minimum 20mm thick underbed for flooring and 12mm thick underbed for dado/skirting with neat cement slurry @3.3Kg/sqm, including pointing the joints with white cement and matching pigment etc. all complete
10.2.6.2.	**FALSE CEILING:** False ceiling shall be provided to entire office area including corridors, toilet blocks etc. as per BOQ cum Rate Schedule. Cut-outs should be made wherever necessary for Fixing of electrical fittings.
10.2.6.3.	**PART CABINS AND WORK STATIONS:** Double side partition for cubicles/work stations, part cabins of required height shall be made up of powder coated aluminium frame of required thickness and panelling with laminated particle board / Glass glazing / Pinup Board as per drawings, BOQ cum rate schedule and specifications. These panels shall be joined together by tongue and groove method using self-tapping screws, necessary fittings, fixture, neoprene gasket, beading etc. complete. as per BOQ cum Rate Schedule.
10.2.6.4.	**MODULAR FURNITURE / FURNISHINGS:** Modular Furniture / Furnishing of approved make and model shall be provided for Office as per BOQ cum rate schedule. Contract shall prepare a detailed layout drawing for furniture layout and same shall be got approved from BHEL Engineer-In-Charge before procurement of Furniture Items. Contractor's scope includes supplies of all furniture items, fixing / anchor fastening with necessary fixtures etc. all complete as per BOQ cum Rate Schedule. **Make and Models of the Furniture Items shall be approved from BHEL Engineer-In-charge before procurement of furniture and furnishing items. Detailed specifications of Furniture Items are attached separately.**
10.2.6.5.	**DOORS AND WINDOWS:** **Outer Doors:** Outer Doors shall be Powder Coated Aluminum framed with pre-laminated particle board paneling (min. 12 mm thick confirming to IS: 12823 Grade I type II, with decorative lamination on both side) with necessary EPDM rubber/ neoprene gasket, aluminium snap beading for glazing/ paneling, C.P. Brass / stainless steel screws, hinges, handle, door stopper, Double Action Hydraulic Floor Springs, mortise lock and pad locks etc. complete with all accessories. A covered portico of 4m x 3m shall be provided at the entrance as per the layout drawings.

	Windows: All Windows shall be made of Aluminum Frame with glass glazing. The aluminium windows shall be of sliding type, roller blinds of approved make, color & fabric shall be provided for windows. Suitable nos. of Windows shall be provided for enough ventilation & natural light.
10.2.6.6.	**Internal Doors:** Internal Doors for Site-In charge room, conference hall, rooms in safety park and common Toilet Block shall be made of wooden flush shutters with outer Colour anodized Al Frame including, necessary hinges, handles, mortice locks, door closures, stoppers, L drops etc. complete. Internal Doors for Toilets attached to conference room, Site-in charge Room and for EWCs shall be PVC Doors with PVC outer frame with all necessary fittings and fixtures complete.
10.2.7.	**TOILET:** All toilets should have required Towel Rods, Soap Dispenser and Glazed Mirrors etc. with flushing system including total required Plumbing. All Toilets should contain EWC with Health Faucet, Paper Holder, Bottle Traps, Brass Bib Cocks, Stop Cocks, Gate Valves etc. all complete. as per instructions of Engineer-In-charge, specifications and BOQ cum Rate Schedule.
10.2.8.	**PANTRY:** Pantry shall be provided with a SS kitchen Sink with drain board (size: 510X1040 with min bowl depth 250 mm) including stop cocks, pillar taps, waste water pipe, necessary fittings and connections etc. all complete and a Granite working platform of min. 18 mm thick Black Granite Stone laid over angle support structures monolithic with outer frame structure at a specified height as per approved drawings and as directed by BHEL Engineer.
10.2.9.	**WATER SUPPLY:** A separate structure shall be provided with steel sections to support 1000 Litre/ 2000 Litre water tank at a minimum height of 4m. The steel structure shall be able to withstand the water tank load and wind load in full & the legs of structure shall be suitably anchored to the ground. Supply and Fixing of Water Tank as approved by BHEL Engineer including inlet connection to Water Tank from the Existing nearby water supply line / bore well and further Distribution of water from the Water Tank to the Office Toilets, Pantry etc. using the GI / PVC Pipes of approved specifications and make, laying on surface/ recessed is also included in contractor's scope.
10.2.10.	**SEWAGE / WATER SUPPLY CONNECTIONS:** Sanitary fitting (EWCs, wash basins, urinals etc.) along with sewage connections shall be provided with septic tank and soak pit. All internal and external plumbing (from water tank to distribution system like toilet and pantry) including providing and fixing necessary GI / PVC Pipe, SW Pipe, stop cocks, bib cocks, full way valves, Gully Traps, Nahni Traps, water faucet etc. shall be provided as per approved drawings, BOQs and as directed by BHEL Engineer.
10.2.11.	**ELECTRICAL WORKS (FOR OFFICE AND SAFETY PARK):** Bidder to supply & install electrical items like Distribution Boards, LT Cables, Main switch with Earth leakage protection (30A TPN), suitable sockets/switch units for

	required A/C points, wires, PVC conduits, tees, bends, clamps, JBs, 5amps socket, Modular Switch boards & points for computers & telephone for each table/desk, earthing wires, Lighting system shall be designed as modular type suitable for False ceilings. Also, the bidder should take care of aesthetics and energy conservation. A detailed schematic with BOM of the electrical fittings shall be submitted to BHEL for approval before execution. Supplying and Installation of Main Distribution Board and making the connection from the Single Point Source (as and where made available) to the Distribution Board using the PVC Insulated aluminium armoured LT Cables (3&1/2 core) of appropriate size and capacity, including laying underground as per standard procedures and specifications and making the connections from the Main Distribution Board to the Office and Safety Park through a Wall mounted MCB Distribution Board, including supplying, installation and commissioning of MCB distribution board for safe and leak proof Electrical Installation is also in the scope of Bidder. **Electrical Fitting / Equipment of approved make shall be provided as per the approved Electrical Layout, BOQ cum Rate Schedule.**
10.2.12.	**NETWORKING**: Bidder to Supply, Install and Commission the networking equipment in appropriate quantities required for Modular Office and Safety Park as per approved drawings, BOQ cum Rate Schedule and as directed by BHEL Engineer. **Following Networking Equipment / Cables are in the scope of contractor:** a. 9U WALL MOUNTABLE RACK WITH 5 AMPS HORIZONTAL POWER STRIP b. 24 PORT LOADED PATCH PANEL WITH 1 U HORIZONTAL CABLE MANAGER c. TELEPHONE JUNCTION BOXES (MDF) KRONE TYPE WITH LOCK & KEY d. 10 PAIR KRONE STRIP e. 50 PAIR RAISER CABLE CONNECT EPABX f. ERECTION OF LAN SYSTEM EQUIPMENT SUCH AS JACK/PATCH CORD. ETC INCLUDING I/O AND CAT6 CABLE g. ERECTION OF VOICE LINE SYSTEM EQUIPMENT SUCH AS I/O AND 2PAIR TELEPHONE CABLE. **8. D-Link DES-1024D 48-Port Fast Ethernet 10/100 Mbps Unmanaged Switch**
10.2.13.	**AIR CONDITIONING:** Split/ Window Air-conditioner (1.5 T / 2T) shall be provided as per requirement and direction of Engineer-In-charge with complete installation including ancillary works, voltage stabilizer, testing and commissioning as per manufacturers guidelines and specification.

10.2.14.	**SALIENT TECHNICAL REQUIREMENTS:** • Contractor shall submit two sets of proposed drawings of the buildings as per the scope of safety park along with foundation, furniture arrangements, Electrical, Plumbing & other fittings etc., to BHEL before commencement of work for approval within twenty (20) days from the receipt of LOA. • Since these are detachable sheds & to be in repetitive use at other locations, proper marking (permanent) shall be made for identification to ease of re-erection. The shed shall be so designed that it can be dismantled at any time and may be transported to be re-erected at other location. • The roof truss should have bolted joints at crown /at both ends. Both roof and side cladding are to be made "Water Tight". • The bidder should submit a **guarantee for 1 year of operations** for the materials supplied and erected by him. • Bidder shall submit two sets of proposed drawings to BHEL before commencement of work. Two sets of final drawings, along with one soft copy, shall be handed over to BHEL immediately after finalization of design. • Bidders should take care of all Indian site conditions, prevailing local laws etc. • No claim shall be entertained to lack of knowledge of site condition. • After completion of work, the building and areas around it should be cleared of all rubbish, debris etc. and handed over in fit condition for occupation. • Design & Execution of civil works shall be carried out as per latest IS codes, standard specification and drawings as per the instruction of BHEL Engineer.
10.2.15.	The materials and workmanship must be of good quality and accepted standards and specifications. The BHEL Engineer reserves the right to reject any material not up to the specification
10.3.	**CLOSED STORAGE SHEDS AND INTERMEDIATE SHED.**
10.3.1.	**DETAILS:** Detailed drawings shall be prepared in consideration of the technical / construction specifications as mentioned hereafter. **CLOSED STORAGE SHEDS & INTERMEDIATE CLOSED STORAGE SHED:** Closed Storage Sheds shall be as per following, – a) Supply, Receipt at Site, Erection and Handing over to site Removable/Re-erectable type Pre-Engineered, Pre-fabricated ***Closed Storage Shed with C&I Room*, In-charge Room, Common Hall, Computer Room, Side Racks, Pantry & Toilet etc.- (approx. Size: 15mx60mx6m)** including Civil Works, Foundations, Electricals, Furniture, Lighting & Fixtures, Site Painting etc. all complete.

	b) Supply, Receipt at Site, Erection and Handing over to site Removable/Re-erectable type Pre-Engineered, Pre-fabricated ***Closed Storage Shed with Side Rack for storage purpose, Store Room etc.-*** **(approx. Size: 15mx60mx6m)** including Civil Works, Foundations, Electricals, Furniture, Lighting & Fixtures, Site Painting etc. all complete. c) Supply, Receipt at Site, Erection and Handing over to site Removable/Re-erectable type Pre-Engineered, Pre-fabricated Closed Storage Shed with Side Rack for storage purpose, Store Room etc.- 01 Nos. (approx. Size: 600SqM) including Civil Works, Foundations, Electricals, Furniture, Lighting & Fixtures, Site Painting etc. all complete d) Columns shall be spanning – 6.0M c/c long span & 5.0M c/c short span for the sheds mentioned in point nos. 1 (a), 1 (b) e) All side cladding/ roof sheets shall be fitted in such a way that they can be removed at any point of time. f) MS rolling shutters for **closed storage sheds** shall be provided as detailed below: ▪ For Closed Storage Sheds of size 15x60x6m: Size of rolling shutters shall be 5mx5m or 5mx6m ▪ For Closed Storage Sheds of size 15x40x3m, Size of rolling shutters shall be 5mx3m ▪ MS rolling shutters shall be as per IS specifications, complete, mechanically operated from in and outside both as instructed by BHEL engineer including two coats of synthetic enamel paint of approved colour and quality over one coat of red oxide primer with locking arrangement. Suitable arrangement shall be made for easy operation of shutters (mechanical gear operated). g) One man-entry gates are to be provided at one side of all closed storage sheds (front entrance by the side of rolling shutter). h) The bidder should submit a guarantee for **12 months of operations** for the materials supplied and erected by him. i) All designs have to be carried out as per relevant IS code.
10.3.2.	**FRAME STRUCTURE:** Closed Storage Sheds shall be frame structure with Structural Columns, Trusses, Foundations and Plinth Beam for supporting self-loads, live-loads, wind loads, seismic

	loads etc. Contractor shall carry out the construction works considering the site conditions and nominal requirements as per IS Standard specifications. Drawings provided along with tender are tentative and solely for tendering purpose. Detailed construction drawings shall be prepared by contractor and shall be submitted to BHEL for approval.
10.3.3.	**EXCAVATION:** Excavation for Column Foundations, Walls, Plinth Beam and Trenches etc. shall be made as per IS specifications. Marking of Area shall be done and Levels shall be measured and recorded before start of Excavation in presence of BHEL Engineer. In case of any discrepancy regarding measurement BHEL Engineer's decision shall be binding.
10.3.4.	**FILLING** Any filling/loose soil met below the foundation shall be made up with lean cement concrete 1:4:8 mix (min).
10.3.5.	**Graded sub base:** Graded sub base of required thickness (250 mm to 300 mm) shall be provided as per drawing below Flooring, Ramp & Column foundations of storage shed etc. by using 80 mm size hard broken black granite/ quartzite/ gneiss/ trap stone metal including granular murrum packing, watering & compaction etc. complete, as per standard specification and instructed by BHEL Engineer. However, requirement of Stone Soling can be eliminated in case a hard strata/good stratum is met within foundation level & PCC shall be done directly in such cases. However, this can be decided as per site requirement in consultation with BHEL Site Engineer.
10.3.6.	**Excavated Earth Filling:** Filling under floors, sides of foundations, drains, roads with 250 mm thick layer of compacted selected earth/ river sand including watering, consolidation etc. shall be executed as per IS specification and drawings (if any). Basement and sides of the foundation wall shall be filled in with selected excavated earth in the layers not exceeding 150 mm including watering, consolidation etc. complete as per IS specification and as directed by BHEL Engineer.
10.3.7.	**DISPOSAL:** The excess/unutilized suitable earth and debris shall be disposed & levelled to the proposed mentioned area for development. All unusable earth, debris, trees, vegetation etc. shall be disposed-off at a location embarked by BHEL / Client.
10.3.8.	**PCC (1:4:8):** 100 mm thick PCC (1:4:8) shall be provided for following: i) Below RCC Footing of Columns. ii) Plinth Beam Base.

	iii) Floor Filling for Plinth raising. iv) Floor Filling for Plinth Raising at Pantry and Bathroom. v) Below Ramp and Internal Wall Foundations. vi) In the Base of Soak Pit Slab. 200 mm thick PCC (1:4:8) shall be provided for the base of septic tank as per drawings and as directed by BHEL Engineer. **PCC (1:3:6):** 100 mm thick PCC (1:3:6) shall be provided in the width of approx. 750 mm around the perimeter of the Closed Sheds for Plinth Protection as per standard specifications and as directed by BHEL Engineer.
10.3.9.	**Coping (1:2:4):** 40 mm thick coping of Cement Concrete of appropriate grade shall be provided over the side walls. In Baffle Beam, Slab of Septic tank, Side racks and Ramp etc. RCC shall be provided as per drawings and as directed by BHEL Engineer.
10.3.10.	This shall include supplying and placing PCC at all depths below plinth level including formwork, curing, all materials, tools and plants and labour complete. Concrete of 1:4:8/ 1:3:6, grade as defined in IS- 456 with graded stone aggregates as per drawing and BOQ cum Rate Schedule. Nominal mix (volumetric) shall be allowed to use as per the guidelines of IS-456 (latest edition) with min. W/C ratio & cement content as per IS stipulation for moderate condition. Concrete shall be produced by concrete mixer machine & hand mix is generally not acceptable. **Note:** However, in certain unavoidable circumstances, hand mix shall be permitted with 10% extra cement content as per the discretion of BHEL Engineer.
10.3.11.	**RCC shall be applicable for following Works:** Nominal mix (volumetric) shall be allowed to use as per the guidelines of IS-456 (latest edition) with min. W/C ratio & cement content as per IS stipulation for moderate condition. Concrete shall be produced by concrete mixer machine & hand mix is generally not acceptable. **RCC of grade M-20 / M-25 shall be applicable for following Works:** **RCC of grade M-20 / M-25 shall be provided for RCC Footings, Pedestals, Plinth Beams, Septic Tank Slab, Baffle Beam of Septic tank and Ramp etc. with reinforcement as per drawings.**

	This shall include supplying and placing RCC at all depths / levels including form work, curing, all materials, tools and plants and labour complete. Concrete of required grade as defined in IS- 456 with 40mm/20mm and downgraded stone aggregates as per drawing and BOQ cum Rate Schedule. Nominal mix (volumetric) shall be allowed to use as per the guidelines of IS-456 (latest edition) with min. W/C ratio & cement content as per IS stipulation for moderate condition. Concrete shall be produced by concrete mixer machine & hand mix is generally not acceptable. For Reinforcement the IS Specifications as per SP-34 (latest addition) shall be followed. HYSD- TMT Steel bars of Grade Fe-415/500 Fe-500D/ 500 form reputed manufacturer shall be used by contractor for reinforcement purpose. **Note: The above details of RCC Structures are for bidder's information and guidance only. However, actual sizes and reinforcement details for RCC Structures of closed sheds shall be as per approved design drawings.**
10.4.	**BRICK MASONRY** Brick masonry shall be done by using best quality locally available burnt clay bricks / Fly Ash Lime (FAL) bricks of standard size. Minimum strength of the bricks should not be less than 75 KG/SqCm. Other quality requirement shall be in line with the relevant IS Code. One-brick thick & Half-brick thick brickwork shall be constructed as specified, in Cement Mortar 1:6 & 1:4 respectively including linking, plumbing, levelling, pacing, joints, curing etc. Including all materials, tools & plants and labour complete at all level/elevation.
10.5.	**FORMWORK:** The formwork should be capable of carrying the dead load of concrete, the reinforcements and the forces of vibration. The form works shall be designed by the contractor and approved by BHEL Engineer. After sufficient curing period & after attaining adequate strength of concrete the formwork shall be removed with the approval of BHEL Engineer. The item of PCC/RCC shall be deemed as completed after removal of forms and required finishing is completed.
10.6.	**ROOFING & SIDE CLADDING:** **SIDE CLADING:** Permanently profiled color metal cladding sheets manufactured out of 0.55 mm TCT (Total coated thickness) permanently colour coated zincalume sheet (150 gsm zinc-aluminium alloy coating total of both sides as per AS 1397:1993) having 300 Mpa yield strength for side cladding shall be supplied and fixed as per BOQ cum Rate Schedule, Drawing all complete. **Note: Side cladding sheets is not envisaged in intermediate closed storage shed.**

	ROOF SHEETING: Precoated galvanized iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-charge) 0.50 mm (+ 0.05 %) total coated thickness with zinc coating 120 grams per sqm as per IS: 277, in 240 MPa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length up to 12 meter or as desired by Engineer in-charge. The sheet shall be fixed using self-drilling /self- tapping screws of size (5.5x 55 mm) with EPDM seal, complete up to any pitch in horizontal/ vertical or curved surfaces, excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required. Roof cover with Translucent FRP (fibre reinforced plastic) sheet (2 mm thick) of size 3m X 0.9m at 5-6 m c/c on both side of Truss, for natural lighting shall be provided with suitable 'J' bolts, GI Cup Washers, GI Plain Washers, and Bitumen Washers / self-tapping screws etc. including cutting of metal roof sheets in shape and size as required for fixing FRP sheets complete. Wind ties for protection against lifting of roof by wind etc. if any as per standard practice shall be provided by the contractor.
10.7.	**STRUCTURAL WORKS:** All structural works for Columns, roof truss, Fencing, Steel gates, doors etc. shall be carried out as per BHEL Engineer's Instructions, drawings and relevant IS Code Specifications. All Associated Fitting and Fixing materials such as foundation bolts, J / L hooks, bolts, nuts, washers, cleats, stiffeners etc. shall be paid along with the weight of Structure (Columns / Trusses etc.) and No extra payments shall be made on this account or on account of scrap generated. Preliminary design drawings shall be provided by BHEL and further detailing of drawings including fabrication drawings etc. shall be contractor's scope. Fabrication drawings for structure steel works i.e. Columns, Trusses, Wind Ties, Purlins etc. shall be prepared by contractor and get approved from BHEL before start of work / procurement of materials. BHEL LOGO shall be provided at the Entrance Gates.
10.7.1.	Contractor is permitted to get steel truss & other structures fabricated at workshop outside of the plant premises with prior permission of BHEL. In this case contractor has to arrange for shop inspections periodically as required by BHEL Engineer to ensure the quality of fabrication work. Fabricated structures without inspection/ certification by BHEL, shall not be allowed for erection.

10.7.2.	The trusses shall be fabricated in pieces of convenient length for transportation by truck and speedy erection at site. The base plates shall be welded to the trusses for fixing/resting the same on supports. Suitable cleats or fixing plates shall be provided on the trusses for holding the purlins and the bottom tie runners. Bolts shall be fixed in columns and posts by using templates for fixing truss. These foundation bolts, base plates, cleats etc. fixed with truss shall be paid under tonnage of truss only. Work shall be done as per approved drawings. No separate payment shall be made for templates.
10.7.3.	Structural Steel materials shall be procured from the BHEL approved manufacturer only and shall be confirming to the relevant IS Code specifications; contractor shall submit the manufacturing test certificate and other relevant documents for the materials as per BHEL requirement.
10.7.4.	**Side Racks:** Suitable long span structural steel shelve system shall be provided throughout the length of both opposite longitudinal spans of closed sheds wherever applicable. It should have two shelves with one shorter top & one wider middle rack at height of 600mm from floor adding to a total height of 1200mm. The shelves shall be design to with stand SKU loading (not less than 125 Kg/Sq.M) with suitable angle section. The width of top shelf shall be of 600mm & intermediate/middle shelf is 750mm.
10.8.	**SANITARY & DRAINAGE WORKS:**
10.8.1.	Necessary sanitary and plumbing works shall be provided with necessary water taps and all connections with supply lines/septic tank shall be provided by the contractor for BHEL Storage Sheds. The materials used and the location etc. shall be as per the directions of BHEL Engineer. Contractor shall procure the materials form the reputed manufacturers only as approved by BHEL Engineer. Prior Approval of sample from BHEL Engineer is necessary before supplying the materials at site.
10.8.2.	Septic tanks with soak pit/leaching cesspool shall be provided by the contractor at the location specified by BHEL complete in all respects as per IS specification. **The drawing attached with tender is indicative only & any changes (if required) at site shall be done as per the instruction of BHEL Engineer.**
10.9.	**ELECTRICAL WORKS:** Bidder to supply & install, Erection and commissioning of electrical items as per BOQ like Distribution Boards, Power Transformer, H Pole, Metering CT&PT,HT Cable, LT Cables, Main switch with Earth leakage protection (30A TPN), suitable sockets/switch units for required A/C points, wires, PVC conduits, tees, bends, clamps, JBs, 5amps socket, Modular Switch boards & points for computers & telephone for each table/desk, earthing wires, Lighting system shall be designed as modular type suitable for False ceilings. Also, the bidder should take care of aesthetics and energy conservation. A detailed schematic with BOM of the electrical fittings shall be submitted to BHEL for approval before execution. Supplying and Installation of Main Distribution Board and making the connection from the Single Point Source (as and where made available by customer) to the Distribution Board through Power transformer using the HT cable of appropriate size and capacity, including laying underground as per standard

	procedures and specifications and making the connections from the Main Distribution Board to the Office through a Wall mounted MCB Distribution Board, including supplying, installation and commissioning of MCB distribution board for safe and leak proof Electrical Installation is also in the scope of Bidder. Electrical Fitting / Equipment of approved make shall be provided as per the approved Electrical Layout, BOQ cum Rate Schedule, the quantity is only indicative, the final quantities shall be as per the approved drawings / BOM.
10.9.1.	The materials and workmanship must be of good quality and accepted standards and specifications. The BHEL Engineer reserves the right to reject any material not up to the specification
10.9.2.	Approval of **BHEL Electrical Engineer** is to be obtained before procurement of Electrical materials.
10.10.	**ELECTRICAL INSTALLATIONS**
10.10.1.	The electrical installation shall generally be carried out in conformity with the requirements of the Indian electricity act, 1910 as amended up to date and the Indian electricity rules, 1956 framed there under and also the relevant regulations of the electric supply authority concerned as well as IS: 732-1963 (latest edition). Before commencement of work Contractor has to submit detail, electrical layout drawings prepared by experienced & licensed electrical agency/engineer indicating the cable route, internal/external panels, cable sizing, fittings & fixtures etc. in line with the BOQ cum Rate Schedule.
10.10.2.	Good workmanship is an essential requirement for compliance with the rules in the code. The work shall be carried out under the direct supervision of a person holding a valid certificate of competency, concerned for the type of work involved.
10.10.3.	All outdoor/external lamps shall have weather-proof fittings of design approved by BHEL Engineer so as to effectively prevent the admission of moisture.
10.10.4.	All main switches shall be of metal clad enclosed pattern, which shall be fixed at close proximity to the point of entry of supply.
10.10.5.	Main and branch distribution boards shall be in accordance with Indian Standard IS 732-1963 “Code of practice for electrical wiring installation".
10.10.6.	PVC conduit (concealed type) wiring system should be adopted throughout and all conduit pipes/channel shall be conforming to latest IS.
10.10.7.	Approved and good quality copper wire with adequate current carrying capacity/voltage rating with proper insulation as per relevant IS should be used for the entire electrical wiring/installation.
10.10.8.	The service connection from outside mains to the switchboard inside the building shall also be carried out by the contractor.
10.10.9.	Erection/installation, commissioning and handing over of all electrical items covered in BOQ Cum Rate Schedule.
10.10.10.	For all materials required to be erected in this contract scope, unloading of material at site is in the scope of this contract. Accordingly, all arrangements are to be made by the contractor.

10.10.11.	Preservation, safekeeping, watch and ward of the material at site.
10.11.	**MCC**
10.11.1.	Erection of Panels after foundation checking
10.11.2.	Mechanical functional checking/ adjustment of individual breaker.
10.11.3.	Measurement of Insulation resistance of MCC.
10.11.4.	Operation of all illumination, space heating circuits etc
10.11.5.	Any items like lamps, lens, fuse/ instruments missed/ damaged from the custody of the contractor shall be replaced by the contractor at his cost. However, in case the damage is not due to reasons attributable to the contractor, BHEL may arrange for free replacement. The decision of BHEL Engineer in charge in this regard will be final and binding.
10.12.	**CABLE LAYING AND TERMINATION**
10.12.1.	Cable laying includes cutting to the required length, laying in overhead cable racks / underground cable trenches, pipes, flexible conduits, dressing/clamping in tray, drilling of holes in gland plates.
10.12.2.	Entry to the panels, JB's may be at top, side or bottom. All cable are required be supported and clamped near to the panel.
10.12.3.	All care should be taken to avoid abrasion, tension, twisting, kinking and stretching of cables during installation.
10.12.4.	All cable entry openings shall be properly sealed to prevent water seepage from outside trenches/conduits into the building. The required materials for doing so shall be included by Agency in the cable laying prices.
10.12.5.	Cable trenches in plant shall be sand filled. Also RCC cover of cable trenches shall be sealed with PCC by CONTRACTOR.
10.12.6.	Cost of cable laying as per BOQ Cum Rate Schedule shall include the cost of Nylon / PVC ties & Aluminium strip required for dressing / clamping.
10.12.7.	The Cost Of Cable Laying As Per BOQ Cum Rate Schedule Shall Also Include The Cost Of Termination With Suitable Crimping Type Lugs & Ferrules
10.12.8.	The contractor shall carry out insulation testing, simulation testing etc. as per the instructions of Engineer at site.
10.12.9.	The location of cable Joint if any shall be clearly indicated with cable marks with an additional inscription "Cable Joint".
10.12.10.	The contractor shall provide Tools/ equipment required for the connections and termination of cable wherever necessary.
10.12.11.	Re-termination if required during testing/ commissioning shall be carried out without additional cost.
10.13.	**EARTHING**
10.13.1.	All Earthing system shall be in accordance with IS: 3043-1966 "Code of practice for Earthing".
10.13.2.	The Installation and Earthing shall generally be carried out in accordance with the Indian electricity rules 1956 as amended from time to time and the relevant regulations of the electricity supply authority concerned.
10.13.3.	All plugs and sockets shall be of three-pin type, one of the pins being connected to earth.

10.13.4.	Bodies of all electrical appliances shall be earthed by the use of three pin plugs. The covers of the regulators if of metallic construction shall be earthed by means of a separate earth wire. A separate earth wire shall be used for earthing these appliances.
10.13.5.	All earth wires and earth continuity conductors shall be of copper/ galvanized iron. They shall be either stranded or solid bars of flat rectangular strips, due care is taken to avoid corrosion and mechanical damage to it. Inter connections of earth continuity conductors and main and branch earth wires shall be made in such a way that reliable and good electrical connections are permanently ensured.
10.13.6.	The neutral conductor shall not be used as earth wire.
10.13.7.	Welded, bolted and clamped joints only are permissible. For stranded conductor, sleeve connectors are permissible. Bolted connectors and their screws shall be protected against any possible corrosion.
10.13.8.	The path of the earth wire shall, as far as possible, be out of reach of any person and shall be visible for inspection.
10.13.9.	**Earthing Pits:** Earthing Pits shall be provided as per relevant IS Code specifications to fulfil the functional and statutory requirements. The galvanized iron pipe electrodes shall be used, which is not smaller than 38mm internal diameter and shall not be less than 4m in length and shall, as far as possible, be embedded below permanent moisture level with charcoal & salt and shall be one piece only without any joints.
10.14.	**DEWATERING**: It is the responsibility of the contractor to engage sufficient dewatering pump (Diesel, electrically operated) of adequate capacity for dewatering of sub-soil, rain water from excavated pit and other localized area and keep the area dry and workable till completion of entire work within their quoted rate.
10.15.	**GENERAL NOTES FOR STEEL DOOR, WINDOWS, AND VENTILATORS**
10.15.1.	**Steel Door**: - Pressed steel doors as per standard specification, relevant IS code and sizes shall be supplied along with frames and fixed with suitable hold fasts, fixtures and fittings.
10.15.2.	**Steel Window: -** All steel Windows shall be supplied and fixed as per standard specifications of relevant IS code and instructions of BHEL Engineer with all fixtures (i.e. handles, locks, latches, hooks etc.), glazing, fittings, holdfasts etc. Complete.
10.15.3.	**Rolling Shutters & Steel Ventilators: -** All rolling shutters & steel ventilators shall be supplied and fixed as per standard specifications, relevant IS code and instructions of BHEL Engineer with all fixtures (i.e. handles, locks, latches, hooks etc.), glazing, fittings, holdfasts etc. Complete.
10.15.4.	**Note:** Contractor shall arrange for shop inspection for all steel doors, windows, rolling shutters & trusses etc. if fabricated outside the plant before delivery at site for Engineer's clearance.
10.16.	**PAINTING**

<table>
<tr><td>10.16.1.</td><td>All the steel items such as doors, windows, ventilators, roof trusses, purlins, columns etc. shall be provided with one coat of red oxide primer & two coats of synthetic enamel paint of approved make, colour and quality. Paint shall be applied after fixing in position to achieve uniform finishing. Rates shall be quoted considering cost of painting for woodwork, steel work etc.</td></tr>
<tr><td>10.16.2.</td><td>Three coats of white/color washing shall be provided uniformly on all wall surfaces as per IS specification.</td></tr>
<tr><td>10.16.3.</td><td>PVC water tank of Sintex or any approved make shall be supplied and erected on steel staging and to be constructed on location shown as per item rate given in BOQ cum Rate schedule</td></tr>
<tr><td>10.16.4.</td><td>Prior Approval from BHEL Engineer:
Contractor shall take prior approval from BHEL Engineer before procurement of construction materials i.e. Sanitary items, Roof / Cladding sheets, Overhead water tanks, Doors, Windows, ventilators, Cement, Brick, Steel, structural steel and for other items as specified in respective BOQ Item description and necessary manufacturer’s test certificate (MTC) and laboratory test as required by BHEL shall be arranged by contractor within their quoted rate.</td></tr>
<tr><td>10.16.5.</td><td>Any one of the following make for various items of civil, structural, electrical & finishing items to be installed:
<table>
<tr><th>Item</th><th>Brand</th></tr>
<tr><td>Structural Steel / Reinforcement (TMT)</td><td>SAIL / TATA / JINDAL / ESSAR STEEL / JSW / BHUSHAN STEEL/ RATHI STEEL / KAMDHENU / SHYAM STEEL</td></tr>
<tr><td>PPC / OPC 43</td><td>ACC / BIRLA / J K CEMENT / CCI/ULTRATECH / SHREE CEMENT (ROCK STRONG – A UNIT OF SHREE CEMENT), GRASIM / PRISM / LAFARGE</td></tr>
<tr><td>Enamel Paints</td><td>JOHNSON & NICHOLSON / BURGER / ASIAN PAINT / NEROLAC / DELUX / NIPPON</td></tr>
<tr><td>GI & MS Pipes</td><td>SURYA / PRAKASH / JINDAL / TATA / APOLLO</td></tr>
<tr><td>Cladding/Roof Sheeting & Structural</td><td>KAMDHENU / ESSAR / JINDAL / EPACK</td></tr>
<tr><td>Toilet/Sanitary Items</td><td>HINDWARE / PARRYWARE/PRAYAG / CERA / VARMORA</td></tr>
</table></td></tr>
</table>

AC with Stabilizer	BLUE STAR / VOLTAS / SAMSUNG / LLOYD / WHIRLPOOL / O-GENERAL/ LG/GODREJ
Furniture / Furnishing Items	GODREJ/ DURIAN / GEEKEN / HARMAN MILLER
Electrical Component	**Brand**
LT ACB	L&T /TM/SIEMENS/GEC ALSTOM/GE POWER CONTROLS / SCHNEIDER / C&S / SPACEAGE HYUNDAI
Fuse Switch Unit	ALSTOM / SIEMENS / L&T / CGL / STANDARDS / HAVELS / SCHNEIDER / C&S / GE POWER
MCB	STANDARD / MDS / INDO KOPP / C&S / SIEMENS / ABB
MCCB	STANDARD / MDS / INDO KOPP / C&S / SIEMENS / ABB
HRC Fuses	SIEMENS / L & T / ALSTOM / S & S / STANDARD / INDO ASIAN / HAVELS / GE POWER
Control switches	SIEMENS / ALSTOM / L & T / KAYCEE
Indicating lamps (LEDs)	SIEMENS / L & T / GE.
Lighting Fittings	PHILIPS / BAJAJ / CROMPTON / GE / SYSKA / GM
Switch Socket outlet	ALSTOM / CGL / BEST & CROMPTON / ESSEN / GM
SWITCHES AND SOCKETS (MODULAR TYPE)	ANCHOR / ELLORA / MAK ELECTRIC / ALSTOM / GM / MK / LK / HAVELLS.
EXHAUST FANS	ALSTOM / CROMPTON/HAVELS/BAJAJ
LIGHT FITTINGS	CROMPTON/PHILIPS /WIPRO/SYSKA
WALL MOUNTING FANS	ORIENT/ CROMPTON/ USHA/BAJAJ
CFL & FL LAMPS	PHILIPS/ OSRAM/ WIPRO/ BAJAJ/ SYSKA

	<table><tr><td>KWH METERS ETC</td><td>BHEL/ GE/ L&T/HAVELLS</td></tr><tr><td>MCBs & MCB DBs (10 KA)</td><td>MDS/ L&T-HAGGER/ RAJ.L/HAVELLS</td></tr><tr><td>WIRES / CBALES ver & Control Cables</td><td>ASIAN CABLES / CCI / UNIVERSAL / NICCO / DELTON CABLES / FINOLEX / OMEGA / RADIANT CABLES / POLYCAB / KEI/ HAVELLS/ RR KABEL.</td></tr><tr><td>Terminal Blocks</td><td>ESSEN / CONNECT WELL / ELMEX / PHOENIX / WAGO</td></tr></table> **Note:** Approval of BHEL Engineer is to be obtained before procurement of materials. The make of material mentioned if not available in the market or is not suiting the site conditions or the make of any material is not mentioned in the above list equivalent make may be used after the approval from BHEL Engineer.
10.17.	**GENERAL TECHNICAL REQUIREMENTS OF CIVIL WORKS**
10.18.	**Internal Roads and Drains**
10.18.1.	Internal roads and drains have to be provided as per the instruction of the Site.
10.18.2.	Formation level or sub-grade has to be properly compacted up to a desired thickness along with removal of loose earth & filling of pavement with selected earth as per proper compaction requirement of 95% MDD
10.18.3.	Proper camber has to be provided on both sides of the road.
10.18.4.	Interstices are required to be filled with medium sand.
10.18.5.	Drains have been considered to be of PCC 1:2:4, 100 mm thick.
10.18.6.	Maximum depth of drain is 600 mm and internal width of drain is 300 mm.
10.18.7.	Drain has to be constructed with proper slope.
10.18.8.	Road crossing by cement concrete pipe should be of minimum NP-2 Class and other criterion should fulfil IS-458.
10.18.9.	Water bound macadam shall consist of clean crushed aggregates mechanically interlocked by rolling and bonded together with screenings, binding material wherever necessary and water, laid on the prepared sub-grade or sub-base as the case may be and finished in accordance with the specification and in conformity with the lines, grades and cross-sections shown on the approved drawings.
10.19.	**RCC Sleepers**
10.19.1.	The Agency must take an approval for the pre-cast manufacturing unit from BHEL
10.19.2.	The grade of Concrete should be minimum of 1:2:4.
10.19.3.	Cement used should be of OPC-43 Grade.

10.19.4.	Grade of reinforcement steel should be of minimum Fe-415/500.
10.19.5.	RCC Sleepers should be made with minimum reinforcement of 4-10MM Main bar with Stirrup of 6 mm dia
10.19.6.	RCC Sleepers should be made with two hooks with 16mm dia rod for enabling lifting of sleepers
10.19.7.	RCC Sleepers should be properly cured as per Indian Standard code of practice.
10.19.8.	The concrete surface has to be smooth & neatly finished that is free from Honey combing concrete.
10.19.9.	Test Cubes shall be cast for each batch of sleeper casting and tested as per IS 456.
10.20.	**Chain linked fencing with structural post**
10.20.1.	GI Chain linked fencing shall be provided for height of 2.4m above ground level
10.20.2.	The fencing must be GI chain linked fencing of required width in mesh size 50x50mm made of GI wire including strengthening wire or nuts, bolts and washers.
10.20.3.	Fencing shall be done with MS angle iron post of min. angle size 65x65x6mm or higher angles section as supplied by BHEL with two coats of enamel paint of approved shade with a shop coat of primer.
10.20.4.	The above post shall be placed at every 2.25m C/C and double post at every 15m C/C embedded in cement concrete footing of grade 1:3:6 with 20mm nominal size aggregate.
10.20.5.	Every 15th post last but one end post and corner post shall be strutted on both sides and end post on one side only.
10.21.	**Water Supply and Sanitation**
10.21.1.	Necessary sanitary and plumbing works shall be provided for Wash basins and other fittings with sufficient water taps and all connections with supply lines/septic tank in line with the BOQ / drawings/ Instructions provided by BHEL. The material used and the location etc. shall be as per the directions of BHEL Engineer.
10.21.2.	Septic tank and cesspool, masonry chambers shall be provided by the contractor at the locations specified by BHEL complete in all respects as per the requirement
10.21.3.	Installation: All plumbing fittings and fixtures shall be installed in most workman like manner by skilled workers. These shall be perfect in level, plumb, plane, location and symmetry. All items shall be securely anchored to walls and floors. All cuttings in walls and floors shall be made good by the Contractor.

11.0 **Following Drawing and Specifications shall be integral parts of this tender (attached separately):**

1.	CLOSED STORAGE SHED
2.	OPEN STORAGE YARD
3.	CIVIL QUALITY LAB
4.	HARD SURFACE/CRUSTING
5.	TYPICAL SAFETY PARK LAYOUT ALONG WITH VERTIGO TEST STRUCTURE DRAWINGS
6.	TECHNICAL SPECIFICATION FOR WEIGH BRIDGE
7.	FURNITURE DRAWINGS
8.	PORTABLE TOILET BLOCK AND SECURITY CABIN
9.	ZINCALUME WATER TANK SPECIFICATIONS
10.	MESS BUILDING
11.	WATCH TOWER
12.	TYPICAL HIGH MAST
13.	TECHNICAL SPECIFICATION SECTION-D

Note: Drawings are indicative and strictly for tendering purpose, only meant to give an idea to tenderers about nature of job.

Notes:

i. Bidder's quoted price above shall be complete in all respect for the full scope defined in specification and in accordance with all terms & conditions of tender.
ii. Contractor shall fully understand description and specifications of items mentioned in BOQ.
iii. Conditional price bids with any deviation/ clarification etc. are liable to be rejected. No cutting/ erasing/ over writing shall be done.
iv. Quantities mentioned in rate schedules are approximate only and liable for variation on either side depending upon site/ design requirement.
v. Taxes (GST) shall be payable extra as per relevant clauses of Technical Conditions of Contract.

This Chapter consists of Part A & Part B of Volume II "Price bid":

CONTENTS	
Description	**Remarks**
PART A: Instructions to the Bidders	Instructions
PART B: % weightage for amount of individual items of Schedule of quantity	BILL OF QUANTITIES AND % WEIGHTAGE OF INDIVIDUAL ITEMS
PART C: Total Price for entire scope of Work	This part is implanted in the E- Procurement portal entitled as "Part-C of Vol-II Price Bid".

Part A:	**Instructions to the Bidders**
1.	**Bidders shall quote Total Price for the entire scope of work in Rupees in VOL II PRICE BID at BHEL E-procurement Portal.** Any other entry elsewhere in the offer of the bidder shall be treated as Null and Void. The total value shall be automatically calculated on E-portal
2.	Bidder shall quote the total price in "Price Bid".
3.	BHEL has fixed the % weightages as in "Part-B" for the amount of individual items of BOQ Cum Rate Schedule w.r.t. the total price of Price Bid Vol-II.
4.	Based on the pre-fixed % weightages, amount of individual items shall be derived by BHEL. This amount shall not be rounded off.
5.	Based on the quantities of individual item and the amount arrived in Sl. No. 4 above, item rate of individual items shall be derived by BHEL. This item rate shall be rounded off up to two decimal places and shall be used to calculate the total amount of an item.
6.	Bidders to note that this is an '**Item rate contract'**. Payment shall be made for the actual quantities of work executed at the Unit rate arrived at as per serial no. 5 above.
PART B:	% weightage for amount of individual items of BOQ CUM RATE SCHEDULE w.r.t. the total price (as quoted by the bidder in "Part C of Vol-II-Price Bid")- attached separately.