

DEENDAYAL PORT AUTHORITY

An ISO 9001 : 2008 & ISO 14001 : 2004 Certified Port



Office of Chief Mechanical Engineer,
First Floor, Annex Building, A.O. Building,
Gandhidham, Kutch 370210
Email: cme@deendayalport.gov.in

Budgetary Offer

for

“Design, Manufacturing, Supply, Installation, Erection, Testing and Commissioning of 66/11kV GIS Substation at THERMAL (BEHIND GETCO) Kandla on LSTK basis”

Mechanical Department, DPA invites Budgetary Offer for the work of “Design, Manufacturing, Supply, Installation, Erection, Testing and Commissioning of 66/11kV GIS Substation at THERMAL (BEHIND GETCO) Kandla” from the reputed firms who have executed similar work in Government/public sectors and other leading private organizations. The Budgetary Offer documents containing details of Scope of Work and technical specifications are enclosed herewith.

The interested firms are requested to submit stamped & signed budgetary quotation for the said work in format enclosed at Annexure – II through following mail id: cme@deendayalport.gov.in on or before 14th April 2026 and also to be submitted in hard copies to the office of the undersigned. All the interested firms may visit the site and furnish their offer which shall be a firm price excluding GST. The offer shall be mailed and forwarded in following address.

To

Chief Mechanical Engineer

Deendayal Port Authority,
Office of Chief Mechanical Engineer
Annex A.O. Building,
Room No-316, 2nd Floor,
Gandhidham, Kutch,
Gujarat – 370201.

Email id - cme@deendayalport.gov.in

Sd/-

Chief Mechanical Engineer
Deendayal Port Authority

1. Introduction

Deendayal Port Authority (DPA) is continuously augmenting its power infrastructure to meet the growing operational requirements of the port and to ensure reliable and uninterrupted power supply to various facilities. In line with this, it is proposed to establish a 66/11 kV GIS Substation at Kandla to strengthen the distribution network, improve system reliability and support future load growth.

The proposed substation shall be developed using Gas Insulated Switchgear (GIS) technology, which offers advantages such as compact footprint, enhanced reliability and suitability for operation in coastal and corrosive environments like Kandla. The project shall be executed on a Supply, Installation, Testing and Commissioning (SITC) basis under Lump Sum Turnkey (LSTK) mode, wherein the Contractor shall be responsible for delivering a fully integrated and operational substation.

This document outlines the broad scope, requirements and expectations from prospective bidders for submission of budgetary offers, which shall be used for internal planning and further tendering process.

2. Objective

The objective of this work is to design, engineer, supply, install, test and commission a 66/11 kV GIS Substation at Kandla on a Lump Sum Turnkey (LSTK) basis, ensuring a reliable, efficient and future-ready power distribution system within the port area. The project aims to strengthen the existing electrical infrastructure, enhance system reliability and redundancy and cater to the present and anticipated load demand of the port.

The substation shall be developed with modern GIS technology, integrated with SCADA and protection systems and designed for safe, continuous and efficient operation under prevailing site conditions, including the coastal and corrosive environment. The work shall be executed in a manner that ensures seamless integration with the existing network, minimal disruption to ongoing operations and provision for future expansion.

3. Scope of work

3.1 SUPPLY, INSTALLATION, TESTING & COMMISSIONING – ELECTRICAL SYSTEM

3.1.1 66 kV GIS SWITCHGEAR SYSTEM

The Contractor shall design, engineer, supply, install, test and commission an indoor type, double bus, 66 kV SF6 Gas Insulated Switchgear (GIS) system complete in all respects.

- **Configuration:** The GIS shall comprise Incomer Bays (2 Nos.), Transformer Bays (3 Nos.), Feeder Bays (3 Nos.), one (1) Bus Coupler Bay and two (2) Bus Voltage Transformer (VT) Modules, forming a complete system in accordance with the approved Single Line Diagram (SLD).
- **Bay Equipment & Functional Requirements:** Each Bay shall be completed with the Circuit Breakers, Disconnectors, Earthing Switches, Current Transformers (CTs), Voltage Transformers (VTs), fast acting Earthing Switches and Local Control Cubicles (LCCs). All equipment shall be fully interlocked, integrated and suitable for local as well as remote operation.
- **SF6 Gas System:** The GIS shall be supplied with first fill SF6 gas, density monitoring system, pressure monitoring devices and all associated accessories required for safe and reliable operation.
- **Provision for Future Expansion:** The GIS shall be designed with extendable bus arrangement on both sides to facilitate future expansion without major modification or shutdown of the existing system.
- **66 kV Cable System:** The scope shall include design, supply, laying, termination, testing and commissioning of 66 kV XLPE Cables (630 Sq.mm.), including GIS terminations, outdoor terminations, Lightning Arrestors, Link Boxes and all associated accessories.

3.1.2 11 KV GIS SWITCHBOARD

The Contractor shall supply, install, test and commission the complete 11 kV indoor GIS switchboard.

- **Configuration:** The switchboard shall comprise Incomer Panels (3 Nos.), one (1) DG Incomer Panel, two (2) Bus Couplers, sixteen (16) Outgoing Feeder Panels and three (3) Capacitor Feeder Panels.
- **Protection, Control & Metering:** Each Panel shall be equipped with Numerical Protection Relays, CTs, VTs, Metering and Control Systems, ensuring reliable Protection and Operation of the Feeders.
- **SCADA Compatibility:** The Switchboard shall be fully compatible with IEC 61850-based SCADA system and shall support remote monitoring and control.

3.1.3 POWER TRANSFORMERS & ASSOCIATED SYSTEMS

- **New Transformer Supply:** The Contractor shall supply, install, test and commission Two (2) No. 12.5 MVA, 66/11 kV Power Transformer with OLTC, ester oil insulation, RTCC Panel and complete Protection System.

- **Associated Systems:** The Contractor shall provide Neutral Grounding Resistor (NGR), Nitrogen Injection Fire Protection System and all Auxiliary Systems required for Safe Operation.

3.1.4 66 kV OUTDOOR SYSTEM / METERING YARD

- **Transmission Line Interface:** The Contractor shall design, supply and erect Transmission Line Tower, Foundations and ACSR Panther Conductor for Connectivity with the Grid.
- **Outdoor Equipment:** Supply and installation of Bus Post Insulators, Lightning Arrestors and associated equipment shall be in the scope of the Contractor.
- **Modification Works:** Modification of existing Towers for Cable Termination, including supply of all hardware, connectors and fittings, shall be carried out.

3.1.5 CONTROL & PROTECTION SYSTEM

- **Control & Relay Panels:** The Contractor shall supply, install and commission Control & Protection Panels for all Bays, including Line, Transformer and Bus Coupler Bays.
- **Protection Scheme:** Complete Protection Schemes using Numerical Relays, Bay Control Units and Interlocking systems shall be implemented.
- **System Integration:** All Protection and Control Systems shall be integrated with the SCADA system for Centralized Monitoring & Control.

3.1.6 SUBSTATION AUTOMATION SYSTEM (SCADA)

- **System Scope:** The Contractor shall provide a complete IEC 61850 compliant Substation Automation System (SCADA) including Servers, Operator Workstations, HMI and Engineering Tools.
- **Communication Infrastructure:** Supply, laying, termination and commissioning of Optical Fiber Cable (OFC) network (approx. 3000 m), Ethernet Switches and communication hardware shall be included.
- **Integration:** The SCADA system shall integrate 66 kV GIS, 11 kV GIS (new and existing), Transformer Systems and Auxiliary Systems into a Unified Control Platform.

3.1.7 AUXILIARY SYSTEMS

- **Electrical Auxiliary Systems:** The Contractor shall provide complete Auxiliary Systems including 110V DC Battery and Charger System, DC Distribution Board (DCDB), LT AC Distribution Boards, Emergency Lighting and Inverter System.
- **DG System & Capacitor Bank:** Scope includes shifting and commissioning of DG set and supply, installation and commissioning of 11 kV Capacitor Banks (400 kVAR).
- The Contractor shall design, supply, install, test and commission 1 No. 500 kVA, 11/0.433

kV Station Transformer along with complete Auxiliary Power System including 11 kV Feeder, LT Panels, Cabling, Earthing, Civil works, Protection, Control and all associated accessories required for a fully functional Substation.

- All works, materials, approvals and commissioning shall be entirely in the Contractor's scope.

3.1.8 CABLES & CABLING WORKS

- **Cable Supply & Installation:** The Contractor shall supply, lay, terminate, test and commission all 11 kV Cables, LT Power Cables and Control Cables.
- **Cable Management System:** Cable trays, routing, dressing, tagging, HDPE ducts and trench works shall be executed ensuring proper segregation and mechanical protection.

3.1.9 EARTHING & LIGHTNING PROTECTION

- **Earthing System:** A complete Earthing System including Copper Electrodes, GI Flats and maintenance-free Earthing shall be designed and installed.
- **Lightning Protection System:** Air Terminals, Down Conductors and Earthing pits shall be provided to ensure adequate Protection against Lightning.

3.1.10 MECHANICAL & SAFETY SYSTEMS

- **Ventilation & Fire Protection:** GIS hall Ventilation System and complete Fire Detection and Protection Systems shall be provided.
- **Safety Equipment:** Fire Extinguishers, Hydrant Provisions, EOT Crane (5 MT), Ladders, Tools and Insulating mats shall be supplied.

3.1.11 BUILDING SERVICES & UTILITIES

- **Utility Systems:** The Contractor shall provide complete building services including Illumination System, High Mast Lighting, Air Conditioning, CCTV Surveillance, Water Supply, Plumbing and Furniture.

3.1.12 COMPLETENESS OF SCOPE & STATUTORY COMPLIANCE

- **Comprehensive Responsibility:** The scope of work under this contract shall be deemed to be complete in all respects and the Contractor shall be responsible for design, engineering, supply, installation, testing, commissioning and successful operation of the Substation as a fully functional system.
- **Inclusion of All Activities:** All materials, equipment, components, accessories, consumables, services and incidental works required to be executed comprehensively to complete and for satisfactory performance of the system & shall be deemed included in the Contractor's scope,

irrespective of whether specifically mentioned in the bid documents or not.

- **Testing & Commissioning:** The Contractor shall carry out all necessary factory tests, site tests, pre-commissioning checks and final commissioning activities, including trial operation and system integration, to ensure reliable and safe operation of the entire system.
- **Statutory Approvals & Liaison:** The Contractor shall be fully responsible for all coordination, liaison, follow-up, documentation and compliance with statutory authorities including, but not limited to: GETCO / State Transmission Utility, Electrical Inspectorate, Local Regulatory Authorities. The Contractor shall obtain all necessary approvals, clearances and permissions required for installation, energization and commissioning of the Substation.
- **Cost Inclusion:** All costs related to statutory liaison, documentation, approvals, testing and commissioning activities shall be deemed included in the Contractor's scope. All statutory fees, if applicable, shall be reimbursed at actuals.
- **Integration & Interface Responsibility:** The Contractor shall ensure complete integration of all systems including GIS, Transformers, Switchgear, SCADA, Cabling, Civil works and existing installations. All Interface issues shall be resolved within the Contractor's scope.
- **No Additional Claims:** No extra cost or time shall be admissible on account of omission of any item or activity required for completeness, statutory compliance or successful commissioning of the System.

3.2 CIVIL WORKS

The Contractor shall carry out complete civil works for the substation, including design, engineering and execution.

- **Site Development:** Survey, Soil Investigation, Contouring, Excavation, Filling, Compaction, Road works, Drainage and Yard Grading shall be carried out.
- **Foundations:** Pile Foundations, Equipment Foundations and Cable Trenches shall be designed and constructed.
- **Buildings:** Construction of GIS building, Control Room, Office, DG room and all associated RCC and masonry works shall be included.
- **Infrastructure Works:** Water Supply, Sewerage System, Boundary Fencing, Paving, Landscaping, Cable Trenches and Ducting shall be executed.
- **Finishing Works:** Painting, Waterproofing, Anti-termite Treatment, False Ceiling, ACs Lighting Fixtures and Architectural works shall be completed.

4. SPECIAL CONDITIONS OF CONTRACT

4.1 PROJECT SITE CONDITIONS

- **Location Characteristics:** The proposed Substation is located within Kandla Port area, which is a Coastal and Industrial Zone. The Contractor shall consider High Humidity, Saline Atmosphere, Corrosive Environmental conditions and wind/dust conditions typical of Port Operations.
- **Design Considerations:** All Equipment, Structures and Materials shall be suitable for such environmental conditions. Adequate Corrosion Protection Measures such as Galvanization, Epoxy Coating and suitable material selection shall be adopted.
- **Constructability & Access:** The Contractor shall consider site constraints, space availability, access for transportation and erection and ongoing Port Operations while planning execution.

4.2 NATURE OF CONTRACT (LSTK BASIS)

- **Single Point Responsibility:** The work shall be executed on a Lump Sum Turnkey (LSTK) basis. The Contractor shall be fully responsible for design, engineering, supply, installation, testing, commissioning and performance of the complete System.
- **SITC Coverage:** The scope shall include all activities required for successful commissioning, including coordination and interfacing with existing systems and utilities.

4.3 BATTERY LIMITS & INTERFACES

Scope Boundary: All works within the Substation boundary shall be deemed included in the Contractor's scope.

Interface Points: The Contractor shall include all works related to:

- 66 kV incoming termination up to substation interface
- 11 kV outgoing feeder connectivity
- Integration with existing substations / network

Responsibility for Interfaces: All interfacing, matching and compatibility issues shall be within Contractor's responsibility.

No Additional Claims: No additional cost or time shall be admissible on account of interface complexities.

4.4 BASIS OF DESIGN & STANDARDS

- **Applicable Standards:** All Equipment and works shall comply with relevant IS / IEC standards and latest GETCO specifications.
- **Design Philosophy:** The Contractor shall adopt a proven and uniform design ensuring reliability, safety and ease of maintenance.

- **Suitability for Site Conditions:** The design shall consider coastal and corrosive environment of Kandla.

4.5 STATUTORY APPROVALS & LIAISON

- **Contractor’s Responsibility:** The Contractor shall be responsible for all coordination, liaison and follow-up with statutory authorities including GETCO, Electrical Inspectorate and other applicable bodies.
- **Approval Scope:** Preparation, submission and obtaining approvals for drawings, documents and test reports required for installation and commissioning shall be in Contractor’s scope.
- **Cost Inclusion:** All liaison efforts shall be deemed included in the scope. Statutory fees may be reimbursed at actuals, if not included in the offer.

4.6 COMPLETION PERIOD:

The entire work shall be completed within 12 (Twelve) months from the date of LOA.

4.7 LIQUIDATED DAMAGES (LD):

- **LD Rate:** In case of delay, LD shall be levied at 0.5% per week or part thereof of the total contract price subject to Maximum of 10% of the Contract Price.
- **Applicability:** LD shall apply for delays attributable to the Contractor including engineering, procurement and execution.

Schedule B:

Annexure I

Sr. No.	Description	Amount (INR)
1	Total Lump Sum Price for Design, Manufacturing, Supply, Installation, Erection, Testing and Commissioning of 66/11kV GIS Substation at Thermal (behind GETCO) Kandla on LSTK basis.	
Amount in word in Rs.: _____		
Note: The above Rates shall be inclusive of all Taxes, Duties and incidental charges but Exclusive of GST.		

Annexure II: INDICATIVE PRICE BREAK-UP (FOR ANALYSIS PURPOSE ONLY)

Sr. No.	Material Description	Unit	QTY	Unit Rate	Amount
A	Main Equipment 66/11kV GIS Sub-Station				
1	66 KV GIS Equipment				
1.1	66 KV Indoor Type Double Bus SF6 Gas Insulated Switchgear				
	<p>Supply, Installation, Testing and Commissioning of 66KV, 2500 Amps, 31.5kA for 3 Sec. Indoor type GIS Switchgear suitable for monitoring and controlling from SCADA over IEC 61850 Protocol with Double Bus Arrangement, in line with the tender SLD, with all required accessories, first fill SF6 Gas, PD Sensors, blanking plates, test plugs, Conforming to the technical specifications No. 1, relevant latest standards & latest GETCO specification as applicable. Offered GIS shall be supplied with all required accessories / modules to facilitate expansion on both the sides in future. Configurations shall be as below: Incomer - 2 Nos.. Outgoing Trafo. Fdr. - 3 Nos.. Bus Coupler - 1 No. Bus PT - 1 & 2 - 2 Nos..</p>				
1.2	Incomer Module	Set	2		
	<p>3- Ø 66 kV, 2500 A, 31.5 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - Line Bay Module comprising of (a) Circuit Breaker (b) Current Transformer (c) Line side Disconnecter with one maintenance Earthing Switch (d) High speed/Fast Acting Line Earthing Switch (e) Voltage Transformer, 66 KV/v3//110V/v3, 3C (f) Bus Disconnecter with Earthing Switch (Bus side common Earthing Switch for two Bus) (g) Bus Disconnecter without Earthing Switch (h) LCC Panel (i) 66 KV Power Cable Module (j) All other items including Control Cables as per the Technical Specification No. 1</p>				
1.3	Outgoing Transformer Module	Set	2		
	<p>3- Ø 66 kV, 2500 A, 31.5 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - 66/11 KV Transformer Bay Module</p>				

	comprising (a) Circuit Breaker (b) Current Transformer (c) Earthing Switch (d) Transformer side Disconnecter with one maintenance Earthing Switch (e) Earthing Switch (f) Bus Disconnecter with Earthing Switch (g) Bus Disconnecter without Earthing Switch (h) LCC Panel (i) 66 KV Power Cable Module (j) All other items as per the Technical Specification No. 1				
1.4	Outgoing Feeder Module	Set	3		
	3- Ø 66 kV, 2500 A, 31.5 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - 66/11 KV Transformer Bay Module comprising (a) Circuit Breaker (b) Current Transformer (c) Earthing Switch (d) Feeder side Disconnecter with one maintenance Earthing Switch (e) Earthing Switch (f) Bus Disconnecter with Earthing Switch (g) Bus Disconnecter without Earthing Switch (h) LCC Panel (i) 66 KV Power Cable Module (j) All other items as per the Technical Specification No. 1				
1.5	Main Buscoupler	Set	1		
	3- Ø 66 kV, 2500 A, 31.5 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - Bus Coupler Bay Module comprising (a) Circuit Breaker (b) Current Transformer (c) Bus Disconnecter with one Earthing Switch (d) LCC Panel (e) All other items as per the Technical Specification No. 1.				
1.6	Bus VT Module				
	3- Ø 66 kV, 31.5 kA-3 sec, metal enclosed SF6 Gas Insulated Switchgear - Bus VT Module comprising (a) 3 X Single Phase Voltage Transformer 66KV/ SQRT 3//110V/ SQRT 3 -segregated from Bus Bar Unit (b) High speed/Fast Acting Earthing Switch (c) Bus Disconnecter with Earthing Switch (d) All other items as per the Technical Specification No. 1.	Set	2		
I	1C X 630 Sq.mm.. AL. 66 KV, XLPE, AL. Corrugated Cable	Mtrs..	1550		

II	66 KV GIS Termination Suitable For 1C X 630 Sq.mm.. AL. 66 KV Cable with Male and Female Contact	Set	15		
III	66 KV Outdoor Termination suitable for 1C X 630 Sq.mm.. AL. 66 KV Cable	Set	25		
IV	66 KV Outdoor Termination suitable for 1C X 630 Sq.mm.. AL. 66 KV Cable with 66 KV Metal Oxide Lightning Arrestor, Hardware, Accessories Suitable for Mounting On Tower of D/C Transmission Line	Nos.	6		
V	3 Phase Link box with SVL	Nos.	5		
VI	3 Phase Link box without SVL	Nos.	5		
VII	Co-Axial Cable	Mtrs..	200		
2	11 KV Indoor GIS Switchboard				
	Supply, Installation, Testing and Commissioning of 11KV, 2500 Amps, 26.3kA for 3 Sec. Indoor type GIS Switchgear with Numerical Protection Relays suitable for Monitoring and Controlling from SCADA over IEC 61850 Protocol, in line with the tender SLD, with all required accessories, first fill SF6 Gas, test plugs, Conforming to the Specifications No. 2. Offered GIS shall be supplied with all required accessories / modules to facilitate expansion on both the sides in future.				
2.1	Incomer Module	Set	3		
	3- Ø, 11 kV, 2500A, Short Circuit Current Rating of 26.3 kA for 3 seconds, Three Phase encapsulated Unit, SF6 Gas Insulated, Metal enclosed Bus Bars, Bus Enclosures running along the length of the Switchgear to interconnect each of the Feeder Module in Single Main Bus System. Each Phase shall be complete with Inductive Voltage Transformers (VTs) / Current Transformer (CTs) complete with Isolator / Disconnect cum Earth Switches and Safety Grounding Switch, Capacitive Voltage Detector, Surge Arrestor, Numerical Protection Relays, all complete with Manual and Motor Driven Operating Mechanisms and Accessories etc				

	complete in all respects Connection, Tapping, Lugging etc.				
2.2	DG 11 KV Incomer Module	Set	1		
	3- Ø, 11kV, 2500A, Short Circuit Current Rating of 26.3 kA for 3 seconds, Three Phase encapsulated Unit, SF6 Gas Insulated, Metal enclosed Bus Bars, Bus Enclosures running along the length of the Switchgear to interconnect each of the Feeder Module in Single Main Bus System. Each Phase shall be complete with Inductive Voltage Transformers (VTs) / Current Transformer (CTs) complete with Isolator / Disconnect cum Earth Switches and Safety Grounding Switch, Capacitive Voltage Detector, Surge Arrester, Numerical Protection Relays, all complete with Manual and Motor Driven Operating Mechanisms and Accessories etc complete in all respects Connection, Tapping, Lugging etc.				
2.3	Bus Coupler Module	Set	2		
	3- Ø, 11 kV, 2500A, Short Circuit Current Rating of 26.3 kA for 3 seconds, Three Phase encapsulated Unit, SF6 Gas Insulated, Metal enclosed Bus Bars, Bus Enclosures running along the length of the Switchgear to interconnect each of the Feeder Module in Single Main Bus System. Each Phase shall be complete with Current Transformer (CTs) complete with Isolator / Disconnect cum Earth Switches and Safety Grounding Switch, Capacitive Voltage detector on both the sides, Numerical Protection relay/s all complete with Manual and Motor Driven Operating Mechanisms and Accessories etc complete in all respects Connection, Tapping, Lugging etc.				
2.4	Outgoing Line New Feeder Module	Set	16		
	3- Ø, 11 kV, 1250A, Short Circuit Current Rating of 26.3 kA for 3 seconds, Three Phase encapsulated Unit, SF6 Gas Insulated, Metal enclosed Bus Bars, Bus Enclosures running along the length of the Switchgear to				

	interconnect each of the Feeder Module in Single Main Bus System. Each Phase shall be complete with Current Transformer (CTs) complete with Isolator / Disconnect cum Earth Switches and Safety Grounding Switch, Capacitive Voltage Detector, Surge Arrestor, Numerical Protection relay/s all complete with Manual and Motor Driven Operating Mechanisms and Accessories etc complete in all respects Connection, Tapping, Lugging etc.				
2.5	11 KV Capacitor Feeder Module	Set	3		
	3- Ø, 11 kV, 1250A, Short Circuit Current Rating of 26.3 kA for 3 seconds, Three Phase encapsulated Unit, SF6 Gas Insulated, Metal enclosed Bus Bars, Bus Enclosures running along the length of the Switchgear to interconnect each of the Feeder Module in Single Main Bus System. Each Phase shall be complete with Current Transformer (CTs) complete with Isolator / Disconnect cum Earth Switches and Safety Grounding Switch, Capacitive Voltage Detector, Surge Arrestor, Numerical Protection relay/s all complete with Manual and Motor Driven Operating Mechanisms and Accessories etc complete in all respects Connection, Tapping, Lugging etc.				
3	Power/Distribution Transformer				
3.1	Supply, Installation, testing and commissioning of 12.5 MVA, 66/11KV, Dyn-11, KNAN transformer with Ester Oil, OLTC, RTCC, first fill Oil, NIPS, Soak pit & all accessories, suitable for running in parallel with existing Power Transformers as per the Specification No. 3 and Standards.	Nos.	1		
3.2	Disconnection from existing services, Cables, Oil Draining, Dismantling from existing Substation with all accessories, packing, loading & unloading, shifting, Re-Installation at new Substation with all accessories, testing and commissioning of 10 / 12.5 MVA, 66/11KV, Dyn-11, ONAN transformer with Ester Oil, OLTC, RTCC, NIFPS, NGR,	Nos.	2		

	accessories, Oil Re-filling and filtration, Supply of consumables, Minor fabrication / repair works as per the Technical Specification No. 4 and Standards.				
3.3	Supply, Installation, Testing and Commissioning of NGR of 11/√3kV, 656A, 9.68 ohm Suitable for Outdoor installation as per the Specification No. 6.	Nos.	1		
3.4	Supply, Installation, Testing and Commissioning of Nitrogen based Fire Prevention and Protection System for 12.5 MVA 66/11 KV, KNAN Transformer with Ester Oil as per the Technical Specification No. 7.	Nos.	1		
3.5	Disconnection from existing services, Cables, Dismantling from existing Substation loading & unloading, shifting, Re-Installation at new Substation with all accessories, testing and commissioning of 500 kVA, 11/0.415 KV, ONAN Indoor duty distribution transformer.	Nos.	1		
4	66 KV Outdoor Equipment For Metering Yard				
4.5	Supply, fabrication, modification of additional cross-arm for 66 KV Cable Termination, 66 KV Metal Oxide Lighting Arrestor with necessary hardware on existing D/C Transmission Line Tower with all metal parts Hot dip Galvanised as per GETCO standards.	Job	1		
4.6	Supply, installation, testing and commissioning PS Type D/C Transmission Line Tower with additional cross arm, Structure, hardware, accessories suitable for connecting 66 KV Cable, Lightning Arrestors, Cable Tray, etc. all metal parts Hot dip Galvanised as per GETCO standards.	Nos.	1		
4.7	Foundation of PS Type D/C Transmission Line Tower. It shall be on pile foundation as per GETCO standards.	Nos.	1		
4.8	Supply, installation, testing and commissioning of ACSR Panther Conductor as per GETCO standards and specifications	Mtrs..	250		

	with all the test certificates.				
4.9	Supply, installation, testing and commissioning of 66 KV Bus Post Insulator including support Structures, necessary, hardware and accessories etc.	Nos.	2		
4.10	Supply, installation, testing and commissioning of 66 KV, Polymeric Metal Oxide, Class-II Lighting arrester for Power Transformer, including support Structures, necessary, hardware and accessories etc. as per GETCO specifications and standards.	Nos.	11		
5	66 KV C&R Panel as per the Technical Specification.				
	Control and Protection Panels with Numerical Relay, Bay Control Unit all with latest state of art technology suitable for Control & Monitoring of GIS Switchgear Modules from SCADA over IEC 61850 Communication Protocol as per the Technical Specifications and latest GETCO Specifications and Practice.				
5.1	Control and Protection Panels for 66 KV Line Bays as per GETCO Standards and Specifications.	Nos.	2		
5.2	Control and Protection Panels for 66/11 KV Transformer Bays as per GETCO Standards and Specifications.	Nos.	3		
5.3	Control and Protection Panels for 66 KV Bus Coupler as per GETCO Standards and Specifications.	Set	1		
6	Substation Automation System (SCADA)				
6.1	Supply, Erection, Testing and Commissioning of SCADA equipment's and materials as per respective technical specification No. 8 suitable for Control & Monitoring of 66KV GIS Switchgear Modules, 11 KV New GIS Switchboard, 11KV Existing GIS Switchboard with Switches & OFC (02 lengths), Station Auxiliaries, etc. from SCADA over IEC 61850 Communication protocol with UPS for SCADA with at least 1 Hr. backup, all	LOT	1		

	required hardwares, accessories, Communication Cables, Patch Cables, SCADA Furniture, etc. as per the Technical Specification No. 8 and latest GETCO Specifications and Practice with minimum spec but not limited to it.				
6.2	Supply, laying, termination & commissioning of 6F, Double Sheath Armoured Outdoor, Single Mode Optic Fiber Cable fully compliant with IEC-60794-3, with HDPE duct	Mtrs..	3000		
6.3	Ethernet Switch, Necessary Hardware, Modification / wiring if required, Communication Cable for Existing 11 KV GIS for integration with SCADA under the scope of this tender	LOT	1		
7	11 KV HT Capacitor Bank				
	11 KV, 400 kVAR Indoor Fixed type Capacitor Bank complete with Disconnecting Isolator, HT Contactor, Series reactor, RVT as per GETCO specifications & standards.	Set	3		
8	110 V DC Batteries and Battery Charger as per the Technical Specifications				
I.	Supply, Installation, testing and commissioning of 110 V, 240 AH VRLA DC battery set along with mounting racks	Set	1		
II	Supply, Installation, testing and commissioning of Electronic, SCADA Compatible Float and Float cum Boost Charger 110 V DC, with mandatory protections including Surge protection and annunciation as per latest GETCO Specifications.	Set	1		
9	110 V DCDB				
	Supply, Installation, testing, & Commissioning of DC Distribution Board with 20 OG Feeders	Nos.	1		
10	LT AC Distribution Board as per the Technical Specifications				
10.1	Supply, Installation, testing and commissioning of SCADA Compatible 415	Set	1		

	<p>Volts, Main LT Distribution Board For Station Auxiliaries as per SLD and Tech. specifications.</p> <p>Incomer Feeder shall be Fixed type 1000 Amps, ACB with LSIG Numerical protection relay suitable for controlling and monitoring from SCADA, Outgoing shall be MCB / MCCB as per required ratings with status monitoring indicating lamps on panel.</p>				
10.2	415 V Main Lighting Distribution Board as per requirement for the new substation	Set	1		
10.3	415 V Emergency Lighting Distribution Board as per requirement for the new substation	Set	1		
10.4	415 V Normal Lighting Distribution Board with timer control as per requirement for the 66 KV Metering Bays, Road, at New Station	Set	1		
10.5	415 V Distribution Board for Air Conditioner of New Substation	Set	1		
10.6	110 V DC Emergency Lighting Distribution Board for new substation	Set	1		
11	Inverter with Battery for Emergency Lighting as per the Technical Specifications.				
	Inverter system provided with battery bank with total of 115 Nos. of batteries to Connect in LT Panel Supply for Emergency Lighting Failure.	Set	2		
12	Visual Monitoring System - CCTV as per the Technical Specifications.				
	Visual Monitoring System (CCTV) as per the technical specification No. 9 along with local PC monitoring set up, State of the art Night vision HD Camera - 20 Nos., necessary panels, hardware, accessories, etc. for the Complete new substation building.	Set	1		
13	Illumination, Air Conditioners, System, Switchboard with Receptacles etc. as per the Technical Specifications.				
13.1	SS Building / HT DG Room / Diesel Store Room / Meter Room				
I	100 W LED High Bay Light Fixtures (GIS	Nos.	14		

	Hall)				
II	36 W LED - 600 x 600 Recess mounted light fixtures - CRP / SCADA / Office	Nos.	20		
III	22 W LED Tube light	Nos.	70		
IV	Split Type Cassete AC - 3 Ton - CRP Room	Nos.	3		
V	Split Type AC - 1.5 Ton - Office, SCADA Room	Nos.	4		
VI	Split Type AC - 1.0 Ton - Meter Room	Nos.	1		
13.2	Outdoor				
I	High Mast for Outdoor Illumination with necessary accessories, control panel and required light fixtures.	Set	3		
II	470 W LED Flood Lights	Nos.	30		
13.3	Power Sockets				
I	230 V Single phase Earth (16 or 20A) Power Sockets	Nos.	18		
II	3 phase (415V), 63A Power Sockets with Plugs (Industrial Socket)	Nos.	5		
13.4	Ceiling Fans				
	1200 mm Sweep Fan with 5 star rating as per BEE.		6		
13.5	Exhaust Fans				
	Higher capacity Industrial standard Exhaust Fans.		10		
13.6	Lighting DB's				
I	8 Ways Lighting DB (24 Nos.. SP MCB)	Nos.	6		
II	6 Ways Lighting DB (18 Nos.. SP MCB)	Nos.	4		
III	4 Ways Lighting DB (12 Nos.. SP MCB)	Nos.	6		
IV	Industrial Lighting Distribution Board	Nos.	10		
13.7	Conduits / Flexible Wires				
1	Conduits for Illumination	Mtrs..	300		
2	Flexible Wires - 4 / 2.5 Sq.mm. with all the wiring shall be concealed.	Mtrs..	5000		
14	LT Power and Control Cables (FRLS)				
14.1	LT Power Cables				
I	4X400 Sq.mm. XLPE AL. Cable	Mtrs.	200		

II	4X70 Sq.mm. XLPE AL Cable	Mtrs..	250		
III	1X35 Sq.mm. Copper Flexible Cable (Battery)	Mtrs.	150		
IV	4Cx16 Sq.mm. AL Cable	Mtrs.	500		
V	4Cx6 Sq.mm. AL Cable	Mtrs.	1000		
VI	2Cx6 Sq.mm. AL Cable	Mtrs.	750		
14.2	Glands				
I	4X400 Sq.mm. XLPE AL. Cable	Nos.	4		
II	4X70 Sq.mm. XLPE AL Cable	Nos.	6		
III	1X35 Sq.mm. Copper Flexible Cable (Battery)	Nos.	8		
IV	4Cx16 Sq.mm. AL Cable	Nos.	40		
V	4Cx6 Sq.mm. AL Cable	Nos.	40		
VI	2Cx6 Sq.mm. AL Cable	Nos.	34		
14.3	Lugs				
I	400 Sq.mm. Al Cable	Nos.	16		
II	70 Sq.mm. Al Cable	Nos.	24		
III	35 Sq.mm. Al Cable	Nos.	8		
IV	16 Sq.mm. Al Cable	Nos.	160		
V	6 Sq.mm. Al Cable	Nos.	228		
14.4	Control Cable (Copper Cable)				
I	12C X4 Sq.mm.	Mtrs.	500		
II	4C X2.5 Sq.mm.	Mtrs.	500		
III	12C X2.5 Sq.mm.	Mtrs.	750		
IV	19C X2.5 Sq.mm.	Mtrs.	750		
V	27C X2.5 Sq.mm.	Mtrs.	1000		
14.5	Glands				
I	12C X2.5 Sq.mm.	Nos.	30		
II	12C X4 Sq.mm.	Nos.	32		
III	4C X2.5 Sq.mm.	Nos.	40		
IV	19C X2.5 Sq.mm.	Nos.	30		
V	27C X2.5 Sq.mm.	Nos.	30		
14.6	Lugs				

1	2.5 Sq.mm.	Nos.	3000		
2	4 Sq.mm.	Nos.	500		
15	Mechanical Auxiliary System				
I	Ventilation System for 66 KV GIS HALL as per GETCO Specification	Nos.	1		
II	Portable Aluminium/FRP Ladder Extendable type of adequate height (as directed) for Maintenance.	Nos.	5		
III	Water Cooler with Purifier	Nos.	1		
IV	Office Furniture	LOT	1		
V	1.0 MT, Manual operated Chain Pulley Block with Mono Rail	Set	1		
VI	Rubber Insulating Mat Confirming to IS:15652:2006 of Size 2000 X 1000 X 3 mm Size	Nos.	60		
VII	Fore Alarm System as per the Technical Specifications.: - Fire detection should be such that all the smoke / fire sensors installed in the system should be given individual ID and if any of sensors observe abnormality, its ID should display on LCD screen of Detection Panel with Alarm and Annunciation so that the operational personnel target that particular place for Fire Extinguisher covering all the rooms in GIS Building	LOT	1		
VIII	Carbon-di-Oxide Type Fire Extinguisher of 2 kgs. Capacity, CO2 gas as per IS 15222	Set	2		
IX	Carbon-di-Oxide Type Fire Extinguisher of 4.5 kgs., Capacity, CO2 gas as per IS 15222	Nos.	12		
X	Mechanical Foam Type Fire Extinguisher 9 Lts.	Set	2		
XI	ABC Powder Type Fire Extinguisher of 6 Kgs	Nos.	5		
XII	Fire buckets round bottom type enamel painted, white inside & Red outside and Letter "FIRE" in black outside and handle with mounting bracket.	Nos.	12		
XIII	Fire buckets with stand (Set of 4)	Set	1		
16	DG set as per the Technical Specifications.				

	Supply, Installation, Connection, Testing and Commissioning of LT DG 150 KVA With AMF Panel & Protection & LT Panel from Old Substation to New Substation.	Set	1		
17	EOT Crane (Supply, Installation etc.) as per technical specification.				
	66 KV GIS Hall 5.0 MT with permanent fixed ladder from ground to EOT Crane	Set	1		
18	Earthing and Lightning System and Accessories (Supple, Installation etc.)				
I	Copper Bar Electrodes 32 mm dia. (3M rod)	Nos.	10		
II	Copper Bar Rod 32 mm dia. For Main earthing.	Ton	7		
III	75 x 12 mm G. I. Flat	Ton	1.86		
IV	24mm Dia 3000 mm long Copper bonded Maintenance free Chemical Earthing	Nos.	32		
V	25 x 3 mm GI Flat for horizontal and down conductor for control building	Mtrs..	300		
VI	25 mm Dia 1000mm Long Air Termination Spike	Nos.	8		
VII	Epoxy Fixing clamps for down conductors	Nos.	150		
VIII	Check Pits	Nos.	8		
19	66 KV Outdoor Equipment (Supply, Laying etc.)				
I	All types of Hardware & Fittings/Spacers/Clamp & Connectors	Lot	1		
II	66 KV Long rod suspension insulators	Nos.	6		
III	66 KV Long rod Tension insulators	Nos.	6		
IV	Tariff Metering Panel and RTU system as per GETCO Specification (Main & Check per Set)	Set	2		
V	11 KV, 3CX300 Sq.mm. XLPE Al. Conductor Cable	Mtrs.	13000		
VI	11 KV Indoor Termination kit suitable for 3CX300Sq.mm. XLPE, AL. Cable Suitable for 11 KV GIS with Boots	Nos.	48		
VII	11 KV Indoor Termination kit suitable for 3CX300Sq.mm. XLPE, AL. Cable Suitable	Nos.	10		

	for Power Transformer Cable Box				
VIII	11 KV Indoor Termination kit suitable for 3CX300Sq.mm. XLPE, AL. Cable Suitable for APFC / DG Set	Nos.	4		
IX	11 KV St. Through Joint kit suitable for 3CX300Sq.mm. XLPE, AL. Cable	Nos.	36		
X	Portable Earthing Rod	Nos.	6		
XI	HDPE Pipe (150 mm Diameter)	Mtrs.	3000		
	Total of Electrical work (A+B+C)				

S. NO	DESCRIPTION	UOM	QTY	Unit Rate	Amount
1	Preparing topographical contour survey and geotechnical survey investigation, collection climatological data like rainfall, highest flood level, wind direction and speed etc required for design.	Job	1.00		
2	Preparing Soil bearing test with required equipment as per IS code including field and lab test with submitting test report and taking load test at site as directed by engineer in charge.	Job	1.00		
3	Excavation for foundation in trenches up to 1.5 m depth including sorting out and stacking of useful materials and disposing of the excavated stuff up to 50 mt lead a for Loose or soft soil.	CMt.	4,677.56		
4	Excavation for foundation for depth from 1.5 Mt to 3 Mt. Depth including sorting out and stacking of useful materials and disposing of the excavated stuff up to 50 mt lead for Loose or soft soil.	CMt.	302.88		
5	Do as above but above 3.0 mt depth	Cum.	37.48		

6	Drilling of 300 mm dia pile at required location and depth by means of mechanical equipment with required tools and tackles as directed by engineer in charge.	Rtm.	146.00		
7	Do as above but for 450 mm Dia pile	Rtm..	662.76		
8	Filling in plinth/trenches & yard with earth in 200 mm, thick layers including watering, ramming, consolidating etc., complete as directed by EIC. - With excavated earth from foundation. The item rate includes all leads & lifts.	Cmt.	1,809.92		
9	Filling in foundation and plinth with murrum or selected soil in layers of 200 mm thickness including watering, ramming and consolidating, etc complete with all lead and lift. Murrum or selected soil shall be brought from outside at any lead.	Cmt.	2,021.33		
10	Removal of surplus excavated materials not required for backfill shall be deposited in areas outside plot boundary by mechanical means upto any lead as directed by Engineer-in-charge including loading, unloading & spreading in layers as per requirement of Engineer-in-charge.	Cmt.	3,161.44		
11	Filling in plinth with sand under floors including watering, ramming, consolidating and dressing etc. complete.	Cmt.	14.10		
12	Providing brick masonry in foundation and up to plinth or mezzanine floor in C.M. (1:6) including racking out joints up to 12mm depth, scaffolding, curing, filling up the gaps between the joints complete as directed by E.I.C. with Conventional Bricks.	Cmt.	123.28		

13	DO as above Item NO 10 but for super structure Up to 5.0 mt height or ground floor height with Conventional Bricks.	Cmt.	249.11		
14	DO as above Item NO 10 but for super structure above 5.0 mt height or first floor height including parapet and stair cabin with Conventional Bricks.	Cmt.	218.87		
15	Do as above item No 10 but for partition wall in C.M. (1:4) up to plinth & two floors G.F+F.F+Stair Cabin. Conventional Bricks.	SMt.	290.13		
16	Providing & laying control cement concrete 1:4:8 as per mix design exposed work with curing etc. complete including the cost of ply wood / steel sheathing form work & adjustable tubular steel supports / Props. but excluding the cost of reinforcement. G.F+F.F+Stair Cabin for Footing	SMt.	313.50		
17	Providing & laying control cement concrete M-15 as per mix design exposed work with curing etc. complete including the cost of ply wood / steel sheathing form work & adjustable tubular steel supports / Props. but excluding the cost of reinforcement. G.F+F.F+Stair Cabin for Footing	Cmt.	323.59		
18	Providing & laying control cement concrete M-20 as per mix design exposed work with curing etc. complete Excluding the cost of ply wood / steel sheathing form work & adjustable tubular steel supports / Props. but excluding the cost of reinforcement.	Cmt.	762.46		

19	Providing and laying controlled design mix Reinforced Cement Concrete of M25 grade with 20mm down size graded crushed stone aggregates for all elements including cup lock scaffolding, opening, recesses, chamfering, finishing top surfaces, vibrating, machine mixing tamping, curing, (excluding cost of centering, shuttering and reinforcement) etc. complete as per the specifications, drawing and instruction of Engineer-in-charge. Concrete shall be finished to the true line, level & as per tolerances required. up to plinth or mezzanine floor	Cmt.	1,215.29		
20	Do as above M25 above item but up to 5.0 mt height or first floor height.	Cmt.	327.86		
21	Do as above M25 but above 5.0 mt height or first floor height including parapet and stair cabin.	Cmt.	189.96		
22	Do as above but for M-30 concrete for Pile casting as directed.	Cmt.	118.87		
23	Applying Power trowel to concrete floor of any thickness	SMt.	287.79		
24	Providing form work of steel / ply wood planking so as to give a smooth exposed finish including centering (steel adjustable tubular supports). Shuttering strutting and propping etc. for plinth or mezzanine floor propping and centering below supporting floor to ceiling etc.	SMt.	12,870.95		
25	do as above plinth but up to 5.0 mt or ground floor height.	SMt.	2,458.93		
26	do as above plinth but above to 5.0 mt or first floor height including parapet and stair cabin.	SMt.	1,424.72		
27	Providing Thermo Mechanically treated bars (CRS steel bars) confirmed to IS 1786 FE 500 for	MT.	262.86		

	RCC work including bending, binding and placing in position etc. completed for RCC work for required height.				
28	P/A one coat(@ 200 microns) of Nitocote ET 402 of Fosroc over a coat of primer t Nitoprime 25 to RCC structures below ground level coming in contact with soil.	SMt.	5,241.92		
29	Setting of template & foundation bolts in line and level before concreting of foundation and making arrangement of fixing template in such a way as it remains in position during concrete etc. comp. as directed by EIC. The rate includes supplying & fabrication for Gantry Foundation.	No.	-		
30	Setting of template & foundation bolts in line and level before concreting of foundation and making arrangement of fixing template in such a way as it remains in position during concrete etc. comp. as directed by EIC. The rate includes supplying & fabrication for Equipment Foundation.	No.	44.00		
31	Providing and laying 25 to 50mm thick Under pinning below base plate & the top surface of the foundation concrete with cement mortar in proportion of 1:3 with water cement ratio 0.4 by weight , blended with an approved free flow grout Cebex 100 or Interplast NN or equivalent approved make (chemical supplied by contractor) as per manufacturer specification in line and level including shuttering , making top surface chamfered ,curing etc. complete as per specification & directed by Engineer in charge.	SMt.	40.32		

32	Supply & Labour charge for fixing in position anchor bolts, foundation bolts in line & level with template as per drawing including application of grease and covering with plastic cover. anchor bolt handling & positioning is in scope of civil contractor for fixing bolts & quoted rates includes the same as directed.	Kg.	498.00		
33	Providing & placing 50mm thick & 300mm wide prestressed concrete cover (for clear span of up to 1.2 meter in proportion (1:1:5:3) or M-20 necessary reinforcement or 4mm Dia HT steel wire-4 Nos. bars and 4mm dia. distribution bars at 150 mm C/C as per drawing & design including providing & vibrating with vibrators. Finishing all the surfaces, curing by placing in water pond for ten days etc. complete as directed by E.I.C. (The rate includes cost of all material required, labour charges, transportation, loading, unloading etc.	SMt.	147.00		
34	Do as above but 75 mm thick	SMt.	1,375.00		
35	Providing 20 mm thick cement plaster single coat on masonry /bela/concrete wall/ceiling for plastering up to any floor level finished even and smooth in cement mortar 1:3 (1 Cement : 3 sand) finished with floating coat of neat cement slurry at required height.	SMt.	4,953.66		
36	Providing 20mm thick sand face cement plaster on wall up to height 10 meters above ground level consisting of 12mm thick backing coat of C.M. 1:3 (1 cement: 3 sand) and 8mm thick finishing coat of C.M. 1:1 (1 cement: 1 sand) etc. complete at required height.	SMt.	3,982.92		

37	Providing and fixing 24-gauge chicken wire mesh at the junction of masonry work and RCC work or on any other place as directed including fixing with nails, raw/ plugs etc. complete at all heights before applying plaster.	SMt.	216.00		
38	Providing cement vata (10cmx10cm size) quarter round in cement mortar 1:1 including neat cement finishing watering etc. complete.	RTm.	224.10		
39	Providing distempering (three coats) with oil bound distemper of approved brand and manufacture and of required shade on undercoated wall surface to give an even shade over and incl. a priming coat with distemper primer of approved brand and manufacture after thoroughly brushing the surface free from mortar droppings and other foreign matter and also incl. preparing the surface even and sand papered smooth.	SMt.	4,050.47		
40	Providing & applying 3 coats of Acid/Alkali resisting paint of approved shade & make to wall, ceiling including filling putty smoothing the surfaces scaffolding etc. complete as directed by E.I.C.	SMt.	60.34		
41	Providing & applying 2 coats of Apocolite Apex or its equiv. Acrylic Exterior paint on existing plastered surface or approved make & shade including finishing & thinning as per manufacturer's instruction. A gap of 6 hrs. Should be given between 2 subsequent coats. The work should be carried out strictly as per manufacturer's specification and requirement comp. as directed by EIC at required height.	SMt.	4,232.78		

42	Providing and applying 1.5mm thick white cement based putty to full area of plaster in two coats to fill all pores of mortar/ concrete wall & ceiling, making the surfaces good & even for painting including scaffolding / staging, necessary tools etc. complete at all levels as per instructions of Engineer-In-Charge.	SMt.	4,050.48		
43	Supplying & laying self-leveling Epoxy floor topping of average 3mm thickness over the concrete floor for levelling undulations including filling of construction joints of size 5 mm x 30 mm deep / 10 mm x30 mm deep, grinding the concrete surfaces if required, cleaning, checking dryness over the floor, etc. all complete.	SMt.	287.79		
44	Providing and fixing approved quality rolling shutters of approved make made of 80mm wide M.S. Laths interlocked together through their entire length and jointed together at the ends by end locks mounted on specially designed pipe shaft with bracket plates guide channels and arrangements for inside locking with push pull operation complete including the cost of hood cover & spring etc. & three coats of oil painting of approved quality & make etc., complete. (A) Shutter having width below 3.5 meter.	SMt.	18.00		
45	-Do- but extra over For providing motorised operation	SMt.	30.00		

46	<p>Providing and fixing fully glazed / partly glazed double leaf 20 micron thick anodized aluminium door with following listed extruded section manufactured by Jindal Aluminium Ltd. & other accessories, the Alluminium sections are of HE9WP Group:</p> <ol style="list-style-type: none"> 1) with door outer frame section of 63.5 x 38.1 x 3.18 mm thick weighing 1.777 kg/RTm. (J4605) 2) Door shutter vertical style (meeting style) of 53.7 x 44.45 x 2.30mm thickness (J4537) weighing 1.238 Kg/m 3) Hinge side 53.7 x 44.45 x 2.30mm thickness (J4540) weighing 1.173 Kg/RTm. 4) Bottom rail of size 150 x 44.45 x 2.40mm thickness (J4538) weighing 2.376 Kg/RTm. 5) Lock rail of size 150 x 44.45 x 2.40mm thickness (J4538) weighing 2.376 Kg/RTm. 6) Top rail of size 47.62 x 44.45 x 3.18mm thickness(J4506) weighing 1.501 Kg/RTm. 7) Ventilator middle member (if required) 49.91 x 44.45 x 3.00mm thickness (J4621) weighing 1.495 Kg/RTm. 8) Aluminium handle 127.00 x 37 x 3.65mm thickness (J4483) weighing 1.912 Kg/No. 9) Tower bolt 250mm long (J4954) 10) Aluminium bending mortice lock (J4420) 11) Top panel using 6.0mm thick Triveni or Modi or Saint Gobain make float glass fixed with PVC Clear gasket 12) Bottom panel using 12mm thick exterior grade prelaminated particle board of 	SMT.	81.06		
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	<p>make approved by the Engineer - in - Charge (for partly glazed door) fixed with virgin PVC clear gasket</p> <p>13) Door Closer of make approved by the Engineer - in - Charge with all other required fixtures and fastening of colour anodized with aluminium beading, with all labours and materials etc. complete as directed by EIC. Aluminium section user for fixing hinges, door closer, etc. shall be filled with country teak wood to receive screws.</p>				
47	<p>Providing and fixing window and ventilation having extruded aluminium anodized section frame main outer size 63.50x38.10x19.5mm (of Jindal Section no:4605, @ wt 1.094Kg/RTm.), horizontal two track member size 61.85mm x 31.75mm x 1.20mm(of Jindal Section mo: 8687 @ wt of 0.695 Kg/mt), vertical member of size 61.85mm x 31.75mm x1.30mm(of Jindal section no: 8758 @ wt of 0.659 Kg /mt) with Sliding Shutters of horizontal member Size 40mm x 18mm x 1.29mm(of Jindal section no: 8949 @ wt of 0.456Kf/mt), vertical member of size 40mm x 18mm x 1.29mm (of Jindal Section: 8947 @ wt 0.457 Kg/mt, section 8948 @ 0.457kG/mt) with 5 mm thick transparent bronze colour/white tinted float glass with aluminium fittings and fixtures and transparent silicon sealant glass fixing to frame as per details etc. complete for Window.</p>	SMt.	74.25		

48	<p>Providing and fixing in position Partly glazed & partly paneled partition using "Jindal/ Hindalco /Banco " make aluminum section with approved Poly Propelene Based Powder coating (DFT = 65-80 micron) having intermediate frame (Double groove)of size 63.5 mm x 38.1mm x 3.2 mm @ 1.79 kg/m, (Jindal code no. 20004) Outer frames (single groove)of size 63.5 mm x 38.1 x 2.5mm @ 1.369 Kg/m (Jindal code no.20065), clip 19.0 x 17.3 x 1.2mm @ 0.154 Kg/m (Jindal code no.19377) , GLAZING STRIP /PLATE 44.45 X5.72X3.22@0.453 KG./RTM. , corner box section where required of size 63.5 x 2.38 @ 1.571 kg/ mtr (Jindal code no. 14492) as per detailed sketch including silicon sealant filing between alu. section & wall all necessary fittings, 6.0 mm thick plain/brown float glass /frosted glass in middle panel, Top & bottom panel with 10 mm th. water proof Ply fixing with 1 mm. th. Laminates on both side .</p>	SMt.	10.50		
49	<p>Providing and fixing Hydraulic door closure of "dorma" or approved ISI make into position etc. complete as directed.</p>	No.	14.00		
50	<p>Providing & fixing double action hydraulic floor spring of "HARDWYN"(MODEL NO.3000) or approved equivalent make (conforming to I.S. 6315) for aluminum doors including cost of cutting floors as required, embedding in floors and cover plates, brass pivot, single piece M.S outer box with side plate etc. complete as per the direction of Engineer-in-Charge.</p>	No.	27.00		

51	<p>Providing and fabricating and placing approved quality steel work welded in built up sections, framed work incl. cutting, hoisting, fixing in position and applying a priming coat of red lead paint and 3 coats of oil painting of approved shade & make. rate includes the erection of angle post for CL fencing :- (A) In beams and joints channels angles, tees, flats with connecting cleats as in main and cross beams, hip and jack rafters, purlins connected to common rafters, for Cable trench rack & Tray etc..</p>	Kg.	25,500.56		
52	<p>Providing & fixing MS Grill of approved quality & design weighing 15 to 20 kg/smt. as per drawing & as directed with necessary grill door (if required) including welding or bolted fixtures and fastening. M.S. Flat hold fasts, 300mm long, 16mm dia. aldrop & 300mm. long tower bolt necessary with handles etc. with 3 coats of oil painting of approved shade & tint with one coat of red oxide primer including grouted hold fast in CC (1:2:4) etc. complete as directed by EIC.</p>	SMt.	74.25		
53	<p>Providing and Fixing Stainless Steel railing as per specification, drawing and as directed. Item includes all material, labour, machinery, etc required as instructed.</p>	RTm.	54.40		
54	<p>Providing and laying approved quality polished Kotah stone slab (25mm th.) flooring including using 35x25mm approved quality machine cut, marble strip over 20mm (average) thick base of cement mortar 1:6 (1 cement : 6 course sand or L.M. 1:1.5 laid over and jointed with grey cement slurry including rubbing and mirror polishing using</p>	SMt.	434.98		

	polishing machine with grinding six emery's of different no. including using special chemical powder for polishing including white cement coating two times during polishing for filling up minute holes or cracks in joints etc. comp.(R & B,CH-14, Item-12,P-53+ 120.00 Rs. for mirror polishing)				
55	Do as above Kota stone but length required length for step with one side polished and edge polish as required.	S.Mt.	183.96		
56	Providing & fixing one side polished, min. 1500 mm long and 300 mm wide stone for window sill / door frame /door jamb with half round moulding on one side and edge polish with chamfering on other side including laying on 20mm thick C.M. (1:4) bedding with adhesive material as required. Measurement shall be per running meter laid single length only) but with 18/20 mm Granite Stone.	S.Mt.	113.03		
57	Providing and laying color glazed tiles of size 300mmX200mmX8mm /300mmX450mmX8mm -Johnson /Kajaria /Nittco or its equivalent make in flooring & dado laid on bed of 12mm thick cement mortar 1:3 (1 cement: 3 course sand) & fixing the same in cement & providing 12mm thick back coating of cement plaster in CM 1:3 for base, filling the joints with white/color cement neatly finishing the joints curing etc. complete.	S.Mt.	70.36		
58	Providing & laying ceramic tiles 6MM to 8 MM THICK in flooring treads of steps and landing laid on 10mm thick cement mortar1:6 [1 cement : 6 coarse sand] and finished with white or colour cement complete as directed by EIC (For	S.Mt.	21.61		

	battery room)				
59	Providing & fixing approved quality vitrified tiles OF ANY SIZE 8 mm to 10 mm thick of best quality matt/glossy finish of Johnson/Kajaria/Nittco or its equivalent make of required size for flooring, skirting etc. including fixing the same in cement mortar (1:2) setting with readymade tile adhesive as recommended by manufacturer's including fillings of joints mixed with pigmented cement slurry of matching shade etc. complete - 8/ 10 mm thick Vitrified tiles of any size 8/ 10 mm thick Vitrified tiles of any size	SMt.	342.77		
60	Supplying and laying 50 mm thick acid/alkali resistant flooring and dedo on concrete base with 25 mm thick unglazed vitreous ceramic acid / alkali resistant tiles of size 600 x600 mm (Johnson make) of approved make conforming to IS:4457 over 25 mm thick acid resistant mortar (Silicate mortar) , bedding mortar in C.M 1:3 and filling the joints to full depths of tiles all as per drawings, specifications and directions of the Engineer, all materials, tools, plant and labour complete.	SMt.	51.16		
61	Providing and laying both side polished stone slabs as urinal / washbasin / platform partition to be fixed in wall including making & filing jari with cement mortar 1:3 (1 cement: 3 coarse sand) if required including cutting to required size, chamfering as required, full moulding and polishing complete. (measurement shall be taken as per net plan area of slab fixed.)	SMt.	5.06		

62	<p>Providing and laying 62mm thick cement concrete flooring with metallic concrete hardener topping under layer 50mm thick cement concrete M20 grade and top layer 12mm thick metallic concrete hardener mix : 2 stone aggregate (6mm nominal size) by volume with which metallic hardening compound of approved quality is mixed in the ratio 4:1 (4 parts of cement : 1 part of metallic floor hardening compound of approved quality by weight including cement slurry, rounding off edges and strips etc. but excluding the cost of Nos. of steps etc. complete. (supply of metallic floor hardener is in scope of contractor)</p>	SMt.	287.79		
63	<p>Providing and laying 500 mm x 500 mm x 3 mm thick flexible interlocking PVC tiles of "Wonder Floor", "Armstrong" or "SUPREME" make in flooring & skirting including laying with proper joints on chequered base with all necessary materials at all levels and all heights etc. complete.</p>	SMt.	320.33		
64	<p>Providing & fixing 15mm thick 'India Gypsum' make mineral fiber board tiles of 595 x 595mm size with revealed edges in concealed option including fixing "Gypsteel ultra" ceiling section only. False ceiling shall be fixed from RCC slab using metal rawl plug, soffit cleat, wall angle, Main & Cross T section, angle etc. as per manufacturer specification only.</p>	SMt.	297.48		

65	Providing laying and joining in true line and level UPVC pipe (SCH-40) including fittings of PRINCE/ SUPRIME/ ASTRAL/ FINOLEX or equivalent make or as approved by EIC. Pipe shall be fixed on the wall with the help of clamp at every 2000mm c/c or shall be concealed or necessary excavation in trenches as directed including necessary fittings including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials and necessary refilling the trenches, dressing etc. complete. For 15 mm Dia Pipe.	RTm.	30.00		
66	Do but for 25 mm Pipe.	RTm.	50.00		
67	Do but for 40 mm Pipe	RTm.	40.00		
68	GI 'B' class pipe line of "Jindal" make including wrapping of layer of polythene sheet over a coat of bituminous paint for 15mm Dia pipe.	RMt.	20.00		
69	Do but for 25 mm Dia pipe.	RTm.	30.00		
70	40 mm Dia pipe.	RTm.	50.00		
71	Providing and fixing UPVC waste water pipe (IS:15328 -2003) of approved make for sewage line including cutting, testing and providing all necessary fitting & fixtures, excavation , backfilling & removal of surplus earth ,laying into required slope, jointing & sealing the same with sealant, making the surface good etc. all complete for 75 mm Dia.	RTm.	56.47		
72	110 mm Dia - (SN -4)	RTm.	30.00		
73	Providing & fixing approved quality gun metal check or non-return wheel valve for -25 mm Dia.	No.	4.00		
74	Do but for 40mm Dia.	No.	3.00		
75	Do but for 15 mm Dia.	No.	4.00		

76	Providing and fixing approved quality screw down bib tapes of following size: (A) Brass screw down bib tap polished bright 15 mm dia.	No.	20.00		
77	Providing & fixing Stainless steel liquid soap holder cum dispenser of approved make to the wall with necessary brackets, screws, washers, plugs etc. all as specified & directed.	No.	2.00		
78	Providing and placing on terrace (at all floor levels) polyethylene water storage tank (triple layer) of capacity 2000 Ltr. of ISI : 12701 marked indicating the BIS license No. with cover and suitable locking arrangement and making necessary holes for inlet, outlet and over flow pipes, supply and fixing of fittings but without the base support for tank (Sintex or equivalent having valid ISI License)	No.	2.00		
79	Providing & fixing to all ceiling and floor 4.00Kg/SqCm Finolex OR its equivalent rigid PVC pipes of the following outside diameter, wall clamps, etc. including necessary fittings like bend, shoes, Y, Tee, etc. including testing of pipes and jointed with adhesive solvent cement including cost of all materials making good wall ceiling and floor. For 100 mm O.D. pipe.	RTm.	224.00		
80	Providing and fixing best quality of HDPE Pipe of approved ISS quality with all accessories, fittings, jointing etc. suitable for laying Cables etc. complete as directed by EIC. 163 mm dia. Outer 10 kg/cm ²	RTm.	45.50		
81	Supplying, fixing & testing PVC floor trap (6 Kg/Sq cm) with solvent cement joints, including all the fittings. The work shall include wall	No.	6.00		

	chase and making good the same in cement mortar complete to the satisfaction of engineer-in-charge. 100 mm Dia with 150X150				
82	Providing and fixing Square Mouth Stone Ware Gully Trap grade "A" 100 x100 size "P" type of approved quality, including 230mm thick brick masonry chamber of 300 x300mm clear inside in C.M. (1:5) plastered on both sides in C.M. (1:3) with C.I cover not less than 4.5 kg and frame not less than 2.7 kg. to fixed in Cement concrete 1:2:4 including necessary excavation to required depth,1:4:8 bedding of 150mm thick etc. complete.	No.	4.00		
83	Providing and constructing chambers / Manholes including excavation, backfilling, removal, formwork, reinforcement laying, M-7.5 bed concrete 150mm thick, 230/350mm thick brick masonry in cement mortar 1:6,12 mm Plaster in C.M (1:3) with floating coat of neat cement on inside, outside & top surface, RCC M15 grade for coping and 100 mm th. slab foot rest of 20 mm dia bar @ 300 mm c/c etc to receive precast cover/grating/ C.I cover, making necessary channel into floor with PCC 1:2:4 finished with floating coat of neat cement, (excluding pre cast cover, grating, angle frame, steel reinforcement) etc. complete. 450 x450 x 600 clear size.	No.	6.00		
84	600 x 600 x750 mm clear size.	No.	24.00		
85	900 x 900 x750 mm clear size.	No.	-		
86	1200X1200X1200	No.	3.00		

87	Providing and fixing Oval wash basin (size 550 x 440 mm of "cera" make (no. 1025) of white colour standard quality including inlet and outlet connections, Pillar cock, stop cock, angle cock of approved quality, C.P. Brass bottle trap, CI Brackets CP brass waste coupling, cutting & making good the wall, etc. complete. (All plumbing fixtures shall be of "Jaquar" make).	No.	2.00		
88	Providing & fixing approved quality light type C.I. Manhole covers 35 Kg. with water tight C.I. Frame & fixing the same in concrete etc. complete as directed by E.I.C. for 450X610 mm size	No.	10.00		
89	Providing and fixing CI step in septic tank sock pit in c.c. as directed.	No.	46.00		
90	Providing and fixing glazed earthenware White Wall Hung European type standard WC pan of "Cera" make (no. 2115) with cistern, pair of CI chair brackets, white solid plastic seat cover (no. 2325), CP brass hinges and rubber buffers, CP flanges, necessary fastener & fixing, cutting and making good the walls and floors where required, all complete. Providing & fixing 5 liter white P.V.C flushing cistern of Jaqar make(WHC WHT 184 A) make with necessary fixtures & fittings as per requirement.	No.	3.00		
91	Providing and fixing C.P brass toilet paper holder.	No.	4.00		
92	Providing and fixing approved make double type coat & hat hooks with flanges, fixed to wall / shutter etc. with necessary screws, washers and plugs all as specified & directed.	No.	4.00		

93	Supplying and fixing white Large flat back standard urinal 635x395x420 of "Cera" make (no. 5001/5004) with C.I large brackets, G.I. extension piece, C.P. Spreader and 10 mm dia. C.P. connector pipe, C.P flanges, including dome type C.P. waste coupling, waste connection through C.P. bottle trap necessary fixtures etc. complete.	No.	2.00		
94	Providing & laying RCC NP2 class conforming to IS: 458 for pipes with collar jointed drains, Cables etc. including excavation upto required depth & width & disposal of surplus earth within plot boundary limits lowering to required level/gradient, jointing with CM 1:2, laying of pipe in joints, back filling the trenches, compaction and making good teh same etc. complete (Encasing P.C.C. work and bed concrete for laying will be paid separately as per regular item). Inspection & hydraulic testing of the pipes will be witnessed by the representative of client/Consultant at Manufacturer's shop before dispatch.150 MM DIA	RTm.	36.00		
95	Do Bit NP3 300 mm Dia.	RTm.	56.00		
96	Supplying & stacking 25 to 40mm size crushed metal including transportation, filing the box etc. in S/S yard complete as directed by EIC. (Box measurement will be paid with 15% voids deductions)	CMt.	118.38		
97	Supplying & stacking 6mm size grit including transportation for spreading on road filling the box etc. complete.	CMt.	46.50		
98	Supplying & stacking quarry dust including transportation for spreading on road filling the box etc. complete.	CMt.	46.50		

99	Labour charges for spreading 25 to 40 mm size metal in 100mm thick layers with required grade & camber & watering rolling the each layer with 8 to 10 tones power roller including filling depression which occur during process etc. complete as directed by	CMt.	93.00		
100	DO as above but with murrum	CMt.	139.50		
101	DO as above but for grit	CMt.	46.50		
102	DO as above but for quarry dust	CMt.	46.50		
103	Providing and fixing in position best quality approved make 6mm beveled edge mirror of size 600 x1000 mounted on 12mm thick water proof plywood backing and hardwood beading around and mirror fixed to the backing with 4 Nos. of CP cap screws & washers including fixing the mirror to the wall with necessary screws, plugs & washers etc. complete.	No.	2.00		
104	Providing & fixing approved quality 300x300mm size marble year plate with black border all round & letters including fixing the same in cement mortar etc. comp. As directed by EIC.	No.	1.00		
105	Providing & fixing in position S.S. towel rail/napkin ring model no. 1121 & 1181 of approved make of 600mm length, 20mm dia. With a pair of brackets or flanges fixed to wall with necessary screws, plugs etc. all as specified & directed.	No.	4.00		

106	<p>Providing & laying water proofing treatment on terrace including applying neat cement slurry 2.75 kg./sq.mt. on cement admixed with water proofing component after cleaning the surface, Laying cement concrete with brick bat 75mm to 100mm thick with 50% of C.M. 1:5 admixed with water proofing component over 20mm thick layer of C.M. 1:5 to required slope including ramming at junction of wall and slab, after two days of proper curing applying a second coat of cement slurry, finished the surface with 20mm thick C.M. 1:4 china mosaic flooring and finally finished surface with white cement slurry, after finishing with terrace shall be finished with water for a period of two week. The contractor shall submit performance guarantee of the waterproofing item at the rate of 20% of cost of item of work order in the form of FDR of Schedule Bank / Nationalised Bank in favour of GETCO (A/c Agency) for a period of 5 years from actual date of completion of work stamp paper of appropriate value in approved format of GETCO.</p>	SMt.	769.80		
107	25 x 25 mm expansion joint with Poly sulphide sealant	RTm.	-		
108	5 x 10 mm groove in floor with Poly sulphide sealant	RTm.	-		
109	<p>Providing & fixing G.I. Barbed wire fencing (12/14 Gauge) having mass and uniformity of Zinc coating & specifications shall be as per IS 2140 – 1978 & IS 4826 – 1979 code with minimum 70-micron coating having 3 horizontal rows, fixing with angle post. etc.</p>	RTm.	420.00		

110	Providing and filling 40 to 50mm. size brick bats up to 1.5 Mt. etc. comp. as directed by E.I.C.	No.	21.20		
111	Providing and fixing with Labour charge for fabricating, erecting and fixing in position various Inserts like angles, channels, beams, chequered plates, etc. with necessary hold fasts including fixing with concrete or masonry surfaces to required level and alignment during concreting at all levels as per detail drawings, cleaning the surfaces after deshuttering and consumables like welding rods etc. complete. Lugs for insert will be provided in this item. Rolling margin & wastages shall not be paid. Payment will be made based on theoretical consumption of materials worked out from construction drawings or measured as actuals if drawings are not available on weight basis by muling length / size of the section with standard unit weight as per IS. Quoted rate shall be inclusive of Hot dip galvanising of 910 gm/ Sqm. (127 Micron) for thickness of section above 5 mm above & 610 gm/sq.m (87 micron) for thickness below 5 mm.	MT.	17.78		
112	Providing & applying anti termite treatment, as per IS 6313 (Part.II & II 2001) for building works in pre-construction & post const. stages, using chemicals conforming to relevant IS in water emulsion and effective when applied uniformly over the area to be treated. The chemical to be used is chlorophriphos 20% EC or its equivalent. The treatment is to be carried out as per the procedure mentioned below and treated plinth	SMt.	846.78		

	surface area is to be taken for measurement. (with performance guarantee for 5 years) For pre-construction treatment: The contractor shall submit performance guarantee of the waterproofing item at the rate of 20% of cost of item of work order in the form of FDR of Schedule Bank / Nationalised Bank in favour of GETCO (A/c Agency) for a period of 5 years from actual date of completion of work stamp paper of appropriate value in approved format of GETCO.				
113	Providing & fixing 110mm dia. PVC SWR Vent Cowl ventilator	No.	16.00		
114	Providing & fixing Acrylic name plates of required size including painting letters as directed & fixing as directed by E.I.C.	No.	17.00		
115	Providing and constructing plinth protection surrounding building as required size with excavation 300 mm PCC 100 mm sand filling and fixing paver blocks and curbing as per drawing.	SMt.	135.14		
116	Painting the letter with best enamel oil paint in 200 to 250mm size etc. complete as directed by EIC (paint should be brought by the contractor)	No.	20.00		
117	Providing & Laying approved best quality of HEAVY GRADE – “C” class 150mm Dia G.I. Water pipe including necessary excavation up to 750mm. depth refilling trenches including with all necessary fittings like Elbo, Tee, Union, Nipple, Plug, flange of required dia at pipe end to connect with Trans bottom drain valve etc., welding cutting, threading as per site requirement giving leak proof test etc., complete as directed by EIC	RTm.	50.00		

118	Providing & Fixing 250mm. dia. Sluice valve of gun-metal drum with necessary overhead operating devices of 25mm.dia. G.I. Pipe fitting with special pedestal wheel etc., as directed by E.I.C.	No.	4.00		
119	Providing & fixing C.I. air pipes Heavy Type with C.I. Coupling, bends, Union end shoe, M.S. flat clamps & fixing the same with oil tank etc., complete as directed by E.I.C. (100 mm. dia.)	RTm.	10.00		
120	Galvenise Cable tray of 450 mm wide.	RTm.	240.00		
121	Galvenise Cable tray of 600 mm wide.	RTm.	400.00		
122	Preparing the sub-grade by trimming the surface to the required level, grade and camber by excavation or filling not exceeding 60 cms depth. No earth is to be brought from outside. In case of filling for sub-grade, earth is to be collected and transported to road site from available stack of earth in Plot boundary after necessary loading and unloading. Filling in road shall be done by spreading in layers of 150 mm thick and compacted to 95% Standard Proctor Density after all necessary watering, rolling and compaction. In case of excavation, surplus earth is to be disposed, spread and stacked properly in owner plot boundary as directed by the Engineer in charge. The sub grade shall be properly rolled by 10 ton roller.	SQm.	163.80		

123	<p>Providing and laying Water Bound Macadam Base Course of 350 mm thk. in three layer of 115mm thick each, average 158 mm thick loose laid / 100mm consolidated using Black Trap Machine Cut Metal, procured from approved source, 1.58 to 1.25 Cum of 90 to 45mm size aggregates, 0.35 to 0.30 Cum of screening material of size 13.2mm and average 0.08 to 0.10Cum of binding material required for each layer per 10 Sqm. of plan area of base course. Rate shall be inclusive of stacking of materials in stacks, spreading of materials, consolidation and compaction by 8/10-ton Power roller to achieve proper grade, camber & level, watering, royalties, right of way etc. complete. (Physical requirements and gradation of materials shall be as prescribed in Clause No. 404, Grading No. 2 or 3 as per the drawing, of Table No 400-7 and Specifications No. 404.2.6 and 404.2.7, of IRC-19 or M.O.R.T. & H.) Minimum CBR value of materials shall not be less than 100 %.</p>	Cum.	163.80		
124	<p>Providing and laying M7.5 grade (1:4:8) Plain Cement Concrete with 40mm down size graded metal including centering, shuttering if required laying, spreading, ramming, consolidating, curing and finishing top surface rough or smooth as per instructions of Engineer-in-charge.</p>	Cum.	163.80		
125	<p>Providing & fixing a separation membrane of minimum thickness 125-micron polythene between the concrete floor and the sub-base plain cement concrete to reduce friction including cutting of plastic sheet as</p>	SQm.	420.00		

	per site measurements, longitudinal and cross laps of minimum 150mm to 200mm. The said laps however, shall not be considered for payment, the same shall be deemed to have included in quoted rate.				
126	Providing & laying controlled /design mix M20 grade concrete upto 300 mm thick, for Road work, using 20mm & downgraded stone aggregates, in alternate panels of suitable size including machine mixing, mechanically vibrated with skirt vibrator, finishing to required level, grade and camber, Power troweling, brooming by appropriate wire brush, curing by ponding, etc. incl. MS Channel shuttering with provision of holes for tie / dowel bars and making saucer drain on both side of road etc. complete as per drawing as per instruction of engineer-in-charge. (Reinforcement shall be paid separately).	Cum.	126.00		
127	Using "Tre mix system" (vacuum dewatering system) in flooring as per manufacturer's specification.	SQm.	707.79		
128	Providing and filling Expansion joint 25 mm wide in concrete road with top 25 mm x 20 mm deep gap sealed with bitumen sealing compound (grade- B) and balance bottom with 25 mm thick. Duraboard of approved make including cleaning joint all complete as directed.	RTm.	174.00		
129	Providing & laying RCC NP3 class conforming to IS: 458 for pipes with collar jointed drains, Cables etc. including excavation upto required depth & width & disposal of surplus earth within plot boundary limits lowering to required level/gradient, jointing with CM 1:2, laying of pipe in joints, back filling the trenches,	RTm.	80.40		

	compaction and making good teh same etc. complete (Encasing P.C.C. work and bed concrete for laying will be paid separately as per regular item). Inspection & hydraulic testing of the pipes will be witnessed by the representative of client/Consultant at Manufacturer's shop before dispatch. 100mm dia.				
130	Providing & fixing Factory made Kerb stone using M20 concrete grade including excavation and back filling, transporting, stocking, placing kerb in position, Joint filling with C.M 1:6 etc. complete. In case of embedding kerb stones in PCC, the same shall be paid under relevant item. size 300 x450 x150 mm thick	RTm.	168.00		
131	Providing and applying synthetic enamel Paint of approved make & approved colour to precast curbing in approved colour pattern in two or more coats to give good and even shade including suitable priming coat and cleaning the surfaces with all labour and material etc. complete.	RTm.	168.00		
132	Providing & fixing factory made Decorative coloured Rubber Mould M-35 "Paver Block" of 60 mm thick of any pattern as approved, laid in line & level over and including ungraded sand bed of 100 mm thick including transporting, loading, unloading, stacking & fixing in position.	SQm.	-		
133	Micro grading of site including cutting / filling upto average 300mm depth & slope of 1:1000 from ridge to nearest drain and compacted by 3 Ton roller with suitable water sprinkling to form a smooth and compacted surface condition which shall be matching with required	SQm.	930.00		

	FGL of switchyard area including removal of surplus earth (if required) outside battery limit / plot boundary as directed by engineer in charge. No earth is to be brought from outside & if required only surplus earth available from excavation is to be utilized.				
134	Supplying and spreading 'Round up'(Glyphosphate 41%SL) of approved ISI standard make or equivalent weedicide for weed control in proportion of 100ml weedicide and 250-gram ammonium sulphate, mixing with sticking agent mixed with 10 liter of clean fresh water and second spray with same treatment as stated above after two months and as per manufacturer's specification and as directed by Engineer-in charge.	Sqm.	930.00		
135	Supplying and lowering the approved ISI submersible pump of 5 HP with required Cable, Starter as directed with ISI including commissioning and testing to required delivery head with other accessories.	No.	1.00		
136	Supplying and commissioning of a pump set with 1HP motor along with 150 Mtrs. reinforced/braided 1/2-inch dia. Pipe and 15 Mtrs. Cables.	Set	1.00		
	Civil Total Without GST				

