



Request for Proposal (RFP)

CIVIL TENDER

DOC No. P&FM/R&D_OFFICE/01

DATE: 12.02.2026

PROJECT: Proposed Construction Of R&D Office Building & Technical Facilities (Flushing station, Resin Room, Conference Room) Including Internal Electrical Installations, Ac, Fire Fighting, Pa System Etc, Existing Facility At Plot No. 406/1 Near Bambhulla Dibba, Puntha Road Ambarupeta Village, Bhimadole Mandal, West Godavari District-534425-Andhra Pradesh.

CLIENT: Lixil India Sanitaryware PVT Ltd

CONTENTS: TENDER DOCUMENT

1. Introduction

LIXIL India Sanitaryware Pvt. Ltd. is a wholly owned subsidiary of the LIXIL Group, a Japanese global leader in water and housing products. With a portfolio featuring world-renowned brands such as **GROHE** and **American Standard**, LIXIL is dedicated to making better homes a reality for everyone, everywhere.

In India, LIXIL operates with a commitment to "Link to Good Living," integrating Japanese technology with local consumer insights. This project—the construction of a specialized R&D Office, Conference Room, and flushing Stations and resin room—is a strategic investment in our domestic innovation capabilities, requiring a partner who mirrors our commitment to quality, precision, and sustainability to deliver a world-class facility.

2. Background:

LIXIL India is expanding its technical infrastructure at its Bhimadole facility to enhance Research & Development and operational efficiency. We invites sealed bids from reputed contractors for the civil, MEP (Mechanical, Electrical, Plumbing), and interior works for our new facility expansion. This project is unique as it blends **high-spec corporate interiors** with **specialized laboratory-style environments**. Construction of R&D office, Including Concept Room (Conference Hall), Flushing Station, Resin Room.

Key project drivers include:

- **World-Class Innovation Infrastructure:** To maintain our position as a market leader, we aim to provide an inspiring environment for our staff. This expansion focuses on creating a high-quality, ergonomic R&D office that accommodates modern collaboration and creative thinking. The facility must feature superior aesthetics, advanced digital connectivity, and comfortable breakout zones that encourage the cross-pollination of ideas.
- **Technical Innovation:** To support advanced testing, LIXIL requires a **Flushing Station** designed for high-load plumbing and a **Resin Room** equipped for chemical handling and hazardous fume extraction.
- **Infrastructure Consolidation:** The objective is to create a G+1 structure that provides a seamless transition between administrative R&D office space and industrial testing zones, adhering to strict OHSAS safety guidelines and Indian Standards (IS 800, 875, and 456).

3. Eligibility Criteria:

The minimum eligibility criteria for selecting the vendors for the purpose stated above have been listed in this section.

Sl. No.	Criteria	Documents required to be attached with Technical Bid to establish eligibility
1	The bidder must be a separate legal entity. The bidder should be operating in India in the construction of commercial, Industrial buildings projects business for the last 5 years ending on 31st March 2025	Certificate of incorporation or formation, deed etc. of the legal entity. - GST certificate copy (declaration if not registered under GST) - PAN card copy
2	The bidder should have Completed single project cost of 5 Crores, and an average annual turnover of at least Rs.15 Crores during last 3 financial years latest ending on 31-03-2025.	Declaration by the bidder in Form-A attached to this document mentioning Revenue from the said business for each year (i.e. FY22-23, FY23-24 and FY24-25).
3	The bidder should have successfully completed a similar construction project (i.e. construction of a R&D office blocks, commercial buildings etc.), at least three (3), in the last 36 months ending as on 31st December 2025.	Details of such project including documents like Purchase Order or Work Order or signed contract copy.
4	The bidder should be a profit-making entity for the last 3 financial years ending 31.03.2025.	Mention turnover and profit in Form-A to this RFP.
5	The bidder must not be blacklisted by a Central/State/Local Government Organization/ Institution/PSU.	A Self-declaration by the bidder (to be attached with the bid).
6	The bidder shall have at least one support office in Andhra Pradesh, Telangana.	

Note: All required documents as mentioned above must be duly signed by Authorized Signatory with a bidder's organization seal. The organization seal is mandatory on each page of required documents.

4. Scope of Supply/Work in detail specification:

The project is divided into four primary zones:

- A. **R&D Office:** Open-plan workstations, high-speed data cabling, ergonomic lighting, and Carpet flooring, premium ceiling finishes.
- B. **Conference Room:** wall panelling, premium ceiling finishes, and specialized lighting.
- C. **Flushing Station:** High-load plumbing, specialized drainage systems for heavy water usage, waterproof flooring (epoxy), and moisture-resistant walls.
- D. **Resin Room:** Chemical-resistant flooring, explosion-proof electrical fittings, high-cycle exhaust/ventilation system, and specialized storage.

Comprehensive Services Required:

- Civil & Interior (Partitioning, Flooring, False Ceiling).

- Electrical (UPS, Lighting, Data, Power).
- (Comfort cooling for office; Specialized exhaust for Resin Room).
- Plumbing (High-pressure lines for Flushing Station).
- Fire Fighting & Safety Systems.

4.1. Civil & Structural Works

- **Foundation & Frame:** Execution of an RCC G+1 framed structure including Raft, Isolated, or Pile footings as per latest IS Codes and National Building Codes.
- **Earthworks:** Complete site clearance, excavation, and backfilling (sand/soil) as per structural requirements.
- **Infill & Brickwork:** First-class brickwork for all internal and external walls as per CPWD specifications.

4.2. Mechanical, Electrical, & Plumbing (MEP)

- **Electrical Systems:** Supply and installation of UPS, internal/external lighting, and data/power distribution.
 - **Lighting:** Must include ceiling lights, LED profile strips, flame-proof lights for the Resin Room, and emergency exit lights (all Philips make).
 - **HVAC:** Installation of Mitsubishi Air Conditioners (1.5 to 2.2 ton) for the office and specialized exhaust/ventilation systems for the Resin Room.
- **Plumbing & Drainage: Flushing Station:** Installation of high-pressure lines and specialized drainage systems capable of handling high-load water usage for sanitaryware testing.
- **Fire Safety:** Complete installation of Fire Fighting and Safety Systems as per local norms.

4.3. Interior Fit-out & Finishes

- **R&D Office:** Provision of open-plan workstations (makes: Godrej Interio/Steelcase), ergonomic lighting, high-speed data cabling, and premium carpet flooring.
- **Conference/Concept Room:** High-end interior finishes including acoustic wall paneling, premium ceiling treatments, and specialized presentation lighting.
- **Technical Zones: Flushing Station:** Application of waterproof epoxy flooring and moisture-resistant wall treatments.
 - **Resin Room:** Application of chemical-resistant flooring and installation of explosion-proof electrical fittings.

4.4. Execution & Quality Standards

- **Compliance:** All steel design must comply with **IS 800**, wind loads with **IS 875**, and concrete with **IS 456**.
- **Testing:** The contractor must conduct all mandatory material tests at approved laboratories (e.g., concrete cube tests, soil density) at their own cost.
- **Warranty:** Minimum **10-year warranty against leakage** and **2-year warranty against paint peeling or fading**.

5. Specific Brand:

- a) All Brands and Makes mentioned in the technical specifications.

6. Model Nos:

- a) All Brands and Makes mentioned in the technical specifications.

7. Requirement Application/Purpose:

Purpose: To provide a high-performance workspace for the R&D team that fosters creativity, collaboration, and digital connectivity.

Application: The **R&D Office** will serve as the primary administrative zone for design and engineering, while the **Concept Room (Conference Hall)** will be used for high-level stakeholder meetings, product strategy presentations, and virtual collaborations with LIXIL global teams. These areas require premium aesthetics, superior acoustics, and ergonomic comfort to support long-duration cognitive work.

8. Drawings / Designs (if applicable):

To ensure the integrity of the R&D office the contractor must strictly adhere to the approved project drawings and maintain a rigorous design-validation process throughout the execution phase.

8.1. Adherence to Issued Construction Drawings (IFC)

- Finality of Drawings: All work must be executed as per the "Issued for Construction" (IFC) drawings provided by LIXIL's authorized consultants. No deviations regarding dimensions, material grades, or structural layouts are permitted without written "Change Order" approval.
- Structural Integrity: Designs must comply with IS 800 (Steel Design), IS 875 (Wind Loads), and IS 456 (Concrete). The G+1 structure must be verified against seismic zone requirements for Andhra Pradesh.

8.2. Contractor's Shop Drawings

Before commencing any specific installation, the contractor is required to submit detailed Shop Drawings for LIXIL's approval, including but not limited to:

- MEP Coordination Drawings: A combined layout showing Electrical, HVAC, Plumbing, and Firefighting lines to ensure zero physical conflict (clashes) in the ceiling and wall voids.
- Resin Room Ventilation: Specific design for the exhaust hood and ducting route to ensure hazardous fumes are extracted efficiently without affecting the R&D Office air quality.
- Flushing Station Drainage: Isometric drawings of the specialized high-load drainage system to ensure proper slope and prevent backflow.

8.3. Material Approval & Data Sheets

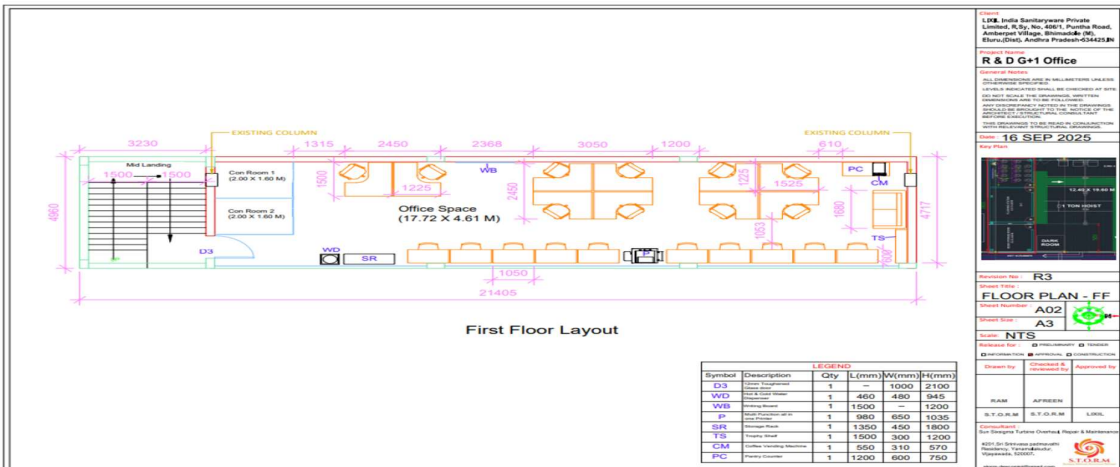
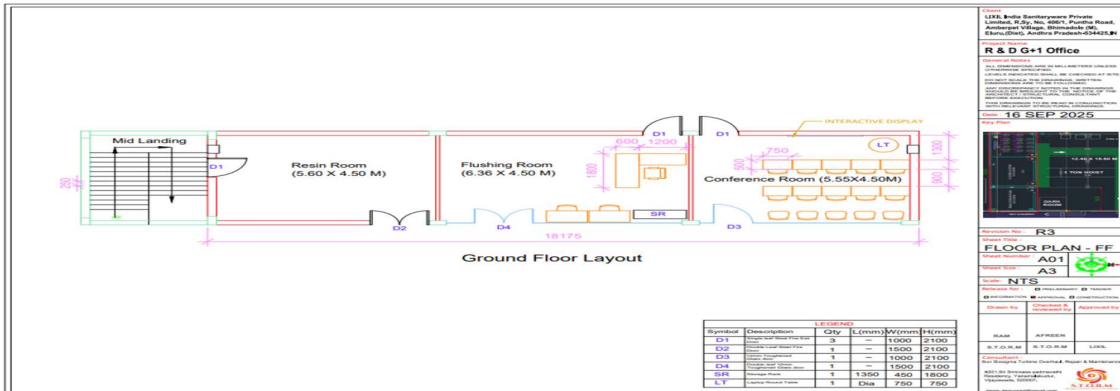
Technical Data Sheets (TDS): For every material used, the contractor must provide manufacturer-signed TDS and test certificates.

Finish Samples: Physical samples of the Carpet Flooring (R&D Office), Epoxy Coating (Resin Room), and Acoustic Paneling (Concept Room) must be presented in a "Sample Board" for aesthetic approval before bulk ordering.

8.4. "As-Built" Drawings

Upon completion of the project and before the final payment, the contractor must submit a complete set of As-Built Drawings in both hard copy and AutoCAD format. These must accurately reflect:

- Actual locations of all buried conduits and plumbing lines.
- Final circuit diagrams for the Siemens Distribution Boards.
- Maintenance access points for the Mitsubishi HVAC units.



LIXIL India Sarthaparam Private Limited, R.Sy. No. 486/1, Punna Road, Anaparthi Village, Bhimavaram District, Andhra Pradesh-524425 IN

R & D G+1 Office

16 SEP 2025

R3

FLOOR PLAN - FF

A01

A3

NTS

RAM AFFRIDA S.T.C.R.M.

LIXIL India Sarthaparam Private Limited, R.Sy. No. 486/1, Punna Road, Anaparthi Village, Bhimavaram District, Andhra Pradesh-524425 IN

R & D G+1 Office

16 SEP 2025

R3

FLOOR PLAN - FF

A02

A3

NTS

RAM AFFRIDA S.T.C.R.M.



9. Measurements: Refer to the image or maximum size (L x W – 21.40 x 5.96 m)
10. Required Qty.: All detailed quantities and specification mentioned in the BOQ and technical specifications.
11. Required Date: 26th Feb 2026
12. Specific Warranty / Guarantee:
- Retention amount 10% of the value of work done for each running account bill or invoices or advances, will be deducted. The retention amount will be released to the bidder after the completion of defect liability period of 1 years. The retention amount shall not bear any interest in any nature.
13. Post sales support (AMC / CMC): NA
14. Installation criteria:

The contractor shall ensure that all installations are carried out with the highest degree of workmanship, adhering to LIXIL's policy. Specific criteria for each discipline are outlined below:

14.1. Civil and Structural Installation

- **Foundation Integrity:** Concrete casting (Grade M25, M30) must be continuous where possible to avoid cold joints. Curing must follow IS 456 standards strictly for a minimum of 7–10 days.
- **Tolerances:** Erection tolerances for the steel G+1 structure must comply with **IS 12843**.

14.2. Specialized Technical Zones (Resin & Flushing Rooms)

- **Waterproofing (Flushing Station):** The flooring must undergo a 48-hour "Pond Test" before the final epoxy application to ensure zero leakage. Drainage slopes must be precisely calibrated to prevent water stagnation.
- **Safety & Ventilation (Resin Room):** The exhaust system must be installed to create negative pressure, ensuring fumes do not migrate to the R&D Office. All electrical fixtures in this zone must be **Flame Proof (Philips make)**.
- **Chemical Resistance:** Epoxy and resin-based floor coatings must be applied over a completely dry, moisture-tested sub-base to prevent bubbling or peeling.

14.3. MEP & Interior Fit-out

- **Electrical Integrity:** All wiring must be **Polycab/Lapp** copper cables installed within concealed FR (Fire Retardant) conduits. Every circuit must be clearly tagged at the **Siemens Distribution Board**.
- **AC (Mitsubishi):** Indoor units must be positioned to provide uniform cooling without creating "cold spots" over workstations. Drain pipes must be insulated to prevent condensation dripping on the false ceiling.
- **Acoustics (Conference Room):** Acoustic wall panels and ceiling tiles must be installed with seamless joints to achieve the required NRC (Noise Reduction Coefficient) for high-spec video conferencing.

14.4. Site Safety & Logistics

- **Work at Height:** Contractors must use full-body harnesses and certified scaffolding. Work on the roof must be suspended if wind speeds exceed **25 km/h**.
- **Cleanliness:** As this project is within an active manufacturing facility, "Clean-as-you-go" practices are mandatory. Dust-proof barriers must be installed to prevent construction debris from entering the existing casting shop.
- **Work at Height:** Mandatory use of Full Body Harnesses with double lanyards hooked to a certified lifeline.
- **Access:** Use of Mobile Elevated Work Platforms (MEWPs) or certified scaffolding.
- **PPE:** Hard hats, cut-resistant gloves (for handling GI/PUF edges), and high-visibility vests.

15. Dedicated Location / Area for Unloading & Installation: R&D Department

16. Any Software support (Visit to the plant / Virtual): AutoCAD, Staad Pro,

17. User Manuals / Work Instructions: Yes

18. Third party certification: Yes, Design checks and Stability certificate.

19. Deliverables: Yes

The deliverables for this project include: Specify the list of deliverables

- Design Drawings (Shop drawings)

- Material Procurement and delivery.
- Quality Assurance Reports (Warranty Cards)
- Final Inspection and Handover

19.1. Construction & Physical Handover

- **Fully Commissioned Building:** A G+1 structure ready for immediate occupation, including the R&D Office, Concept Room, Flushing Station, and Resin Room.
- **Operational MEP Systems:** Fully functional AC (Mitsubishi), Electrical (Siemens/Legrand), and specialized Exhaust systems for the Resin Room.
- **Specialized Flooring:** Completed and tested Epoxy flooring in the Flushing Station and Chemical-resistant flooring in the Resin Room.
- **Furnished Interiors:** Installation of ergonomic workstations (Godrej Interio/Steelcase) and acoustic treatments in the Conference Hall as per approved designs.

19.2. Technical Documentation & Manuals

- **As-Built Drawings:** A complete set of "As-Built" drawings in AutoCAD and Hard Copy format, detailing the actual final routing of all electrical conduits, plumbing lines, and structural modifications.
- **O&M Manuals:** Comprehensive Operation & Maintenance manuals for all equipment (Air Conditioners, Ventilation Fans, UPS Systems).
- **Asset Register:** A detailed list of all fixed assets installed, including make, model, serial numbers, and warranty start dates.

19.3. Testing, Inspection & Quality Reports

- **Material Test Certificates:** Lab reports for M-30 Concrete strength, Steel grade verification, etc.
- **Pre-Commissioning Reports:** Pond Test Reports: Proof of 48-hour leak-free status for the Flushing Station.
 - Lux Level Reports: Verification that lighting in the R&D Office and Concept Room meets ergonomic standards.
 - Air-Flow Reports: Validation of the Resin Room exhaust system's efficiency in removing fumes.
- **Electrical Continuity & Load Tests:** Certified reports for all earthing and circuit loading.

19.4. Statutory & Warranty Deliverables

- **Warranty Certificates:** * Minimum 10-year warranty against water leakage in the Flushing Station and 10 year for the Roof.
- Minimum 5-year warranty on paint/cladding against peeling or fading.
- Manufacturer warranties for all MEP equipment (Mitsubishi, Philips, Siemens).
- **Handover Clearance:** Necessary safety and structural stability certificates as required.
- **Training:** Conducted training sessions for LIXIL facility staff on operating the new technical systems.

20. Evaluation Criteria:

Bids will be evaluated based on a **Weighted Scoring System (70% Technical / 30% Financial)** to ensure the highest quality of execution for the specialized Construction of R&D office, Resin and Flushing areas.

Proposals will be evaluated based on the following criteria:

Technical Bid:

- **Technical Compliance (40%):** Relevant experience, Execution Methodology, Project team and Quality and compliance.
- **Experience & References (10%):** Proven track record with large-scale projects. Similar Project.
- **Health, Safety & Environment (HSE) (10%) :** Safety Record: A proven track record of "Zero Lost Time Injuries" (LTI) over the last 3 years. Site Safety Plan, Commitment to following LIXIL's internal factory safety and "Clean-as-you-go" policies.
- **Schedule (10%):** Ability to meet the project's commissioning deadline. Target for the completion of **this project in 4 Months.**

Finance Bid:

- **Cost (30%):**
- **BOQ Transparency:** Competitive pricing and transparency in the BOQ.
- **Price Competitiveness:** Overall cost in relation to the market benchmark and project budget.
- **Financial Stability:** Creditworthiness and annual turnover (**Minimum required: 5 Crore** for Single Project Cost).

21. Kindly provide one point of contact (Lixil) for technical queries from supplier's end.

- 9154317682 (Mr. Santosh.M-NPD Leader) & 8019593724 (Mr. Ramanjaneyulu- Civil)

22. Submission Instructions:

Please submit your proposals by 26th Feb 2026 to ankur.vyas@lixil.com, santosh.m@lixil.com and palaparathi.ramanjaneyulu@lixil.com.

Your proposal should include the following information:

Bidders are required to submit their proposals in two separate sealed envelopes, clearly marked as "Part A: Technical Bid" and "Part B: Commercial Bid."

- **Technical Proposal:** The technical proposal must demonstrate the contractor's ability to execute specialized R&D Office, infrastructure facilities, and corporate environments. It should include:

Company Profile:

1. Company name and contact information, Background, registration details, and GST certification.
2. A brief overview of your company and its experience
3. Your qualifications for this project
4. Relevant Experience: Evidence of at least 3 similar projects of Construction G+1 Buildings, RCC Structures along with interior fitouts and MEP projects or Construction of buildings with high end office interiors completed in the last 5 years.
5. Project Team: CVs of the dedicated Site Engineer and MEP Coordinator who will be stationed at the Bhimadole facility.
6. Project Schedule: A Gantt Chart showing milestones from site mobilization to the

completion deadline **within 4 Months**.

7. Your proposed price and delivery schedule
8. Your proposed service plans.

- **Financial Bid:** The commercial proposal should be transparent and all-inclusive:
 1. **Bill of Quantities (BOQ):** A detailed, item-wise price breakdown for Civil, MEP, and Interior works. Itemized BOQ (Bill of Quantities) including unit rates for all material, and labor., attached for reference.
 2. **Payment Terms:** Confirmation of LIXIL standard terms (e.g., 10% Advance against bank guarantee, 80% through Running Account bills, and 10% Retention for the defect liability period).
 3. **Safety Plan:** Documentation of Height Work permits, PPE standards, and insurance coverage for workers.
 4. **Site Visit Clause:** Explicitly state that "Bidders must visit the site to verify the existing site condition before quoting.

- **Mandatory Site Visit**

Before submitting a bid, all contractors **must** visit the Bhimadole plant to verify existing site conditions, and utility connection points.

- **Submission Timeline & Address**

1. **Proposal Deadline:** All bids must be submitted by **February 26, 2026 strictly in sealed covers only**.
2. **Submission Address: To:** The Procurement Department, LIXIL India Sanitaryware Pvt Ltd. Bhimadole.

Subject: P&FM_R&D-1: Construction of R&D Office and Technical Facilities.

CONTRACT AGREEMENT

This Contract is made on thisday of Month___ Two Thousand & Twenty six

BETWEEN

M/s. Lixil India Sanitaryware PVT Ltd. having its office located at plot no. 406/1 Near Bambhulla Dibba, Puntha Road Ambarupetha village, Bhimadole Mandal, West Godavari District-534425, Andhra Pradesh, India & executed through its duly authorized representative (*here in after referred to as 'Owner', which expression shall include its successors & permitted assigns*) of the One Part.

AND

....., company registered under the companies Act, 1956/Companies Act, 2013 or & having its office at, executed through its duly authorized representative, (*hereinafter referred to as 'Contractor' which expression shall include its successors & permitted assigns*) of the Other Part.

- I. WHEREAS the 'Owner' is desirous of carrying out structural repairs to all the structures at the Work Site including administration building and construction of an additional floor as mentioned in the scope of work in the Tender Document at plot no. 406/1, near Bambhulla Dibba, Puntha Road Ambarupetha village, Bhimadole Mandal, West Godavari District-534425, Andhra Pradesh, India

AND

- II. WHEREAS the 'Contractor' has agreed upon finalization of Contract as per the conditions set forth in the Tender document & has agreed to do get work done as per the Schedule of Quantities at the approximate and estimated Contract value of Rs. (*Rupees in words*), which value is arrived at as per finally accepted tendered rates in the Attached Schedule of Quantities to this Agreement, showing the rates Contractor has unconditionally accepted. The final Contract value shall, however, be arrived at on the basis of exact work done, as assessed by joint measurements of work done & valued at the accepted tendered rates mentioned in the Schedule of Quantities.

AND

NOW IT IS HEREBY AGREED BY AND BETWEEN THE PARTIES AS FOLLOWS:

1. In consideration of the payments to be made to the Contractor as hereinafter provided, the Contractor shall, subject to the said conditions, execute & complete all work pertaining to Construction of R&D Office Building & Technical Facilities as described in the Schedule of Quantities & such detailed drawings of the Tender Document, Technical specifications (*List of Approved make of Materials/Trade*), *General Specification of Items*) and (*Form of Guarantee for Water Proofs*) and all other documents forming part of the Contract and instructions/directions as may be furnished to the Contractor by EIC/Owner from time to time. All work under this Contract shall be billed as per the accepted tendered rates mentioned in the Schedule of Quantities.
2. The Owner shall pay the Contractor all such sums as shall become payable after due joint measurements and certification by the EIC in the manner specified in this Contract & all such payments shall be made in Eluru District, Andhra Pradesh.
3. Words & expressions in this Contact shall have the same meaning as respectively assigned to them in the RFP and General Conditions of Contract and other Tender Documents, as issued to the Contractor before bidding.
4. This Contract including all the attached drawings, documents, specifications, Letter of Acceptance etc. shall be executed strictly in terms of the terms and conditions thereof and in case of any issue relating to the items, materials, workmanship, billing or interpretation of the Contract or any other such issue, the decision of the EIC shall be final and binding on the Contractor.
5. The Contract may be required to carry out, as and when required from time to time, any other work by EIC at the rate decided by EIC, even though such works may not be shown in the drawings or described in the said specifications or the Schedule of Quantities. In case the Contractor does not accept the rates decided by the EIC, Owner shall be at its discretion to appoint another contractor or entity to do such work or get the same work by the Owner itself and Contractor shall not object to the same in any manner and for any reason whatsoever.
6. Owner reserves the right of altering the drawings & nature of work & of adding to or omitting any item of work or having any work carried out by the Owner itself or through some other agency(i.es) & such alterations or variations shall be carried out in the manner and at the rate decided by the EIC .
7. This Agreement is entered into at Godavari District & any question or dispute arising out of or in any way connected with this Agreement shall be deemed to have arisen in Godavari District & only the competent Courts of Law in State of Andhra Pradesh shall have jurisdiction to determine and decide the same.
8. The following documents shall be part of the Contract Document:
 - i. RFP
 - ii. Letter of Acceptance
 - iii. Contract Agreement
 - iv. General Conditions of Contract
 - v. Special Conditions of Contract
 - vi. Technical Specifications

- vii. Indemnity Bond and No Claim Certificate
 - viii. Drawings
 - ix. Schedule of Quantities quoted by bidder
 - x. Integrity Pact/Agreement
 - xi. Lixil Code of Conduct
9. All the documents forming part of the Contract and listed in the preceding Clause 8 shall be interpreted harmoniously to the extent possible and in case of any inconsistency or contradiction between the documents constituting parts of the Contract Document, document(s) occurring at the subsequent part of the list of the Contract Documents in the preceding Clause 8 shall be read as having over-riding effect over the preceding document(s).
10. Payment to the Contractor shall be on the basis of actual work done at site after joint measurements by the Contractor and EIC in the manner stipulated in the General Conditions of Contract and Special Conditions of Contract & valued on the basis of accepted tendered rates as reflected in the Schedule of Quantities. The rates mentioned in the Schedule of Quantities shall remain firm till completion of contract and there shall not be any escalation for any reason whatsoever till the completion of work, even in case of any delay for any reason whatsoever including but not limited to Force Majeure events, any delay for reasons attributable to either of the Parties or both etc.
11. The Contractor shall indemnify the Owner or EIC or any of their representative(s), agents, personnel etc. against all actions, suits, claims and demands brought or made against it in respect of anything done or committed to be done by the Contractor or any of its representative(s), agents, sub-contractors or any of its personnel in execution of or in connection with the contracted work and against any loss or damage to the Owner in direct or indirect consequence of any action or suit being brought against the Contractor or the Owner or EIC of any of their personnel, representatives, agents etc. for anything done or committed to be done in the execution of the contracted works. The Owner may at its discretion and at the entire risk and cost of the Contractor defend such suits, claims or demands either jointly with the Contractor or alone in case the Contractor later chooses not to defend the case. This Clause and Dispute Resolution Clause in the Tender Document shall survive the expiry or termination of the Contract for any reasons whatsoever.
12. In case of any dispute(s) arising between the Parties and arising out of this Contract, the same shall be amicably resolved through mutual discussion and in case such amicable discussion fails to resolve the same within 30 days, the same shall be resolved through arbitration under Clause 38 of the General Conditions of Contract.
13. Severability
- If any part of the Contract is determined to be invalid or unenforceable pursuant to applicable law for any reason whatsoever, the invalid or unenforceable provision will be deemed superseded by a valid, enforceable provision that most closely matches the intent of the original provision and the remainder of the Contract Document shall continue to be valid and in effect.
14. Entirety
- These Terms and Conditions constitute the entire agreement between the Owner and Contractor. These Terms and Conditions supersede all prior or contemporaneous

communications and proposals, whether electronic, oral, or written, between the Owner and Contractor.

In witness where of M/s. Lixil India Sanitaryware PVT Ltd. having its office located at plot no. 406/1 Near Bambhulla Dibba, Puntha Road Ambarupetha village, Bhimadole Mandal, West Godavari District-534425, Andhra Pradesh, India & M/s _____ have executed these presents thisday of2026, the Parties have affixed their official seals and accordingly signed thereon in the presence of:

Shri _____

Dated this.....day of....., Two thousand Twenty six

For, Lixil India Sanitaryware PVT Ltd,

a) Witness No.1

Name : _____

Signature: _____

Address: _____

b) Witness No. 2

Name : _____

Signature: _____

Address: _____

Shri _____

NAME OF THE CONTRACTOR

Dated this.....day of....., Two thousand Twenty six

For _____.

a) Witness No.1

GENERAL CONDITIONS OF CONTRACT

1. Definitions & Terms:-

In the General Conditions of Contract, the following words and expressions shall have the meanings hereby assigned to them, except where the context otherwise requires:

- 1.1 “*Contract*” means written agreement between the Owner & the Contractor as per the Tender Document and executed subsequently between the Owner and the Contractor and consisting of the documents.
- 1.2 “*EIC*” shall mean Engineer in Charge appointed by the Lixil under of the General Conditions of Contract.
- 1.3 “*Owner*” means M/s. Lixil India Sanitaryware PVT Ltd. with its office at plot no. 406/1 Near Bambhulla Dibba, Puntha Road Ambarupetha village, Bhimadole Mandal, West Godavari District-534425, Andhra Pradesh, India and its employee(s), legal representative(s), assignee(s), agent(s), official(s) and successor(s).
- 1.4 “*Contractor*” means the successful bidder, which has signed the Contract Agreement with the Owner and includes the Contractor’s legal representative(s), assign(s), employee(s), agent(s) and successor(s).
- 1.5 “*Sub-Contractor*” means the person or persons, firm or company, so engaged by the Contractor with the prior written permission of the Owner for the purpose of the Contract and includes one, which furnishes specific materials with special designs and specification(s) according to the plans, drawings or specifications of the Contract but does not include one, which merely furnishes general materials for work execution. .
- 1.6 “*Site In-Charge*” shall mean the qualified, competent person appointed by the Contractor for day to day supervision and co-ordination of work execution under this Contract and responsible for carrying out the work as per drawings, specifications, schedules of the Contract and instructions and directions of the EIC/Owner.
- 1.7 “*Work Site*” means Plot No. 406/1 near Bambhulla Dibba, Puntha Road. Ambarupetha Village, Bhimadole Mandal, West Godavari, District – 534425, Andhra Pradesh, measuring, with the structures thereon, as handed over by the Owner to the Contractor for purposes of this Contract and on which work is to be executed or carried out under this Contract.
- 1.8 “*Contracted Work*” or “*Work*” means any portion or the entirety of the work to be executed in accordance with the Contract.
- 1.9 “*Completion Date*” of the work means the date, once the work is certified as completed by EIC through a Completion Certificate in accordance with the Contract.
- 1.10 “*Schedule of Quantities*” means the description of work items and rates, as quoted by the Contractor/Successful Bidder and accordingly filled in the format Schedule of Quantities of the Tender Document.
- 1.11 “*Scheduled Completion Date*” shall mean the completion day from the date of issuance of the Letter of Acceptance by the OWNER.

2. Type of Contract:-

- 2.1 This Contract is an item-rate contract and the Contractor shall be paid for the actual quantity of work done, as jointly measured by the Contractor and EIC and so certified by EIC as per the Schedule of Quantities.

- 2.2 Any error in description or estimated quantity or omission of items from the Schedule of Quantities shall not vitiate this Contract, but shall be settled and decided by the EIC, whose decision on the issue shall be final and binding on the Contractor.

3. Specifications & Drawings:-

- 3.1 The Contractor's work shall not deviate from the specifications, drawings, details, schedules, other documents forming part of the Contract and written instructions issued to the Contractor by the Owner and EIC from time to time. EIC's interpretation and decisions on the meaning and scope of work as per the Contract Documents shall be final and binding on the Contractor and there shall not be any scope for appeal.
- 3.2 If at any time, it is discovered that any work done is not in accordance with the specifications, drawings, details, schedules and other Contract Documents and EIC's written instructions, the Contractor shall correct and rectify the same immediately at its own cost and risk. Contractor's such correction(s) of defective work shall not be the basis for any claim for extension of time and any form of monetary claim(s) by the Contractor against the Owner or any of its representatives or personnel or agents or other third parties including other contractors at the Work Site.
- 3.3 Relevant specifications published by the Bureau of Indian Standards shall be applicable and adopted for execution of any item of work with the prior written permission of the client in the following cases:
- 3.3.1 Absence of specifications of any relevant item or part thereof in the Schedule of Quantities;
- 3.3.2 Incomplete or improper description of an item;
- 3.3.3 Any ambiguity as regards method of execution or mode of measurements,
- 3.4 Decision on adoption of any relevant specification of the Bureau of Indian Standards shall be taken by the EIC only and it shall be only after a written permission of the EIC that specifications of the Bureau of Indian Standards shall be adopted by the Contractor and EIC's

4. Contract Value –

- 4.1 The approximate Contract Value of this Contract shall be as per Letter of Acceptance (inclusive of all applicable taxes, levies, octroi, penalties, transportation charges, escalation cost, demur, penalties, risk of any possible delay for whatever reason etc.), which is only estimated and arrived at by multiplication of the estimated quantities of items mentioned in the Schedule of Quantities by fixed items rates quoted by the Contractor in the Schedule of Quantities. The quantities mentioned in the Schedule of Quantities being only approximate and estimated, the Contract Value may vary, depending on the total quantities of items actually consumed or used in work execution after EIC's due written permission.
- 4.2 The Contract Value shall not be adjusted or altered in any way whatsoever, otherwise than in accordance with the express provisions of this Contract i.e. as and when quantities of items used vary.

5. Time Schedule for Work Completion

- 5.1 Time is the essence of the Contract since the job to be completed in 4 calendar months from date of Letter of Acceptance.
- 5.2 Time for completion shall include the time required for mobilization /demobilization, carrying out the works as per requirements of Contract Document and EIC's instructions.
- 5.3 In case the completion period extends beyond the Scheduled Completion Date, the Contractor shall be liable to pay Delay Compensation under Clause 6 of the General Conditions of Contract.

5.4 In case the Scheduled Completion Date is likely to be missed or the contract execution is delayed, the Contractor may make a request for time extension for contract performance beyond the Scheduled Completion Date with detailed reasons or justifications for the delay and such an requested time extension may be partly or fully allowed and with or without Delay Compensation under Clause 6 of the General Conditions of Contract.

5.5 The rates mentioned or quoted by the Contractor in the Schedule of Quantities shall be firm throughout the Contract till the actual completion and the Contractor shall not be entitled to any additional payment or compensation or damages even if contract execution is delayed for any reason whatsoever including Force Majeure circumstances, no matter such a delay is attributable to the Owner or the Contractor or both.

6. Delay Compensation

6.1 During work execution, Contractor shall be bound to comply with the interim milestones listed herein below, failing which Contractor shall be liable to pay Delay Compensation as per the following table:

Sl.No	Elapsed time -	Mile stone	Delay Compensation
1	25% of the Contract Period	Work done value should be not less than 15% of contract value	1.0% of balance value of work (15% - actual value of work done) per week till 15% is achieved.
2	50% of the Contract Period	Work done value should be not less than 50% of contract value.	1.0% of balance value of work (50% - actual value of work done) per week till 50% is achieved
3	75% of the Contract Period	Work done value should be not less than 75% of contract value	1.0% of balance value of work (75% - actual value of work done) per week till 75% is achieved
4	100% of the Contract Period	The whole contacted work should be completed.	1.0 % of balance value of work (100%- actual value of work done) per week till 100% is achieved
Total amount of Delay Compensation under this Contract not to exceed 10% of the Contract Value.			

6.2 In case of Owner’s recovery of Delay Compensation for Contractor’s failure to achieve interim milestones mentioned above, but Contractor’s ultimate completion of contracted work before the Scheduled Completion date, Contractor shall be entitled to refund of the full amount of the recovered Delay Compensation amount without any interest or any amount towards damages, compensation whatsoever.

6.3 Since the contracted work is to be completed within a period of 4 calendar months from the date of issuance of the Letter of Acceptance, Owner is bound or expected to suffer serious loss and hardship in case of any delay in work execution on account of additional establishment cost, loss of time, business loss etc. and the Delay Compensation

stipulated herein has been quantified after taking into account such loss and hardship that could be caused to the Owner in case of any delay in contract execution beyond the Scheduled Completion Date.

7. Running Account Bills:-

- 7.1 The Contractor shall raise Running Account Bills as after due certification of the work done by EIC based on joint measurements thereof. Before certification of Running Account bill, joint measurements of the work done shall be conducted in the manner stipulated in general conditions contract.
- 7.2 EIC shall be entitled to make appropriate deductions from the RA Bill payment on account of any defective or missing work of the Contractor or any overpayment made against any previous payment to the Contractor or any damage to any of the Owner's properties/assets/equipment/manpower caused on account of any unprofessional or inefficient work execution or accident at the Work Site etc. after due written notification to the Contractor. EIC's decisions in this regard shall be final and binding on the Contractor.
- 7.3 In case of Contractor's failure to pay any amount due to any of its Sub-Contractors, agents, personnel, representatives, employees etc., EIC, upon receipt of any written complaint and verification thereof from the Contractor, shall be entitled to make appropriate deduction from any RA Bill payment and pay the same to the sub-contractors concerned.
- 7.4 Nothing contained in the Running Account Bills shall override, modify or affect in any way whatsoever, the application or interpretation of any of the provisions of the Contract.
- 7.5 All joint measurements and EIC's certifications for purposes of Running Account Bills shall be considered as tentative and all payments against Running Account Bills shall be treated as Advance Payment and tentative, subject to appropriate deductions and adjustments at the time of processing of the Final Bill. EIC's decision to this effect shall be final and finding on the

8. Completion Certificate :

EIC shall issue Completion Certificate only after satisfactory completion of all the aspects of the contracted work, as verified after joint measurements and after obtaining written approval of the Owner.

9. Documents for Final Bill:

- 9.1 After due issuance Completion Certificate, Contractor is required to furnish the following declarations to EIC:
 - 9.1.1 A No-Claim Certificate, clearly, unambiguously and unconditionally declaring Contractor's non-entitlement to any other further claim or additional payment and its commitment on finality of the Final Bill to be raised,
 - 9.1.2 A Waiver Certificate, clearly, unambiguously waiving Contractor's rights to any further claim or demand for any form of additional payment or compensation or damages after issuance of the Final Bill and waiving any right whatsoever to any part of the Work Site or any asset or property belonging to the Owner or any agency or contractor or third party working on the Work Site.
 - 9.1.3 Joint Measurements as signed by both the EIC and the Contractor's authorized representative(s) and so certified by EIC for the work, for which the Final Bill has been raised.
 - 9.1.4 Site Clearance Certificate, duly signed by EIC, unconditionally certifying full Work Site Clearance by the Contractor.

- 9.1.5 No Dues Certificate, duly signed by the Contractor, certifying that there is no due left or liability incurred/to be incurred by the Contractor in regard to any loan, payment to any agent or sub-contractor and to any third party.
- 9.1.6 Indemnity Bond in the Format prescribed in Section – XI of this Contract, executed by the Contractor in favor of the Owner, unconditionally agreeing to fully indemnify the Owner against any form of legal proceeding or quasi-legal proceeding by any third part against the Owner (with or without the Contractor), arising out of Owner's engagement of the Contractor under this Contract including but not limited to legal proceedings or quasi-legal proceedings initiated by Contractor's employees/ agents/ representatives/ sub-contractors and other third parties.
- 9.1.7 A Certificate issued by the Contractor on Contractor's full compliance with all required legal requirements and no liability having been incurred on account of any non-compliance with any legal or regulatory framework with an undertaking to fully indemnify the Owner in such of any such liability or non-compliance issues.
- 9.2 The above-mentioned documents - No Claim Certificate, Waiver letter, Site Clearance Certificate, Indemnity Bond, No Dues Certificate etc. are purely contractual and legal requirements, to be issued without any form of coercion or duress and out of the Contractor's freewill and consent and hence, Contractor shall not be entitled to withdraw such issued document at any point of time and under any circumstance or claim economic duress or coercion since such requirements were made known to it even before bidding.

10. Final Bill :

- 10.1 EIC shall process Contractor's Final Bill raised on the basis of Joint measurements and receipt of all the required documents with the Final Bill from the Contractor including the documents mentioned in the preceding Clause 9.
- 10.2 EIC, while processing and certifying the Final Bill payment, shall be entitled to make appropriate deductions and adjustments, including but not limited to the following:
 - 10.2.1 Over-payments and under-payments against Running Account Bills on account of inaccurate/wrong measurements, plain oversights etc.
 - 10.2.2 Deductions that should have been made against Running Account Bill payments, but not made for any reason whatsoever.
 - 10.2.3 Adjustments on account of Security Deposit, Mobilization Advance etc. should it be required.
 - 10.2.4 If EIC deems it inexpedient to correct work damaged or not done in accordance with the Contract, an equitable deduction from the Contract price shall be made.
 - 10.2.5 If materials are lost and/or damaged in the custody of the Contractor, the cost of such materials and/or services will be recovered at the rates fixed by EIC and such rates shall be final and binding on the Contractor.
 - 10.2.6 Any other permissible deduction/adjustment contemplated in this Contract.
- 10.3 The Final Bill shall be the final bill under this Contract and the Contractor shall be barred from raising any other Bill or invoice after such a Final Bill on any ground whatsoever.
- 10.4 It shall not be open to the Contractor to raise further invoices or bills after submission of the Final Bill by, inter alia, contending that Contractor's No-Claim Certificate, Waiver letter, Indemnity Bond and other required documents submitted with the Final Bill had been obtained under economic duress/fraud/coercion or any kind of corrupt practice, such documents having been submitted after fully understanding the full implications thereof.

- 10.5 Contactor's Final Bill shall be paid after receipt of full and final copy of the same with the complete set of contractually required documents and within 60 days of EIC's certification to this effect, which shall be after obtaining written approval of the Owner.

11. Variation:

- 11.1 The Contractor shall carry out and complete the work in every respect in accordance with this Contract and with the directions of and to the satisfaction of EIC. EIC on behalf of the Owner may in its absolute discretion from time to time issue further drawings, details and/or written instructions, directions and explanations and such details, drawings and instructions in relation to the items in the Schedule of Quantities, quality, quantities etc., shall be binding on the Contractor and Contractor shall not be entitled to any extension of time or additional payment, compensation or damages on account of the same.
- 11.2 The quantities in the Schedule of Quantities are only indicated and estimated and such probable quantities of several items of work are included in the Schedule of Quantities for Bidders' convenience. the quantities of items in the Schedule of Quantities are furnished for the bidder's convenience and are estimated or approximate. The Contract being not a lump sum contract but an item rate contract, neither such quantities nor the probable value of the estimated Contract Value are accurate nor the actual work items will correspond exactly thereto. Being repair work, quantities of any item of work are likely to vary, but the Successful Bidder or the Contractor shall be paid as per the quantities of items used at the same item rate agreed to by the successful Bidder/Contractor. No claim on account of variation in quantities shall be entertained.
- 11.3 EIC may issue appropriate instructions, requiring a variation in any Schedule of Quantities item or EIC may approve or sanction in writing any variation requested by the Contractor and no such variation shall vitiate this contract. For the purpose of Price Analysis and determination of price of such varied item or variation, the same process followed for extra items shall be followed.

12. Extra Items :

- 12.1 Before undertaking any work which is not specified and/or which is at variation with the Schedule of Quantities, the Contractor shall obtain necessary written permission of EIC and for any such work executed by the Contractor without the permission of the EIC, no payment will be liable to be paid by the by the Owner in any manner whatsoever. Wherever EIC feels that such a work otherwise is otherwise covered by the Schedule of Quantities or is not required to be executed, EIC shall be at its discretion to make its appropriate decision and such a decision shall be final and binding on the Contractor.
- 12.2 In case any extra item is required to be done for due completion of the contracted work, the Contractor shall vide a written communication shall duly inform EIC about the requirement for execution of extra items, clearly stipulating the type of extra work required to be executed, reason(s) for requirements, connection of the extra item to the Contracted Work for its successful execution, accompanied by the relevant price analysis,
- 12.3 Upon receipt of the Contractor's proposal, EIC will examine Contractor's rate analysis and compare the same to the prevailing market rate of the proposed extra item(s). Only after such an exercise, EIC will issue required instructions to the Contractor to undertake the extra work at the same rate fixed by EIC and EIC's decision in this respect will be final and binding on the

- 12.4 While computing the rate of an extra item, basic rate for the relevant material shall be considered for the material component of the item. Such a basic rate shall be inclusive of all taxes including GST, duties, levies, penalties (if any), transport charges, manpower & equipment mobilization charges, possible escalation, any risk of delay for any reason whatsoever etc., wherever applicable. For purpose of a fair price assessment and analysis for an extra item, Contractor shall maintain and submit to EIC proper records of bills, vouchers and relevant documents based on which the Contractor has based its price analysis.
- 12.5 Based on the Contractor's price analysis and supporting documents as mentioned above and EIC's own market due diligence, EIC shall conduct its own price analysis and determine the price of the extra item to be executed by the Contractor.
- 12.6 EIC's determination of extra item price after obtaining Owner's written approval shall be final and binding on the Contractor and in case of Contractor's disagreement with EIC's price analysis and refusal to execute the extra items as per EIC's determination, Owner shall be at liberty to engage another contractor to execute the extra items or Owner may execute the same on its own and Contractor shall not have any objection(s) to such an engagement or arrangement.
- 12.7 In case of any work complementary or supplementary to execution of the Schedule of Quantities items and if execution of the Schedule of Quantities item is not possible without performing the complementary or supplementary work, the same shall be performed by the Contractor without any cost and time implication. Such complementary or supplementary work shall be executed free of cost since the relevant Schedule of Quantities item(s) could not have been understood by the Contractor before bidding to be executable without execution of such complementary or complementary work. Neither would be the Contractor be entitled to any extra payment nor will the Contractor be entitled to any form of time extension on account thereof. Once such a supplementary or complementary work is determined to be inherently related to or connected with any Schedule of Quantities item or ought to have been so understood as per best Engineering practice, EIC will make such a determination or decision.

13. EIC's Position:

- 13.1 EIC shall periodically visit the site to check progress and the quality of the work and to determine in general if the work is proceeding in accordance with the Contract Document. EIC shall have the authority to stop work, whenever such stoppage may be necessary in its opinion to ensure proper execution of the Contract. More specifically, EIC shall issue necessary directions/instructions to the Contractor, stipulating steps to ensure expedient work execution by the Scheduled Completion Date and the Contractor shall be bound to abide by such directions/instructions as if the same are part of the contract.
- 13.2 EIC's decisions on interpretation of the Contract and on other issues stipulated in the Contract shall be final and binding on the Contractor.
- 13.3 All directions/instructions issued by EIC shall be deemed to have issued for and on behalf of the Owner under the Contract and the same shall be final and binding on the Contractor and any work executed in variation of such directions/instructions shall not be acknowledged/recognized as work executed under the Contract and no payment shall be liable to be paid for such work.
- 13.4 The Contractor shall forthwith comply with and duly execute any work as per the Contract and EIC's directions/instructions without any exception and reservation(s).
- 13.5 If, within seven days after receipt of written instructions/directions from EIC, requiring compliance, the Contractor does not comply with such direction/instruction, Owner may engage another Contractor to carry out the relevant instructions/directions and execute

the relevant work at the cost and risk of the Contractor or get the work done by Owner itself. All cost and expenses incurred on account of such engagement shall be at the risk and cost of the Contractor and shall be fully recoverable from the Contractor by the Owner by way of making required deduction from any due payment to the Contractor or otherwise.

- 13.6 On receipt of a written direction from the EIC to remove any of the Contractor's persons/representatives/employees/agents or sub-contractor(s) from the Work Site for any unsatisfactory performance or otherwise, Contractor shall, within three days of receipt of such directions/instructions, shall remove the concerned person/representative/ employee/agent or sub-contractor from the work site. Contractor shall not be entitled to any time extension or damages or compensation or escalation on account of such removal of any person from the Work Site and Owner/PMC shall not be liable for any delay whatsoever, caused in the completion of work by such removal.
- 13.7 EIC shall be in charge of day to day supervision and co-ordination of work. The Contractor shall afford EIC every facility and assistance for carrying out its duties effectively. EIC shall have all the powers to issue required directions/instructions to the Contractor and undertake all its responsibilities, but shall not have power to set out work or to revoke, alter, enlarge or relax any requirements of the Contract except with the written permission of the Owner and any such wrong exercise of powers by the EIC shall be considered as not contractually sanctioned
- 13.8 EIC shall have power to give notice to the Contractor or to its representative of non-approval of any work or material and such work shall be suspended or the use of such materials shall be discontinued, pending EIC's decision.

14. Co-operation with other Contractors/Agencies:

- 14.1 Both the Owner and the Contractor acknowledge that there would be other contractors/agencies working at the Work Site and the Owner also reserves its rights to further engage other contractors for executing different or related works at the Work Site. This being the situation, the Contractor would be required to extend all possible co-operation and co-ordination for storage of Omaterials and execution of work by these other contractors at the Work Site and since the Contractor has submitted its bid document after knowing such a situation with knowledge of possible issues of dealing with other third parties, Contractor shall not be entitled to seek extension of time or claim additional payment/damages or compensation on account of such third party and Work Site related issues. More specifically, the Contractor shall be barred from seeking time extension or claiming additional payment or compensation or damages on the ground of presence of other agencies/third party contractors at the Work Sites and inconvenience and work hindrance caused by such presence.
- 14.2 The Contractor shall do all the cutting, filling or patching of its work that may be required to make several parts come together properly and fit to be received for work by other Contractors working on the Work Site. The Contractor shall make good the same as the EIC may direct and any cost caused by the defective or ill-timed work by the Contractor shall be borne by the Contractor.
- 14.3 The Contractor shall not endanger any work by cutting, excavating or otherwise altering the work of any other contractor on the Work Site without the prior written permission of EIC.
- 14.4 Contractor shall extend all possible co-operation to other agencies or contractors working at the Work Site and shall co-ordinate with such agencies or contractors in carrying out the contracted work and Contractor shall not be entitled to claim any time extension or additional amount, damages or compensation on account of such co-operations and adjustments and possible hindrances and difficulties in such co-operation and co-ordination.

15. Samples and Specimen:-

- 15.1 Within 10 days of issuance of Letter of Acceptance, the Contractor shall prepare and show samples of work or items mentioned in the Schedule of Quantities for approval of EIC and Contractor shall commence work immediately after approval of the samples and specimen
- 15.2 The Owner shall check and approve such samples with reasonable promptness to ensure conformity with Contract Document and work shall be strictly in accordance with the approved samples and specimen.

16. Progress Schedule & Reports:-

- 16.1 Contractor shall prepare time and progress schedule for the whole of the Contract period within 7 days from Letter of Acceptance and submit the same for EIC's approval in line with the original Schedule of Work attached with the Contractor's Bid Document, but in a more detailed and specific manner. Such a Schedule shall be revised and brought up to date every month and copies of the same shall be forwarded to EIC for approval. It is the Contractor's responsibility to see that the Work Schedule is complied with.
- 16.2 The Work Progress schedule shall indicate every significant activity required for the completion of the Contracted Works including but not limited to the following in terms of the Schedule of Work submitted with the Bid Document but in a more detailed and specific manner:
- 16.2.1 List of materials, manpower, equipment, machinery (including mixers, pad vibrators, grouting pump, drilling machine, grinder/cutter), tools & tackle, scaffolding, form work, testing facilities etc. along with their respective quantities and tentative date of their delivery for approval by EIC.
- 16.2.2 Provision of water storage facility, site office, stores, barricades, minimum quantity of scaffolding, props, window covering, hessian cloth, etc. for EIC's satisfaction and approval.
- 16.2.3 Equipment and Manpower Mobilization and deployment schedule at the Work site.
- 16.2.4 Estimated duration of each activity and inter-activity execution precedence.
- 16.3 In case of delay in contract execution in relation to specific items of work, the Contractor agrees to take up remedial steps or measures as suggested by EIC for making up such a delay and to ensure timely overall completion.

17. Security Deposit:**18. Contractor's Field Organization and Equipment:**

- 18.1 The Contractor shall appoint a qualified and competent Engineer as its Site-in Charge to ensure timely and efficient work execution and to co-ordinate with the EIC and Owner for carrying out of the work as per the specifications, drawings, details and Schedule of Quantities, Owner/EIC's instructions and directions etc. to the satisfaction of the Owner.
- 18.2 Contractor shall provide, erect and maintain proper office accommodation for Contractor staff separately. Such offices shall be well lighted, ventilated, secured and shall be provided with a desk, chairs, chest of drawers for keeping drawings, tack board for display, a water filter, glasses and first aid kit.

- 18.3 The Contractor shall not be allowed to provide accommodation for its workers at the Work Site and to cause any nuisance, theft or inconvenience of any nature to the residents/contractors/third parties at the Work Site.
- 18.4 The Contractor shall make its own security arrangements to guard the Site at all times, at its own cost expense. The security arrangements shall be adequate to maintain strict control on the movement of materials, labour and equipment.
- 18.5 The Contractor shall provide, erect and maintain proper sheds for the storage and protection of materials etc. for execution of work.

19. Taxes:

Rates quoted in the Schedule of Quantities shall include, amongst others, all royalties, terminal taxes, octroi duties, cess, central or state excise tax, sales tax, and work contract tax, income tax, GST (as applicable) and all applicable taxes. The Contractor shall be solely responsible for such aforesaid mentioned taxes to be paid to relevant authorities – local, state and central.

20. Statutory Obligations, Notices, Fees and Charges:-

- 20.1 Law of India shall govern all the issues, regulatory compliance, disputes and any legal matter relating to the contracted work.
- 20.2 Contractor shall be responsible for complying with regulatory compliance requirements including but not limited to giving required notices and obtaining all required statutory clearances and approvals from any Government or local authority relating to work execution.
- 20.3 The Contractor shall be responsible to pay any fees, charges, penalties, levies etc. for any form kind of statutory and regulatory license from any Government authority including local authorities.
- 20.4 The Contractor shall pay and indemnify the Owner against liability in respect of any fees or charges including any rates and taxes legally demandable under any Act of Parliament or Legislative body of any state, instrument, rule or order or any regulation or Bye-law or any local authority in respect of the work.

21. Water & Electricity for use in the work:-**21.1 Water**

- 21.1.1 Client will provide water connection at nearby source; Contractor shall make its own arrangements to get the connection and get the water tested and approved at its own expenses for its suitability.
- 21.1.2 The Contractor shall make at its own cost arrangements for storing adequate water, wherever necessary including all arrangements for pumping or lifting water up to the required level without causing obstruction to daily routine of members of the building.
- 21.1.3 If client will find wastage of water in the plant premises, impose penalties against the wastage of water as per the standard cost.

21.2 Electricity

- 21.2.1 Electricity, if required, shall be made available for work by the Owner at one point, but distribution of the same shall be done by the Contractor at its cost. Power consumed by the Contractor for the contracted work shall be paid for the Contractor within 7 days of receipt of relevant Bill/Invoice from the concerned local authority by the Contractor. Refusal to accept such bills/invoices from the EIC and/or delay and any form of refusal to clear the same within 7 working days shall be considered as

contractual breach and EIC shall be entitled to make required deductions from Running Account bill payment, in case of such refusal to pay on time and EIC's decision to pay the same for and on behalf of the Contractor for smooth and expedient work execution.

- 21.2.2 Electricity will be provided to the contractor by Lixil at a convenient point Selected by them. Contractor is required to draw their required electricity by laying cables providing panels and switches entirely at their cost. Contractor will Provide a cub meter to assess the electricity consumption at their cost and as approved by Lixil. Contractor shall pay the charges for consumption of electricity shown by the sub meter at the rate charged by Lixil. In case of default in payment of charges by contractor lixil will recover the amounts from contractors running bills.

22. Assignments or Sub-letting:

The Contractor shall not assign this Contract and shall not sub-let any portion of the Work. In case of such any unauthorized assignment or sub-letting, Lixil shall be reserved the right to terminate the Contract under Clause 32 of the General Conditions of Contract.

23. Sub-Contracting:

- 23.1 In case, the Contractor employs a Sub-Contractor with prior permission of the EIC, the Contractor shall be liable and responsible for the Sub-Contractor's due performance and such a sub-contractor's contractual breach will be considered as the Contractor's breach with due adverse contractual consequences.
- 23.2 Contractor's engagement of a Sub-Contractor shall be with the express written permission of EIC and no such subcontract shall be considered maintainable under this Contract unless the same is signed with express written permission of EIC.
- 23.3 Engagement of a Sub-Contractor by the Contractor shall not render the Owner in any way liable to the Sub-Contractor.
- 23.4 It shall be Contractor's sole obligation to pay its Sub-Contractor(s) on them its/their dues under the respective sub-contracts and settle all issues/disputes amicably or otherwise and in case of receipt of any complaint from any sub-contractor regarding non-payment of its dues under the relevant sub-contract and possible suspension of work on account thereof, EIC shall give a written notice of the same to the Contractor. In case of the Contractor not responding to such a notice within 7 days of receipt of such a notice or in case of the Contractor fails to resolve the issue within 7 days of receipt of Contractor's reply to the notice, EIC shall make the required payment to the Sub-Contractor in the interest of due and expedient work execution and recover the said amount from Running Account Bill payment or the Final Bill, as the case may be, with due written intimation to the Contractor.

24. Billing Procedure :

- 24.1 All measurements shall first be recorded by the Contractor in triplicate on standard measurement sheets supplied by the EIC and submitted to EIC for scrutiny and passing.
- 24.2 EIC shall scrutinize and check the measurements on the sheets and shall certify correctness of the same on the measurement sheets and by verifying, if required, with the Work Site work progress.
- 24.3 EIC shall pass the Running Account bills after carrying out comprehensive checks in accordance with the terms and conditions of the Contract within 14 working days of submission of the Running Account Bills, complete in all respects and send the same to

the Owner to effect payment to the Contractor. In case of Final Bill, payment shall be made after 60 working days of Contractor's submission of full and complete Final Bill with all the required documents.

- 24.4 While preparing the Final Bill, overall measurements may not be taken again at EIC's discretion. Only quantity or volume of work executed since the last measurement bill alongside summary of final measurements will be considered for the Final Bill. However, a detailed check shall be made as to missing measurements and in case there are any missing item(s) or measurements, the same shall be recorded and full measurements will be taken if deemed required by EIC.

25. Unfixed goods and materials:

Unfixed materials and goods intended for delivery to and placed on or adjacent to the Work Site shall not be removed except for use at the Work Site, unless EIC has consented in writing to such removal and safe guarding such materials and goods shall be sole responsibility of the Contractor.

26. Materials, Workmanship, Inspection:

- 26.1 All materials and workmanship shall be as per the relevant code of I.S.I. Specifications and of approved type. The Contractor shall immediately remove from the Work Site any material and/or workmanship which in the opinion of EIC is defective or unsuitable or not as per specified standards and Schedule of Quantities and shall substitute proper materials and/or workmanship at contractor's own cost as per the Contract.
- 26.2 The Contractor shall, if required, submit satisfactory evidence as to the kind and quality of materials used, but EIC's decision on such issues shall be final and binding.
- 26.3 All materials shall be delivered so as to ensure a speedy and uninterrupted progress of the work. Such materials shall be stored so as to cause no obstruction and so as to cause no overloading of any portion of the structure and the Contractor shall be entirely responsible for damage or loss by weather or other reasons cause.
- 26.4 All materials and workmanship shall be subject to inspection, examination and test by the EIC at any time during manufacture and/or construction. EIC shall have the right to reject defective materials and workmanship or require its correction. Rejected workmanship shall be satisfactorily replaced with proper materials and without any additional charge whatsoever. The Contractor shall promptly segregate and remove the rejected materials from the Work Suite. If the Contractor fails to proceed at once with the replacement of rejected materials and/or the correction of defective workmanship, the Owner may replace such defective materials and/or correct the substandard and poor workmanship and charge the cost thereof to the contractor or may terminate the Contract and ask the Contractor to proceed further with the work.
- 26.5 The Contractor, on receiving necessary instructions/directions for rectifying defective work items/materials and poor workmanship, shall promptly rectify the defects and improve the workmanship with any additional charge or cost and furnish promptly and without additional charge all reasonable facilities, labour and materials necessary for the safe and convenient inspection and tests that may be required by the Owner.

27. Defects Liability Period:

- 27.1 The Contractor shall make good at its own cost and to the satisfaction of the Owner all defects, shrinkage or small faults arising, in the opinion of EIC or the Owner, from workmanship or materials not being in accordance with the standard quality standards,

drawings or specifications or the Schedule of Quantities or the instructions of EIC, which may appear within "Defects Liability Period".

27.2 Upon EIC's directions in writing of any defect, shrinkage, small faults etc., the same shall be amended and made good by the Contractor at its own cost within the specified Defect Liability Period. In case of default in rectifying the defect(s), Owner may employ and pay some other contractor(s) to make good such defects, shrinkage, settlements or other faults at the risk and cost of the Contractor or the Owner may get it done by itself and all damages, loss and expense consequent thereon or incidental thereto shall be made good and borne by the Contractor. Such damages, loss or expense to the Owner shall be recoverable from the Contractor by the Owner or may be deducted by the Owner upon the any amount due or may become due to the Contractor or the Security Deposit Amount. In case of insufficiency of such a Security Deposit amount for payment of such expenses, compensation, damages or cost etc., the balance amount shall be paid by the Contractor within 10 days of notification to this effect by the EIC, failing which Owner shall be entitled to invoke the Performance Bank Guarantee

27.3 Date of defect liability period will start on issuance of Completion Certificate by the EIC after due written approval of the Owner.

27.4 If any defect(s), shrinkage(s) or any other default(s) which is required to be made good has/have been made good by the Contractor, EIC shall issue a certificate to the that effect.

28. Possession, Completion and Postponement:-

28.1 Time is the essence of Contract.

28.2 Within 10 days of issuance of Letter of Acceptance, the possession of the Work Site shall be given to the Contractor, who shall thereupon begin the work immediately and diligently proceed with execution. The Contractor shall complete the work on or before the Scheduled Completion Date, subject nevertheless to the provisions for extension of time contained in Clause 29.

29. Time Extension:

Upon it becoming reasonably apparent that work progress is or will be delayed beyond the Scheduled Date of Completion, Contractor shall forthwith give a written notice of the cause of delay to the Owner. If, in the opinion of EIC, completion of the work is likely to be or has been delayed beyond the Scheduled Completion Date or beyond any extended time previously fixed, EIC shall make, as soon as possible, a fair and reasonable estimate of the possible reason(s) for such a delay and grant extension of time for completion of the work, subject to levy of Delay Compensation under Clause 6 of the General Conditions of Contract or otherwise.

30. Mishaps, Accidents & Death or Injury, Damage to Property:-

30.1 Contractor shall take care to inspect any loose plaster, concrete & scaffolding etc. at the Work Site and adjacent areas and shall remove such loose and dangerous plaster/concrete & scaffolding etc. prior to commencement of its work to avoid accident(s) or mishap(s).

30.2 Contractor shall be alone responsible in case of death or injury to any person(s) or property during the contract execution or during mobilization/transportation of manpower & equipment and during execution of any part of the work, directly or indirectly related to the contracted work.

31. Insurance against injury to persons and property:

- 30.1 Contractor shall maintain and cause its Sub-Contractor(s) to maintain necessary insurances, more specifically Contractor's All Risk (CAR) insurance policy. The contractor shall submit worker compensation policy as well.
- 30.2 Insurance(s) maintained should be enough to cover any injury or damage to properties, assets and personnel, arising out of or in the course of or by reason of the carrying out of the work and caused by any negligence, omission or default of the Contractor, it's servants or agents or representative(s) or as the case may be, by its such Sub-Contractor(s) and such Sub-Contractor's servant(s) or agent(s) or its representative(s).
- 30.3 The Contractor shall produce or cause any Sub-Contractor to produce for inspection the relevant policy/policies of insurance together with the receipts in respect of premiums paid, as and when required to do so by EIC.
- 30.4 The Contractor shall maintain the joint names of the Owner and Contractor in all its insurance policies in respect of any expense(s), liability, loss, claim or proceeding(s), which the Owner may incur or sustain by reason of injury or damage to property (real or personal), arising out of or in the course of or by reason of the carrying out of the work, and caused otherwise than by the negligence, omission or default of the Contractor or it's servants or agents or representative(s) or as the case may be, by its Sub-Contractor(s) and such Sub-Contractor's servant(s), agent(s), representative(s) etc.
- 30.5 Any such insurance as is referred to in the immediately preceding paragraph shall be placed with insurers to be approved by the Owner and the Contractor shall have to deposit with the Owner the policy/policies and the receipts in respects of premiums paid.
- 30.6 The Owner has right to make compliances or pay premium(s), if the Contractor fails to do the same after a 7 day written notice to this effect by the Owner and recover the same by way of deduction from any payment to the Contractor against Running Account Bills or Final Bill.

32. Determination by the Owner:-

- 32.1 Owner may terminate the Contract in case of Contractor's any of the following defaults or contractual breaches:
 - 32.1.1 Suspension of work without any reasonable cause.
 - 32.1.2 Failure to proceed diligently with the work.
 - 32.1.3 Refusal or persistent negligence to comply with a written notice from the Owner/EIC, requiring the Contractor to remove defective work or improper materials.
 - 32.1.4 Bankruptcy or insolvency of the Contractor or a winding up order or a resolution passed by share/debentures holders to wind up.
 - 32.1.5 Abandonment of contract by the Contractor without EIC/Owner's permission.
 - 32.1.6 Prevalence of Force Majeure event(s) for more than 60 days under Clause 36.8 of the General Conditions of Contract.
 - 32.1.7 Any other contractual breach, as contemplated under the relevant provisions of the Contract.
- 32.2 Termination of Contract under any of the above grounds can be done after giving at least a 30 day termination notice to the Contractor.

- 32.3 If the Contractor still continues to default, despite EIC's notice of contractual breach and defaults, for 14 days continuously, Owner, without prejudice to any other rights or remedies, may terminate the Contract.
- 32.4 In case of termination of Contract in the above circumstances, Security Deposit shall stand forfeited and the owner shall be entitled to invoke the Performance Bank Guarantee.

33. Determination by the Contractor:-

Contractor may by Written Notice to the Owner may forthwith determine the Contract in case of subsistence of any Force Majeure circumstance for a continuous period of 60 days under Clause 36.8 of the General Conditions of Contract, as certified by EIC. It is made clear that the factum of a prevailing circumstance being a Force Majeure event within the meaning of this Contract and continuous subsistence thereof for not less than 60 days should be certified in writing by EIC.

34. Labour related Indemnity:-

- 34.1 The Contractor shall, at all times, indemnify the Owner against all claims, damages or demand for compensation under the Minimum Wages Act, 1948, Factories Act, 1948, Industrial Disputes Act, 1947, Workmen's Compensation Act, 1923 etc. and that Owner shall not be responsible for the same in any manner whatsoever.
- 34.2 Contractor shall submit worker compensation policy to EIC for its approval and all the safety specifications stipulated in the tender shall be strictly followed, failing which the contractor may be penalized, as and when called or required under law.
- 34.3 Contractor shall employ no child labor i.e. persons less than 18 years of age for the contracted work. If a female labourer is engaged, the Contractor shall make necessary provision for safeguarding small children and keeping them clear from the Work Site. No labourer shall reside inside the Work Site except security guards, duly authorized by EIC.

35. Protections of trees and shrubs:-

Trees and shrubs shall be protected from damage during the course of the work and the earth level shall not be changed within one meter of such trees. Wherever necessary, such trees and shrubs shall be protected by means of temporary fencing, as approved by EIC.

36. Force Majeure:

- 36.1 In the event of either party being rendered by Force Majeure unable to perform any obligations required to be performed by them under the Contract, the relative obligation of the party affected by such Force Majeure circumstances shall upon written notification to the other party be suspended for the period during which Force Majeure event lasts. The cost and loss sustained by the either party shall be borne by the respective parties.
- 36.2 The term "Force Majeure" as employed herein shall mean acts of God, earthquake, war (declared or undeclared), revolts, riots, widespread floods, rebellions, explosions, hurricane, sabotage, civil commotions and acts and regulations of the Government.
- 36.3 In case of any Force Majeure circumstance(s), Contractor shall, within 5 days of occurrence thereof, shall give written notice of the same to EIC, clearly stipulating the type, intensity, duration, adverse effect on any part/aspect of the work performance etc. of any such Force Majeure circumstance.

- 36.4 Such a written intimation of the Contractor as mentioned above shall be examined by EIC and after due examination, EIC shall inform the Contractor about its findings on whether the claimed Force Majeure circumstance is actual a Force Majeure circumstance and if so, the extent of effect of such a Force Majeure circumstance on the whole or part performance of the contracted work.
- 36.5 Contracted work shall be partly or fully suspended during the existence of the Force Majeure circumstance(s), depending on the decision of the EIC.
- 36.6 Upon occurrence of such Force Majeure Events and upon its termination, the party alleging that it has been rendered unable to perform its obligation(s) shall notify the other party in writing immediately but not later than 72 (seventy-two) hours of the alleged beginning and ending thereof, giving full particulars and satisfactory evidence in support of its claim.
- 36.7 Time for performance of the relative obligation suspended by the Force Majeure event(s) shall then stand extended by the period during which such Force Majeure event(s) was prevalent.
- 36.8 If performance of respective contractual obligation of either Party is rendered impossible by Force Majeure condition(s) for more than 60 days, either of the Parties shall have the option to terminate the Contract.
- 36.9 If the Contractor's delay, in the opinion of the EIC, was only on account of Force Majeure circumstance(s), extension of time for contract under Clause 29 shall be without levy of any Delay Compensation.

37. Owner's Rights to forfeit Security Deposit Amount

Whenever any claim against the Contractor for payment of a sum of money arises out of or under the Contract, Owner shall be entitled to recover such sum by appropriating in part or whole the Security Deposit Amount. In the event of the Security Deposit Amount being insufficient or if a part of the Security Deposit Amount has not been taken from the Contractor, Contractor shall deposit the balance amount within 10 days of EIC's instruction to this effect, failing which Owner shall be entitled to invoke the Performance Bank Guarantee. Owner may otherwise recover balance or the total sum recoverable, as the case may be, by way of deduction from any payment against one or more Running Account Bill(s) or the Final Bill.

38. Dispute Resolution:-

- 38.1 All disputes and differences of any kind, whether arising out of or in connection with the Contract or carrying out of Work thereunder (*during work execution or after its completion or determination, abandonment etc.*) shall be attempted to be resolved amicably through mutual discussion between the Contractor and the Owner.

39. Protection and Cleaning:

- 39.1 The Contractor shall preserve and protect Owner's premises, assets and Work Site from any damage or accident by providing temporary roof, window and door coverings, boxing or other construction, as may be required by EIC from time to time and such a protection shall be provided for all properties and assets, adjacent to the Work Site as well as on the Work Site itself.
- 39.2 Contractor shall properly clean the Work Site as it work progresses and shall remove all rubbish and debris from the Work Site from time to time as is necessary and as directed by EIC. On completion, Contractor shall ensure that the premises and/or Site are cleaned, surplus materials, debris, sheds etc. are removed, areas under floors cleared of rubbish, gutters and drains cleared, doors eased, locks and fastenings oiled,

keys clearly labelled and handed to the EIC so that the whole premises and Work Site are left fit for immediate occupation or use to the satisfaction of EIC and the Owner. No labor camp is allowed inside the premises, and Contractor shall take care of accommodation of its manpower, as and when required.

40. Urgent Repairs:

40.1 In case any repairs are required to be carried out urgently in EIC's opinion, Contractor may be directed to do so. In case the Contractor is unable or unwilling to carry out such repair works, the same at the discretion of EIC may be got done from an outside agency or the Owner itself may carry out the work, in which case the cost and the charges incurred thereon shall be recovered from Contractor's Running Account Bill(s) with due information to the Contractor.

41. Supervision:

41.1 Contractor shall have competent engineers and supervisors of not less than 10 year experience on full time basis at the Work Site to supervise quality and progress of works with EIC's written approval.

42. Discrepancies:

In case of any discrepancy (i.es) between/amongst various sections of the Contract, the following precedence shall be observed/followed in the descending order:

- i. RFP Invitation of Bids
- ii. Contract Agreement
- iii. General Conditions of Contract (Section-IV)
- iv. Special Conditions of Contract (Section V)
- v. Appendixes A to E (Section-VI)
- vi. Technical Specifications (Sections VII to X)
- vii. Indemnity Bond and No Claim Certificate (Section XI)
- viii. Drawings (Section – XII)
- ix. Schedule of Quantities (Section – XIII)]
- x. Integrity Pact/Agreement
- xi. Lixil Code of Conduct

43. Access for Owner/EIC to the Work Site:

The Owner and their representative shall at all reasonable times have access to the Work Site and to the workshops or other places of the Contractor, wherever work is being prepared for the Contract. Whenever work is to be so prepared in workshops or other place(s) of Sub-Contractor(s), the Contractor shall have a term in its Sub-Contract to secure a similar right of access to those workshops or places for the Owner/EIC and their representative and shall do all things reasonably necessary to make such right effective. In this regard, such Sub-Contracts shall be shown to EIC before signing for its written approval.

44. Royalties and Intellectual property Rights

All royalties or other sums payable in respect of supply and use in carrying out the Contracted Work including excavation, blasting (exclusive permission) and mineral storage permission as desired by or referred to in the Schedule of Quantities and of any Intellectual property Rights including Patent Rights shall be deemed to have been included in Contractor's quoted item rates in the Schedule of Quantities and the Contract Value and the Contractor shall indemnify the

Owner or EIC or any of their representatives from and against all claims, proceedings, damages, costs and expenses, which may be brought or made against the Owner or EIC or any of their representatives on account of the Contractor infringing or being held to have infringed any Intellectual Property Rights including Patent rights in relation to any such articles, processes and inventions or works, equipment involved.

SPECIAL CONDITIONS OF CONTRACT

1. Special conditions of contract shall be read in conjunction with the General Conditions of Contract, Specifications of work, Drawings and any other documents forming part of this Contract, wherever the context so requires.
2. Not with standing, the sub-division of the Contract into separate Sections, every part of each Section shall be deemed to be supplementary to and complementary to each other and shall be read harmoniously as far as practicable.
3. Mobilization & Program Schedule:
 - 3.1 The contractor shall be considered to be fully mobilized at Work Site only after EIC issues a Certificate to this effect and such a Certificate shall be issued after fulfilling the following requirements.
 - 3.2 Submission of complete Work Schedule, considering estimated quantities of materials & required manpower and approval of such a Schedule by EIC, as stipulated in the General Conditions of Contract
 - 3.3 Submission of list of materials, manpower, equipment, machinery (including mixers, pad vibrators, grouting pump, drilling machine, grinder/cutter), tools & tackle, scaffolding, form work, testing facilities etc. along with their respective estimated quantities and tentative date of their delivery to the Work Site and approval of the same by EIC, as stipulated in the General Conditions of Contract.
 - 3.4 Finalization and execution of the Contract Agreement, furnishing of Security Deposit, Insurance documents etc.
 - 3.5 Complete arrangement of provisions for water storage facility, site office, stores, barricades, minimum quantities of scaffolding, props, window covering, hessian cloth, etc. to EIC's satisfaction and EIC's written certification to this effect.
 - 3.6 Actual Mobilization of full-time staff, required manpower and materials & equipment at the Work Site.
4. Quality Equipment & Materials:
 - 4.1 All materials provided by the Contractor shall be new and of approved quality manufactured by renowned concerns, conforming to Indian Standards or equivalent. The materials shall have ISI mark as far as possible, unless otherwise approved by EIC in writing prior to procurement and use. The Contractor shall furnish manufacturers' certificates for the materials supplied, as and when asked for by EIC.
 - 4.2 Contractor shall get the materials tested from an approved test house as per requirements of relevant IS codes & as per additional test requirement, if asked for by EIC. The cost of all tests & test certificates shall be borne by the Contractor. No separate payment shall be made for testing even if the materials are procured by the Owner/PMC. Any materials procured or brought to site and not confirming to specification and satisfaction of the EIC shall be rejected and Contractor shall have to remove the same immediately from the Work Site at its own expenses and without any claim for compensation due to such rejection.
 - 4.3 All the scaffolding/propping materials shall be MS tubular, which shall be supplied by the Contractor. All staging platforms shall have hand rails. Wooden planks used for platform shall be 1" thick and firmly secured. Safety Regulations and Rules shall be strictly observed. Staging/scaffolding shall be as per IS 3696.
 - 4.4 All the materials and services issued by the Owner to the Contractor will not be abused or misused by the Contractor. If such materials and/or services are abused or misused, lost and/or damaged while in the custody of the Contractor, cost of such materials and/or services will be recovered from the Contractor at the rates, as fixed by the EIC.

The decision of EIC on whether any materials/services are abused or misused, lost and/or damaged shall be final and binding on the Contractor.

- 4.5 All materials to be used for construction shall be stored by Contractor in a manner directed by the EIC. Necessary storage sheds and at approved location from time to time shall be provided by the Contractor at its own cost. The security arrangements for such sheds shall be the sole responsibility of the Contractor. The Contractor shall remove the above sheds on completion of work or as required by the exigency of work.
- 4.6 Necessary arrangements shall be made by the Contractor to keep the Work Site as clean as possible, for which no extra payment shall be made.
5. Quantum of Contracted Work or items in the Schedule of Quantities is only approximate and for the guidance of the tenderers and are subject to variation. Measurement shall be carried out as indicated in the Tender Document, more specifically in the General Conditions of Contract. Any claim by the Contractor for variations and/or deletions of any item shall not be entertained.
6. Item Rates quoted by the Contractor shall not be subject to any change, due to increase or decrease in cost of materials and labour or due to any reasons whatsoever.
7. Item rates quoted and agreed upon in the Schedule of Rates are inclusive of all applicable taxes, levies, penalties (if any), equipment & manpower mobilization & transportation cost etc.; more specifically, Tax deduction at source (TDS) at the applicable rate shall be deducted from all proceeds and payments by Owner to the Contractor.
8. Drawings attached with the Tender Document & forming part of this Contract are subject to additions & alterations to suit Owner's requirements, for which no extra claim shall be entertained.
9. All drawings & specifications forming part of this Contract have been drawn up with all possible care and are intended to cover supply of all the materials, tools, plants and equipment, labour in the execution and completing the entire work in all respects under this Contract. In case there are any details of construction or materials which have not been referred to in the Schedule of Quantities, but which are clear from the scope of work as required for work completion, the same shall be deemed to have been included in the Item Rates quoted by the Contractor in its Schedule of Quantities. Wherever work specifications and specific item rates are not stipulated, work shall be as per latest ISI specifications and/or as directed by EIC, following good Engineering practice.
10. Contractor shall provide at its own expense necessary sanitary and drinking water facilities for its workers at work site. Contractor shall ensure that no worker moves around in areas other than the Work Site without prior permission of EIC. Contractor shall ensure that it's workers shall not commit any nuisance anywhere on the Work Site or in the nearby areas.
11. Contractor shall observe all safety precautions during construction work. The contractor shall ensure that it's workers are working in normal safe working conditions and Contractor shall take out adequate necessary insurance policies to cover its workmen as per the Workmen's Compensation Act, 1923 and all other relevant Acts and Contractor shall also take out appropriate third party insurance.
12. Contractor shall provide at its cost safety and security of its workmen, machines and materials (including those supplied by the Owner). Owner shall not accept any responsibility whatsoever for the same.
13. Contractor shall keep One Site Engineer + adequate Supervisors including safety supervisors for full time for execution of Contracted Work.
14. Contractor shall provide free of cost a site office with normal furniture in accordance with Owner's/EIC's requirement, for the use of the Contractor and their personnel. Contractor shall maintain these offices properly during the entire duration of the Contract at its cost.
15. No labour accommodation is permitted inside the plot premises.
16. Quoted Rates to include:

17. Rates quoted by the Contractor shall be held to include provisions for fixing all scaffolding, conveyance and delivery, unloading, carrying in, storing, hoisting, all labour, setting, fitting and fixing in position, making, setting, cutting of all materials and labour and everything else necessary for the proper completion of each item of work, establishment Charges, overheads and profits. The Contractor shall provide at its expense all labour, materials, equipment and tools and tackles required by the EIC or their representatives for testing and measuring the work, for weighing, for testing the efficiency of any portion of the work, all planking, gangways etc. necessary for affording access to every part of the work and Work Site.
18. If called upon by the EIC, detailed analysis of any or of all the quoted Rates shall be submitted by the Contractor before finalization of the Contract Agreement. Lixil is not bound to accept Contractor's such analysis and reserves the right to reject abnormal high rates quoted by the Contractor. In case there are inconsistencies in the rates for items of the same description, quoted in the different parts of the Schedule of Quantities, the lowest of such rates shall be considered as the rates for all such items unless EIC, finds that there is justification for such inconsistent rates.
19. The rates quoted by the Contractor should cover works at all heights and levels for all items of work under this contract. Lifting of materials will not form any criterion for claiming extra payment.
20. Quoted rates are to be inclusive of all costs and expenses including taxes\levies, Government duties, Royalty, cess, Octroi and GST Tax etc.
21. All disputes/obstructions/ demands from local peoples, will have to be sorted out/settled, by contractor and no excuses will be allowed for the delay of the work.
22. Apart from other factors mentioned elsewhere in the tender, rates shall include, the following, unless specifically excluded from item-description,
 - a. All works at all height/depths, all floors and all leads within boundary limit of project site.
 - b. Conducting tests of all construction materials and chemicals at external approved laboratories.
 - c. Providing all necessary consumables, tools, tackles, machineries equipment, instruments, as the job quantum/quality/urgency may demand.
 - d. Compliance of all local, regional, state and central laws of land, as applicable in relation to place of work, of all authorities, having jurisdiction in the areas.
 - e. Compliance of standard safety-practices and fire-protection.
 - f. Premium for various insurance-policies.
 - g. Fetching water by tankers from approved sources, if situation so demands
 - h. General house-keeping, cleanliness, hygienic work environment.
 - i. Employing only licensed workers for electrical, plumbing and similar other works.
 - j. All taxes, levies, royalties, duties, octroi, TDS etc. as may be applicable during the tenure of the Contract including sales tax. The VAT & Service Tax shall be paid to Contractors as per Government rule.
 - k. Buying items from open market, for urgent works.
 - l. Working in monsoons, Sundays, holidays, overt-time & extra shifts.
 - m. Suitable displaying warning notices/signals.
 - n. Maintaining line level, slope, plumb and dimensions of all works as required/ instructions.
 - o. Shifting away immediately from place to work, all rejected materials and ensure its non-use in permanent works.
 - p. Guarantees/ Warranties
 - q. All wastage-allowance, scrap allowance, cutting allowance, variation in Rolling-Margin, breakages etc. (Wastage of Materials, supplied if any by Owner should be returned to Owner).
 - r. Compliance of

- Minimum Wages Act
 - Equal Remuneration Act
 - Contract Labour
 - Workman's Compensation Act
 - P.F
 - E S I S
 - Labour Inspector's Regulations and other relevant and applicable Acts of the land.
 - Any other law of land as applicable.
- s. Bailing out water and muck/ wet earth due to seepage/leakage/broken mains/Tidal action/water table/springs etc. & keeping work area dry at all times, till the works in contractors scope is completed
 - t. Producing Test Certificates for construction materials as required.
 - u. Construction of all enabling sheds like cement godown, stores, site office, Temporary water tanks etc. & dismantle the same, on work completion remove debris as directed and level the areas, to match with surroundings.
 - v. Curing of concrete, masonry, plaster etc, including wetting the surface before plaster coats.
 - w. Shifting & stacking of materials, dispatched by Owner to site, pertaining to the contractor's scope of work.
 - x. Providing S'S wire/PVC mesh on inside and outside, at all junctions of masonry and concrete, as per specification.

TECHNICAL SPECIFICATION OF CONTRACT

PREAMBLE TO SPECIFICATIONS

The conditions of contract and the drawings shall be read in conjunction with the specifications and matters referred to, shown or described in one are not necessarily repeated in the other. These specifications are comprehensive and may exceed the requirements of this project. Any ambiguity between the General Specifications, the Bill of quantities and contract drawings, shall be referred to the Lixil for clarification not later than 10 days before the date fixed for delivery of Tenders. Any ambiguity may be referred to the Lixil after signing of the contract and Lixil shall give a ruling which shall prevail. No claim for additional cost due to above, however, will be entertained.

Notwithstanding the sub-division of the specification into various headings, every part of it is to be deemed supplementary to every other part and is to be read with it, so far as it may be practicable so to do, or when the context so admits.

In this contract, reference is made to the Indian Standards and these references shall be deemed to include the latest editions or issue of standards, specifications or By- Law including all revisions up to the date of invitation of Tenders. The contractor shall ensure that all materials and workmanship in so far as they apply to this contract shall comply in every specifications or any other equivalent or specification approved by the Lixil.

The Contractor shall keep at site copies of all relevant standards and codes of practice referred in these specifications throughout the period of contract. These shall be the latest editions and shall include all revisions/addendums thereof.

Approved Manufacturers: Names of approved manufacturers are given in the specifications.

Reference in the specifications to approved manufacturers shall be construed as establishing a standard of quality and not as limiting competition.

The Contractor shall include in his prices for supplying the item or materials from the approved manufacturers listed or equal and approval.

All items or materials shall be delivered to the site in the manufacturers original unopened containers with the manufacturers brand and name clearly marked on.

All items or materials shall be assembled, mixed, fixed, applied or otherwise incorporated in the works in accordance with the printed instructions of the manufacturer of the item or materials.

Contractor shall mix all mortar and concrete by way of mechanical means and measurement boxes of standard size to be used for measuring coarse/fine aggregate.

Date of construction to be written on all respective items for monitoring curing. Contractor shall follow the pour card/check list for all the concrete/finishing items.

1. GENERAL:

1.1. **Scope**

This specification applies to the Civil Engineering and building works to be executed by the Contractor. It is to be read in conjunction with and subject to the general conditions of

contract and in conjunction with the drawings, the Schedule of Quantities and such other documents as may from time to time be agreed upon as comprising part of this contract. Where these specifications are not clear, CPWD specifications shall be followed.

1.2. Clearing

The contractor shall clear the site of all rubbish and old buildings, remove all grass and low vegetation and remove all bush wood, trees, stumps of trees, and other vegetation only after consultation with the EIC as to which bushes and trees shall be saved. All disused foundations, drains or other obstructions met with during excavation shall be dug out and cleared.

1.3. Site Levels

The contractor shall carry out the survey of the site and shall establish sufficient number of grids and level marks to the satisfaction of the EIC, who shall decide on the basis of this information, the general level of the plot and the plinth.

1.4. Bench-marks

Prior to commencement of construction, the contractor shall in consultation with the EIC, establish several site datum benchmarks, their number depending on the extent of the site. The benchmarks shall be sited and constructed so as to be undisturbed throughout the period of construction.

1.5. Site investigation

The EIC might have got the soil investigation done and if so, the report will be handed over to the contractor for their scrutiny. The contractor shall however inspect the site and study the findings from the trial pits or bores in order to assess the problems involved in and methods to be adopted for excavation and earth work. The contractor shall ascertain for himself all information concerning the sub-soil conditions, Ground water table periods and intensity of rainfall, flooding of the site and all data concerning excavation and earthwork.

1.6. Setting out the work

The contractor shall set out the works and during the progress of the building shall amend at his own cost any errors arising from inaccurate setting out.

During the execution of the work contractor must cross check his work with the drawings. The contractor shall be responsible for all the errors in this connection and shall have to rectify all defects and/or errors at his own cost, failing which the EIC reserves the right to get the same rectified at the risk and cost of the contractor.

1.7. Cleaning up and handing over

Upon completion of the work all the areas should be cleaned. All floors, doors, windows, surface, etc. shall be cleaned down in a manner, which will render the work acceptable to the EIC and Employer. All rubbish due to any reason, shall be removed daily from the site and an area of up to ten meters on the outer boundaries of the premises will be cleaned by the contractor as a part of the contract. Upon completion of the project, the contractor shall turn over to the employer the following:

- a) Written guarantee and certificates.
- b) Maintenance manuals, if any, and
- c) Keys.

1.8. Samples

The contractor shall submit to the EIC samples of all materials for approval and no work shall commence before such samples are duly approved. Samples of concrete panels, masonry units, building insulation, finished hardware, metal window and door frames, Vitrified tiles, Ceramic tile, kota stone, Granite/marble stone, interior items etc. and every other work requiring samples in the opinion of the EIC shall be supplied to the EIC, and these samples will be retained as standards of materials and workmanship. The cost of the samples shall be borne by the contractor.

Throughout this specification, types of material may be specified by manufacturers' name in order to establish standard of quality, price and performance and not for the purpose of limiting competition. Unless specifically stated otherwise, the tenderers may assume the price of 'approved equivalent' except that the burden is upon the contractor to prove such equality, in writing.

A detailed program shall be submitted by the Contractor for the material approvals, within four weeks of the EIC' order to commence. The detailed program shall include but not limited to:

Date/s of submitting the various material samples.

Date/s by which the EIC' approval is required. Date/s of placing orders on the Manufacturers/Suppliers.

Date/s of arrival of the approved material/s on to the site.

Date/s of the completion of the 'Mock-ups', wherever required, and the Date/s by which the EIC' inspection of such 'Mock-ups' should be completed and the Date/s by which the EIC should fully approve the said Mock-ups.

1.9. Tests

All materials and methods of tests shall conform to the latest rules, regulation and/or specifications of the following authorities where specified herein as applicable. Bureau of Indian Standards (BIS), British Standards Code of Practice (BS) in case no equivalent BIS is available. The EIC will have the option to have any of the materials tested and if the test results show that the materials do not conform to the specifications, such materials shall be rejected. A reasonable number of representative tests will be deemed to be included in the rates tendered.

1.10. Rates

The item rates quoted in schedule of quantities are deemed to be included to execute the works in strict accordance with the relevant specifications read in conjunction with the appropriate Standard Specifications.

1.11. Mode of Measurements

All measurements will be taken in accordance with IS 1200 latest issue unless otherwise specified.

a) General Specifications of Items

- (1) Unless otherwise specified in the nomenclature of individual item or in the specifications, for all works mentioned in this tender, the specifications and mode of measurements shall be in accordance with LIXIL INDIA SANITARYWARE PVT LIMITED specifications.

- (2) All mandatory tests specified in specifications with upto date correction slips shall be carried out from the approved laboratories as desired by Client / Engineer in charge of LIXIL Testing charges including cartage, conveyance etc whatsoever shall be borne by the successful bidder. If after any such test and in the opinion of the Architect / Engineer In-charge of LIXIL any work is found defective or unsound, the same shall have to be dismantled and to be redone by the successful bidder at their own cost.
- (3) In case of BIS (formerly ISI) codes / specifications are not available for any item of work the decision of the Engineer based on acceptable sound engineering practice and local usage shall be final and binding on the successful bidder.
- (4) The rates for different items of work shall be for all heights, lifts, leads and depths except where otherwise specified in the item of work or in additional conditions appended with the tender.
- (5) The work shall be carried out in accordance with the approved drawings. The drawings shall have to be properly co-related before executing the work. In case of any difference noticed between the drawings, final decision, in writing of the Engineer-in-Charge shall be obtained by the contractor. For items, where so required, samples shall be prepared before starting the particular items of work for prior approval of the Engineer and nothing extra shall be payable on this account.
- (6) Unless otherwise specified in the bill of quantities or drawings, the rates for all the items of work shall be considered as inclusive of pumping out water if required for which no extra payment will be made. This will include water encountered from any sources such as rains, floods, sub-soil water table being high or due to any other cause whatsoever.
- (7) The rates for all items in which the use of cement is involved in inclusive of charges for curing.
- (8) The contractor shall clear the site thoroughly of al scaffolding materials and rubbish etc. left out of his work dressed the site to the satisfaction of the Engineer before the work is considered as complete.
- (9) The quoted rate shall be for finished items and shall be complete in all respects including the cost of all material, labour tools & plants, machinery etc.
- (10) Rate for plastering work (excluding washed stone grit plaster on external wall surface) shall include for making grooves, bands etc. wherever required and nothing extra shall be paid for the same.
- (11) Rates for all concrete / plaster work shall include for making drip course molding, grooves etc. wherever required and nothing extra shall be paid for the same.
- (12) In the event of any difference or discrepancy in the description of any item or its specifications, the same shall be resolved in the following sequence and decision of Engineer-in-charge shall be conclusive, final and binding on the contractor.

(13) Engineer in Charge

A full Time Qualified Engineer who is technically competent with at least 10 year experience in the relevant engineering filed and having sufficient Site experience shall be appointed by the contractor, and he/she shall be posted at the Work Site for supervising and carrying out the contracted work in co-ordination with the Client and Contractor. All the directions and instructions given by the Engineer-in-Charge (client) shall be final and binding on the Contractor. All decisions of EIC will be given after written permission of the Owner and Owner's such decisions and directions shall be final and binding on the EIC.

(14) Equipment & Tools

- A. The Successful Bidder/Contractor shall arrange all equipment, tools, required for execution, testing & completion of the contracted work and Schedule of Quantities shall cover all such associated or connected costs or expenses.

- B. The Contractor shall provide all the instruments and assistance required by EIC for checking and verifying work completion at its own cost and rectify any defect(s) or incomplete/inaccurate work pointed out before issuance of Completion Certificate. In this regard, instructions and directions issued by EIC will be final binding on the Contractor.
- C. The Contractor shall provide and install all necessary hoists, ladders, scaffolding, tools, tackles, safety equipment, plants, all transportation facilities for labour, materials and plant necessary for proper execution and completion of work. The Contractor shall also provide testing equipment as required by EIC. All connected costs and expenses will be deemed to have been covered by the Schedule of Quantities.
- D. The Contractor shall provide scaffolding, staging, guardrails, temporary stairs which shall be strong, adequate for all situations. Access to the various parts of work shall be rigid and strong enough to avoid any chance of mishaps and Contractor shall be responsible for the adequacy and safety of all these arrangements.

(15) Work Commencement and Work Schedule

- A. Before commencement of work, Contractor shall prepare and submit a detailed date wise schedule of work/Bar Chart of the activities in terms of the Schedule of work submitted with its Bid Document and as per the Contract and submit to EIC for its approval. Such Work Schedule shall give full details of the manpower & equipment deployment plan, type and work experience of people to be deployed, number, type and utilization plan of required equipment, number of hours of work to be put in in a day, transportation & accommodation facilities for manpower etc.

(16) Weekly Progress Reports

- A. The Contractor shall give weekly progress reports with photographs in hard copy as well as soft copy to EIC. Photographic records of progress of works shall be taken as directed by EIC for evaluation of progress reports and required directions/instructions from time to time.

(17) Scrap & Salvage

- A. The Contractor should keep re-fixing materials in safe custody and should maintain up-to date record of materials removed/re-fixed & handed over to the Owner. All usable materials shall be used after approval of EIC. For disposal of scrap, prior approval of EIC will be obtained.
- B. Scope of work also includes shifting of any scrap materials lying at the Work Site to the designated places at no extra cost and clearance of debris, vegetation, bushes and trees etc. and make the site free for construction at no extra cost.
- C. Any cable(s)/ piping or any such material encountered during execution of work and shall be separated using Sand Bed and Tiles or shall be re-routed, if necessary as directed by EIC at no extra cost to the Owner. Such cables or piping or construction materials found shall be handed over to the Owner at the cost of the Contractor.

(18) Schedule of Quantities

- A. Quantities set-forth in the Schedule of Quantities are approximate only and are intended to represent the approximate volume of work to be carried out and are only for the purposes of guiding the Bidders. There is no guarantee that the successful Bidder/Contractor will be required to carry out the exact quantities of work indicated under any one particular item or group of items in the Schedule of Quantities.
- B. The instant Tender/Contract being an item-rate Tender/Contract, quantities mentioned in the Schedule of Quantities are likely to vary during work execution;

the successful bidder will be paid as per the quantities actually used for the work at the same item rates quoted in the Schedule of Quantities. Such a rate quoted shall be inclusive of all costs and expenses including but not limited to all taxes, levies, govt cess, transportation costs, equipment & manpower mobilization costs, workmanship cost, workman accommodation cost, octroi, any possible cost for any delay for any reason whatsoever etc., directly or indirectly related to work execution and the Successful Bidder/Contractor shall not be entitled to any other additional payment, except for extra items and variation items, if any.

- C. In the eventuality of any omission of items in the Schedule of Rate or any inconsistency therein, provisions in the relevant specifications in the concerned Indian Standards, as determined by the EIC (rate, required quantity etc.), shall prevail and binding on the Contractor. In this regard, EIC's decision on such omission or inconsistency and cost implication shall be final and binding on the Successful Bidder/Contractor.

(19) Drawings

- A. The contracted work shall be executed strictly as per the drawings and there shall not be any deviation whatsoever, except with prior written permission of EIC. Execution of work as per such varied drawings shall be completely at the cost of the Successful Bidder/Contractor and Successful Bidder/Contractor shall not be entitled to any time extension or additional payment or damages or compensation on this count or for any reason whatsoever.
- B. After the job is completed, 4 hard copies of drawings (As built) of the work executed out shall be submitted along with CD containing soft copy in AutoCAD latest version to the EIC before issuance of Completion Certificate.
- C. Works shown in drawings but not mentioned in the Technical Specifications or described in the Specifications without being shown in the Drawings shall nevertheless be deemed to be included in the same manner as if they had been specifically shown in the Drawings and described in the Specifications.

(20) Work Measurements:

- A. All work done by the successful bidder/contractor shall be jointly measured by EIC and Contractor's representative(s) and duly signed by both and such measurements only shall be the basis of Contractor's billing to the Owner – Running Account Bills as well as the Final Bill.
- B. All joint measurements shall be in line with IS 1200, "Method of Measurement of Building and Civil Works.
- C. In case the successful Bidder/Contractor's representative(s) fail/fails to turn up for the joint measurement, the EIC shall serve the Contractor a six day written notice for joint measurement, stipulating a specific time and date for joint measurement. If the Contractor or any of its representatives fails to turn up for the said joint measurement on the stipulated time and date, EIC carry out the said measurements and such measurements shall be final and binding on the Contractor as if the same had been carried out jointly.

(21) Bills:

- A. Running Account Bill: Contractor shall be entitled to raise Running Account Bills on executed work value of not less than Rs.20 lakhs or for such longer time and payment against certified Running Account bills shall be paid within 20 business days of EIC's certification of work after joint measurements, subject to compliance with requirement.
- B. Final Bill: Contractor's Final Bill shall be paid within 60 days of EIC's certification of the same after joint measurements and verification, subject to compliance with requirements of the General Conditions of Contract. EIC's certification of the Final Bill shall be only after obtaining a written approval of the Owner.

(22) Defect Liability Period

- A. Defect Liability Period shall be 12 Months from the date of Virtual Completion, during which the successful Bidder/Contractor shall carry out all the rectification(s) and make good all the defects that are detected by EIC. Rectification of Defects during the Defect Liability Period shall be wholly at the cost and expense of the successful Bidder/Contractor and Owner or EIC shall have no responsibility or liability whatsoever.

(23) Bar on Corrupt Practice:

- A. Bidders found to be indulging in the following activities shall be disqualified or declared ineligible to bid for the Tender:
- B. Canvassing or any form of corrupt practice for influencing the outcome of this tender is strictly prohibited and the Bids submitted by Bidders, who have resorted to any form of corrupt practice, shall be straightway rejected.
- C. No correspondence shall be entertained by the Owner in respect of this Tender before award of tender, other than furnishing information or clarification in relation to any query or information sought before and for purposes of submission of Bid as per the Notice for Invitation of Bids.
- D. All signatures in Tender Documents shall be dated, as well as all pages of all Sections of the Bid shall be initialed at the lower right side corner and signed wherever required in the Tender Documents by the person holding power of attorney, authorizing him/her to sign on behalf of the Bidder before submission of Bid.
- E. The details and information in the Tender Document are meant for guiding the Bidders for tendering and contracting purposes with no responsibility, whatsoever either for the accuracy of data or for their comprehensiveness.
- F. The successful Bidder shall complete the contracted works and shall comply with the Contracted Work requirements including submission of weekly reports and all other required documents stipulated in the Specifications, within the Time for completion specified in the Letter of Acceptance and Contract executed.

2. General specification for safety:-

The contractor shall provide shoring, necessary barriers, warning signals, and other safety measures while carrying out all the external work or wherever otherwise necessary to avoid accidents. He shall also provide and maintain at his cost all lighting & watching, fencing & security when and where necessary or as directed by client or by the duly constituted authority for the protection of works and for the safety and convenience of public and others.

- A. There shall be maintained in a readily accessible place first aid box including adequate supply of sterilized dressings and cotton wool.
- B. An injured person shall be taken to a hospital without loss of time whenever the situation requires. Address and telephone numbers of nearest physicians and hospital and also of police station shall be conspicuously displayed in the site office permanently.
- C. Suitable and strong double scaffolds with adequate handrails and safety belts, helmets etc. shall be provided for all workmen, supervisors, engineers for all works that can't be done safely from ground. Unless permitted otherwise scaffolding shall be of steel with adequate lateral supports & bracing etc.
- D. No portable single ladder shall be of more than 8 m length. The width between the side rails shall not be less than 30 cm and distance between two adjacent rungs shall not be more than 30 cm. whenever a ladder is used, an extra labour shall be engaged in holding the ladder.
- E. Any excavated material shall not be placed within 2 m of the edge of the pit/trench. All pits/trenches shall be provided with necessary shoring, fencing, lighting etc.
- F. Workers engaged in mixing and handling materials such as cement mortar or concrete shall be provided with protective footwear and hand gloves.

- G. No floor, roof or other part of the structure shall be so overloaded with debris so as to render it unsafe.
- H. Those engaged in welding works shall be provided with Welder's protective eye shields and gloves.
- I. No paint containing lead or lead products shall be used except in the form of paste or ready-made paint. Suitable face masks shall be supplied to the workers while application of spray or scraping of such paint.
- J. Contractor shall supply overcoats and other facilities to the painters and other workers.
- K. Hoisting machines and tackle used in the works including their attachments, anchorage and supports shall be in perfect condition and they shall be checked / serviced periodically and also before any major use.
- L. The ropes used in hoisting or lowering material as the means of suspension shall be of durable quality and adequate strength and free from any defects.
- M. List of all the safety equipment with quantities shall be prominently displayed in the site office and updated regularly.
- N. Working at Height
 1. Safety harness or safety belt should be worn in the proper manner and its anchorage point shall be so secured as not to allow a free fall of more than 1.8 meters for safety harness and 0.6 meter for safety belt from the point of working.
 2. Safety helmet with chin strap in place should be worn by the person working at height and other areas where head injury may take place.
 3. Before use, the harness or belt is to be checked and defective one should be rejected by the supervisor.
 4. No extension of safety belt is permitted.
 5. No bamboo scaffolding is to be used. All steel scaffolding should be of steel pipes of good quality, free from defects and corrosion, conforming to IS: 2750.
 6. When working on platform erected on scaffolding, guard rail of height of 1 meter above platform level must be provided all around.
 7. The access to climb up and come down and spacing of scaffolding pipes should be as per IS: 2750.
 8. Contractor to provide safety net all around the buildings at least 2 levels.
- O. Safety Training of Contractor's Supervisor/PPE
- P. Before starting the job and at periodic intervals thereof as decided, the every personnel of the Contractor shall undergo a safety training conducted by the Contractor's Safety Officer. The availability and use of personal protective equipment (safety shoes and helmet etc.) will be clearly emphasized in this training.
- Q. Propping and Shoring:-
 - a. Unless permitted by lixil only adjustable steel props shall be used for supporting purpose. Minimum 20 such props shall be always kept extra at site for use in emergency. Wooden props shall be used only with prior permission by lixil Props shall always be used with wooden runner at the top and adequate base plate at bottom.
 - b. Props shall be particularly used as per the direction of the lixil however generally all the relevant portion of the structure shall be propped which is directly affected by / is structurally dependent upon the member being repaired.
 - c. The propping and shoring shall be kept and maintained in position till required / as directed by the lixil. No payment shall be made.
- R. Temporary facilities:-
 - a. Basic temporary facilities required for smooth and professional execution of work shall include erection / construction of site go down (store) and water tank apart from adequately furnished office space for Contractor and lixil.

- b. The site office and store shall be a proper and safe enclosure of area not less than 10 sq. m each. Plinth of such enclosure shall be of firm, non erodible surface, preferably cement finished and it shall be at least 6" above the general ground level around.
- c. Side and top enclosure could be in the form of corrugated G. I. sheets adequately supported for their stability against wind etc.
- d. The office shall be properly ventilated and adequate lighting, fan etc. shall be provided in the office.
- e. Water storage shall be provided in the form of either a properly constructed brick masonry tank at the allocated position or a portable water tank. Minimum capacity of storage shall be 10,000 lit. Unless permitted by the Owner otherwise. Brick masonry tank, if constructed, shall be handed over to the Owner after completion of works or shall be demolished and site cleaned if so directed by the Owner /lixil.
- f. Construction of office shall not be paid in any case. The same along with store room shall be removed from the site and the space to be made clean to the original condition. Erection of store room and water tank shall not be paid separately unless specified otherwise.

3. SCOPE OF WORK

- I. RCC G+1 framed structure incorporating recommendations from latest CPWD Specifications / National Building Codes.
- II. RCC Raft foundation / Isolated /pile footing as per latest IS CODES Specifications / National Building Codes.
- III. Infill to frame with First Class Brickwork as per CPWD Specification / relevant BIS Code.
- IV. GI Barbed wire fencing as per latest CPWD Specifications / National Building Codes

4. CIVIL FINISHES:

- I. Civil finishes shall be as mentioned in the relevant drawings, specifications.
- II. The CONTRACTOR shall be responsible for structural soundness of the building / project in all respect and a certificate thereon shall be furnished by the bidder to Lixil on the completion of the work.

5. EARTHWORK

5.1 EXCAVATION

- i) Excavation shall be undertaken to the width of the Basement/Pile footing including necessary margins for construction operation as per drawing or directed otherwise. Where the nature of soil or the depth of the trench and season of the year, do not permit vertical sides, the contractor at his own expense shall put up the necessary shoring, strutting and planking or cut slopes with or without steps, to a safer angle or both with due regard to the safety of personnel and works and to the satisfaction of the Engineer. Measurement of plan area of excavation for payment shall be permitted only
- ii) Excavation shall be carried out in soil of any nature and consistency, in the presence of water or in the dry, met on the site to the lines, levels and contours shown on the detailed drawings and CONTRACTOR shall remove all excavated materials to soil heaps on site or transport for use in filling on the site or stack them for reuse as directed by the Engineer-in-Charge.

- iii) Black cotton soil, and other expansive or unsuitable soils excavated shall not be used for filling in foundations, and plinths of buildings or in other structures including manholes, septic tanks etc. and shall be disposed off within the contract area marked on the drawings, as directed, levelled and neatly dressed.
- iv) In case of trenches exceeding 2 metres depth or where soil is soft or slushy, the sides of trenches shall be protected by timbering and shoring. The CONTRACTOR shall be responsible to take all necessary steps to prevent the sides of trenches from caving in or collapsing. The extent and type of MS steel and shoring shall be as directed by the Engineer-in-Charge.
- v) Where the excavation is to be carried out below the foundation level of adjacent structure, the precautions to be taken such as under pinning, shoring and strutting etc. shall be determined by Engineer-in-Charge. No excavation shall be done unless such precautionary measures are carried out as per directions of Engineer-in-Charge.
- vi) CONTRACTOR shall make all necessary arrangements for dewatering / defiling as required to carry out proper excavation work by bailing or pumping out water, which may accumulate in the excavation pit from any cause/ source whatsoever.
- vii) The CONTRACTOR is forbidden to commence the construction of structures or to carry out concreting before Engineer-in-Charge has inspected, accepted and permitted the excavation bottom.
- viii) The measurements for excavations shall be restricted and limited to minimum excavation line as per drawing for payment purposes.
- ix) Adequate protective measures shall be taken to see that the excavation does not affect or damage adjoining structures. The CONTRACTOR shall take all measures required for ensuring stability of the excavation and safety of property and people in the vicinity. The CONTRACTOR shall erect and maintain during progress of work, temporary fences around dangerous excavations at no extra cost.
- x) The contractor shall provide suitable barricading with suitably painted single row of G.I. Sheets about 3" - 0" wide (90 cms.) nailed or bolted with MS poles spaced 2 to 3 metre apart and each pole 1.6 m to 2 m long 8 cm. to 10 cm. dia. The poles will be embedded in mobile iron pedestal rings suitably framed for giving stable support as per direction of the Engineer-in-charge. All management (including watch and ward) of barricades shall be the full responsibility of the contractor. The barricades shall be removed only after completion of the work or part of the work. The contractor's rate shall include all above items of work and nothing extra shall be paid to the contractor over and above his quoted rates.

5.2 SITE CLEARANCE

- i) Jungle clearance shall comprise uprooting of rank vegetation, grass, brushwood, shrubs, stumps, trees and saplings of girth upto 30 cm measured at a height of one metre above the ground level.
- ii) Uprooting of Vegetations the roots of trees and saplings shall be removed to a depth of 60 cm below ground level or 30 cm below formation level or 15 cm below subgrade level, whichever is lower. All holes or hollows formed due to removal of roots shall be filled up with earth rammed and levelled. Trees, shrubs, poles, fences, signs, monuments, pipe lines, cable etc., within or adjacent to the area which are not required to be disturbed during jungle clearance shall be properly protected by the contractor at his own cost and nothing extra shall be payable.
- iii) All useful materials obtained from clearing and grubbing operation shall be stacked in the manner as directed by the Engineer-in-Charge. Trunks and branches of trees shall be cleared of limbs and tops and stacked neatly at places indicated by the Engineer-in-Charge.

5.3 FELLING TREES

- i) While clearing jungle, growth trees above 30 cm girth (measured at a height of one metre above ground level) to be cut, shall be approved by the Engineer-in-Charge and then marked at site. Felling trees shall include taking out roots upto 60 cm below ground level or 30 cm below formation level or 15 cm below sub-grade level, whichever is lower. All excavation below general ground level arising out of the removal of trees, stumps etc. shall be filled with suitable material in 20 cm layers and compacted thoroughly so that the surfaces at these points conform to the surrounding area. The trunks and branches of trees shall be cleared of limbs and tops and cut into suitable pieces as directed by the Engineer-in-Charge. Measurements as per jungle clearance, nothing shall be made extra.
- ii) Existing structures and services such as old buildings, culverts, fencing, water supply pipe lines, sewers, power cables, communication cables, drainage pipes etc. within or adjacent to the area if required to be diverted/removed, shall be diverted/dismantled as per directions of the Engineer-in-Charge and No payment for such diversion/dismantling works.

5.4 FILLING

- i) Soil filling - Soil material shall be free from rubbish, roots, hard lumps and any other foreign organic material. Filling shall be done in regular horizontal layers each not exceeding 20 cm. depth.
- ii) Sand used for filling under foundation concrete, around foundation and in plinth etc. shall be fine/ coarse, strong, clean, free from dust, organic and deleterious matter. The sand filling under foundation shall be rammed with Mech. compactor. Sand material shall be approved by Engineer-in-Charge.
- iii) Whenever the fill material (earth or soil) is purchased, CONTRACTOR shall get the approval of Engineer-in-Charge. The CONTRACTOR shall arrange to determine the following properties of the soil and shall get the approval of Engineer-in-Charge. i) Clay content: 15% to 20% ii) Laboratory dry density: Not less than 1800 kg/m³ iii) Plasticity Index: Not more than 20
- iv) Surface dressing shall be carried out on the entire area occupied by the buildings including plinth protection as directed without any extra cost. The depths of excavation shown on the drawings are the depths after surface dressing.

6. FILLING IN PLINTH AND UNDER FLOORS:

- i) After the available suitable excavated materials are exhausted as backfilling, the contractor shall notify the Engineer-in-Charge, of the fact and levels taken jointly with Engineer-in-Charge. The earth, murrum, sand, gravel etc. or such materials suitable for filling proposed to be filled under floors and so mentioned in the item of schedule of quantities shall then be brought to site from approved locations and sources.
 - ii) **Earth Filling** : The earth, soft murrum etc. so brought shall be filled up in layers of 15 cm depth, each layer being well watered and consolidated by approved hand or mechanical tampers or other suitable means to achieve the required density.
 - iii) **Gravel or Sand Filling** : Gravel if required to be filled under floors, shall be single washed gravel of approved quality and of size varying from 12 mm. to 20 mm. it shall be uniformly blinded with approved type of soil and/or sand to obtain full compaction. Gravel shall be filled in specified thickness and shall be well watered and rammed entirely to the satisfaction of the Engineer-in- Charge.

7. MATERIAL

- i) All materials shall be of standard quality and from approved manufacturer, conforming to Indian Standards or equivalent and shall have IS Mark as far as possible unless otherwise approved by Engineer-in-Charge. The contractor shall get all materials approved by Engineer-in-Charge prior to procurement and use.
- ii) The contractor shall furnish manufacturers certificates, for the material supplied by him when asked for. Further to that he shall get all the materials tested from an approved test house, if asked for by the Engineer-in-Charge.
- iii) The cost for all tests and test certificates shall be borne by the contractor. No separate payment shall be made for the testing. The Engineer-in-Charge shall have the right to determine whether all or any material are suitable. If any material procured or brought to site found not conforming to specifications and satisfaction of Engineer-in-Charge, the contractor shall have to remove the same immediately from the site at his own expense and without any claim for compensation due to such rejection.

7.1 COARSE AGGREGATE

- i) Aggregate of sizes between 4.75 mms to 150 mms will be termed as coarse aggregate. Coarse aggregate from approved quarries and conforming to IS: 383 will only be allowed to be used for the works.
- ii) Coarse aggregate for reinforced concrete work shall consists of approved broken stone aggregate free from flat laminated or elongated pieces and shall be free from any organic material and shall be within the limits of the relative grading in IS – 383 table – II. Unless otherwise shown on the drawings all coarse aggregate in reinforced concrete shall be graded crushed stone aggregate of 20mm nominal size.
- iii) For plain cement concrete 40 mm down / 20 mm down coarse aggregate as per IS: 383 shall be used as per instructions of Engineer-in-Charge. For damp proof coarse / screed concrete above roof slab 12 mm down coarse aggregate as per IS: 383 shall be used.

7.2 FINE AGGREGATE

- i) Aggregate smaller than 4.75mm and within the grading limits and other requirements set in IS: 383 is termed as Fine aggregate or sand. Fine aggregate from approved sources and conforming to the above IS specification shall only be allowed to be used for the works.
- ii) For reinforced concrete, plain cement concrete, Brick work, screed concrete etc. sand of zone I & II shall only be used. Sand shall be clean river or pit sand of approved quality and shall be free from salts, earth dust or others impurities. It shall be washed with clean water and not more than 5% fine materials shall be allowed by settlement in water and passing through 10,000 mesh sieves. For plasters sand of zone – II / zone – III shall be used as per instructions of Engineer-in Charge

7.3 WATER:

- i) Water shall be clean and reasonably free from injurious deleterious materials; generally potable water shall be used. Water used for mixing and curing concrete and mortar shall conform to the requirements as laid down in IS: 456. Sea water shall not be used for concrete work.

7.4 OTHER MATERIALS:

- i) All materials not fully specified herein and which may be used in the work shall be approved by the Engineer-in-Charge and he shall have right to determine whether all or any of the materials offered or delivered for use in the work are suitable for the purpose.
- ii) Contractor shall give the samples of materials to Engineer-in-Charge and shall get it approved before procurement and use.

8. PLAIN AND REINFORCED CONCRETE:

- i) This section of the specification deals with cement concrete plain or reinforced for general use and covers the requirements for concrete mix design, strength and quality, pouring at all levels, form work, protection, covering, finishing, admixtures, inserts, and other miscellaneous works.
- ii) The provision of the latest version of IS: 456 shall be compiled with unless permitted otherwise and any other Indian Standard Code (Latest Revision) shall form part of the specification to the extent it has referred to or applicable within this specification.

8.1 GRADE OF CONCRETE:

- i) All reinforced concrete shall be design mix concrete and of grade M – 30 unless otherwise specified in drawing.
- ii) Nominal mix concrete proportioned for a given specified grade including cases where the Engineer-in-Charge directs use of additional cement over the quantity specified for the particular grade, shall not, however, be placed in a higher grade on the ground that the test strengths are higher than the minimum specified for the desired grade.

8.2 MIX PROPORTIONS:

- i) The mix proportions for grades of concrete specified in drawings shall be DESIGNED to obtain strength corresponding to the values specified in IS: 456 for respective grades of concrete. The minimum quantities of cement shall be as specified in Table-I or Preliminary tests, as specified in the IS code or as required by the Engineer-in-Charge, shall be carried out sufficiently ahead of the actual commencement of the work with different grades of concrete made from representative sample of aggregate and cement expected to be used on the job to ascertain the ratios by weight of cement to total aggregate, of fine to coarse aggregate and water cement ratio required to produce a concrete having specified strength and sufficient workability to enable it to be well consolidated and to be worked into corners of shuttering and around the reinforcement.
- ii) All tests in support of mix design shall be maintained as a part of records of the contract. Test cubes for mix design shall be prepared by the CONTRACTOR under his own arrangements and at his costs, but under the supervision of the Engineer-in-Charge.
- iii) Before commencement of concreting, CONTRACTOR shall carry out preliminary tests for design mix on trial mixes proposed by him in design of mix to satisfy the Engineer-in-Charge that the characteristic strength is obtained. In this regard, CONTRACTOR may consult govt. approved lab /reputed institute to get design mix done as per IS 10262 at his own cost. The concrete mix to be actually used shall be approved by the Engineer-in-Charge.
- iv) The workability of concrete produced shall be adequate, so that the concrete can be properly placed and compacted. The slump shall be as per IS 456.
- v) The minimum consumption of the cement irrespective of design mix shall not be less than the following: IS 456.

vi) The Designed mix should be approved by CONSULTANT/ Lixil

8.3 WORKMANSHIP:

- i) All workmanship shall be according to the latest and best possible standard. Before starting any pour, the contractor shall obtain the approval of the Engineer-in-Charge.
- ii) He shall obtain complete instruction about the materials and proportion to be used, slump, workability, quantity of water per unit weight of cement, number of test cubes to be taken, type of finishing to be done, any admixture to be added, any limitation on size of pour and stopping of in case of premature stopping of pours.
- iii) Before pouring any concrete the reinforcement steel, shuttering, staging, inserts etc. are to be got checked by the Engineer-In-Charge of Lixil, to be recorded in the stage passing register and to be got signed by Engineer-In-Charge of Lixil. Quality of stone chips, sand etc. and availability of the same in adequate quantity shall also to be got checked by Engineer-In-Charge of Lixil.

8.4 MIXING OF CONCRETE: NON-BATCHING

- i) All concrete shall be mixed in a mechanically operated mixer of minimum capacity of 14 / 10 and including mechanically operated hopper capable of ensuring of uniform distribution of the materials throughout the mass.
- ii) The proportion of fine and coarse aggregate, cement and water shall be as determined by the mix design or according to the fixed proportions in case of nominal mix concrete and shall be approved by the Engineer-in-Charge.
- iii) The quantities of cement, fine aggregate and coarse aggregates shall be determined by weight. The water shall be measured accordingly after giving proper allowance for surface water present in the aggregate for which regular check shall be made by the contractors.
- iv) Water shall not be added to the mix until all the cement and aggregates constituting the batch are already in the drum and dry mixed for at least one minute. Mixing of each batch shall be continued until there is a uniform distribution of the materials but in no case shall mixing be done for less than two (2) minutes and at least forty (40) revolutions after all materials and water are in the drum.
- v) When absorbent aggregates are used or when the mix is very dry, the mixing time shall be extended as be directed by the Engineer-in- Signature. Mixer shall not be loaded above their rated capacity as it prevents through mixing. If there is segregation after unloading from the mixer the concrete should be remixed.
- vi) The entire contents of the drum shall be discharged before the ingredients for the next batch are fed into the drum. No partly set or remixed or excessively wet concrete shall be used and it shall be immediately removed from the site.
- vii) Each time the work stops, the mixer shall be thoroughly cleaned and when the next mixing commences, the first batch shall have 10% additional cement at no extra cost to the owner to allow for loss in the drum.

8.5 PLACEMENT OF CONCRETE:

- i) Form work and reinforcement shall be approved in writing by the Engineer-in-Charge before concrete is placed. The forms shall be well wetted and all shavings, dirt and water that may have collected at the bottom shall be removed before concrete is placed.
- ii) Concrete shall be deposited in its final position without segregation, re-handling or flowing. The interval between adding the water to the dry materials in the mixer and the completion of the final placing including compaction of the concrete shall be well within the initial setting time for the type of cement in use or as directed by the Engineer-in-Charge.
- iii) As far as possible, concrete shall be placed in formwork by means approved by the Engineer-in-Charge and shall not be dropped from a height or handled in a manner which may cause segregation.
- iv) Any drop over 180 cm shall be approved by the Engineer-in-Charge. Once the concrete is deposited in its final position, it shall not be disturbed. Care should be taken to avoid displacement of reinforcement or movement of form work.
- v) The placing of concrete shall be a continuous operation with no interruption in excess of 30 minutes between the placing of continuous portions of concrete. After the concrete has been placed it shall be spread and thoroughly compacted by approved mechanical vibration to a maximum subsidence without segregation and thoroughly worked around reinforcement or other embedded fixtures to correct form and shape.
- vi) Vibrators shall not be used for pushing and shovelling concrete into adjoining areas. Vibrators must be operated by experienced men and over-vibration shall not be permitted. Hand tamping in some cases may be allowed subject to the approval to

ensure that the inserts, fixtures, reinforcement and form work are not displaced or disturbed during placing of concrete.

- vii) No concrete shall be placed in open while washing of cement and sand, the concrete shall be entirely removed immediately. Suitable precautions shall be taken in advance to guard against rains before leaving the fresh concrete unattended.
- viii) No accumulation of water shall be permitted on or around freshly laid concrete. Slabs, Beams and similar members shall be poured in one operation normally. In special circumstances with the permission of Engineer-in-Charge these can be poured in horizontal layers not exceeding fifty (50) cm in depth.
- ix) When poured in layers, it must be ensured that the under layer, is not already hardened. Bleeding of under layer if any, shall be effectively removed. Moulding, throating, drip courses, etc., shall be poured as shown in the drawing or as desired by the Engineer-in-Charge.
- x) Holes shall be left in concrete as shown on the approved drawings or as directed by the Engineer-in-Charge. Whenever vibration has to be applied externally the design of formwork and the disposition of vibrators shall receive special consideration to ensure efficient compaction and to avoid surface blemishes.

8.6 CONSTRUCTION JOINTS:

Whenever work is to be interrupted, the concrete shall be rebated at the joint to such shape and size as may be required by the Engineer-in-Charge or shown on the drawings. All vertical construction joints shall be made with stop boards, which are rigidly fixed and slotted to allow for the passage of reinforcement steel. If desired by the Engineer-in-Charge, keys and or dowel bars shall be provided if so, specified on the drawings or desired by the Engineer-in-Charge. Construction joints shall be provided in positions as shown or described; the joints shall be in accordance with following:

- i) In a column, the joint shall be formed about 75 mm below the lowest soffit of the beams framing into it.
- ii) Concrete in a beam shall be placed throughout without a joint, but if the provision of a joint is unavoidable, the joint shall be vertical and at the middle of the span.
- iii) A joint in a suspended floor slab shall be vertical, at one of the quarter points of the span and at right angle to the principal reinforcement.
- iv) In forming a joint, concrete shall not be allowed to slope away to thin edge. The locations of construction joints shall be planned by the contractor well in advance of pouring and shall be got approved from the Engineer-in-Charge.
- v) Construction joints in foundation of any equipment shall not be provided without specific concurrence of the Engineer-in-Charge.
- vi) Before fresh concrete is placed, the cement skin of the partially hardened concrete shall be thoroughly removed and surface made rough by hacking, sand blasting, water jetting, air jetting or any other methods as directed by Engineer-in-Charge. The rough surface shall be thoroughly wetted for about two hours and shall be dried and coated with 1:1 freshly mixed cement sand slurry immediately before placing the new concrete. The new concrete shall be worked against the prepared surface before the slurry etc. Special care shall be taken to see that the first layer of concrete placed after a construction joint is thoroughly rammed against the existing layer. Old joints during pour shall be treated with 1:1 freshly made cement sand slurry only after removing all loose materials.

8.7 REPAIR AND FINISHES TO CONCRETE:

- i) All concrete surface either cast-on-situ or pre-cast shall have even, clean finish, free from honeycombs, air bubbles, fine or other blemishes. The formwork, joint marks for

concrete work exposed to view shall be rubbed out with carborundum stone and defects patched up with a paste of 1 part sand and 1 part cement and cured.

- ii) The finish shall be made to the satisfaction of the Engineer-in-Charge. Concrete surface to be subsequently plastered or where brickwork shall be built against it shall be adequately hacked as soon as the form is stripped off so that proper bond can develop.

8.8 CURING AND PROTECTION OF CONCRETE

- i) Newly placed concrete shall be protected by approved means from rain, sun & wind. Concrete placed below ground level shall be protected from falling earth during and after placing.
- ii) Concrete placed in ground containing deleterious substances shall be kept free from contact with such ground or with water draining from such ground during placing of concrete for a period of at least three days or as otherwise instructed by the Engineer-in-Charge.
- iii) The ground water around newly poured concrete shall be kept to an approved level by pumping or other approved means of drainage. Adequate steps shall be taken to protect immature concrete from drainage by debris, excessive loading, vibration etc., which may impair the strength and durability of the concrete.
- iv) All fresh concrete shall be covered with a layer of Hessian or similar absorbent materials and kept constantly wet for a period of fourteen days or more from the date of placing of concrete as per directions of the Engineer-in-Charge. Curing can also be done by ponding.
- v) Concrete slabs and floors shall be cured by flooding with water of minimum 25 mm depth Signature of Contractor LIXIL for the period mentioned above. Steps shall also be taken to protect immature concrete from damage by debris, excessive loading, vibrations, abrasion, deleterious ground water, mixing with earth or foreign materials, floatation etc. that may impair the strength and durability of the concrete.
- vi) Approved curing compounds may be used in view of moist curing with the permission of the Engineer-in-Charge. Such compounds shall be applied to all the exposed surfaces of the concrete as soon as possible after the concrete has set.

8.9 TESTING AND ACCEPTANCE CRITERIA

- i) The contractor shall carry out all sampling and testing in accordance with the relevant Indian Standards at his own cost, in a laboratory approved by the Engineer-in-Charge.

TESTING OF CONCRETE

- a. Normally, only compression tests shall be performed but the Engineer-in-Charge may require other tests to be performed in accordance with IS: 516 (Latest Edition).
- b. The minimum frequency of sampling for each grade of concrete shall be as follows:

Quantity of concrete in the work cum	Number of Samples
1 – 5	1
6 – 15	2
16 – 30	3
31 – 50	4

51 & above

4 plus one additional
sample for each additional
50 cum or part thereof.

- c. However at least one sample shall be taken from each shift.
- d. At least 6 (six) specimens per sample shall be taken and 3 (three) of these shall be tested at 7 (seven) days and the remaining at 28 days. Minimum compressive strength on 15 cm cubes of different grades of concrete at 7 days shall be as per table 5 of IS: 456-1978.
- e. To control the consistency of concrete from every mixing plant, slump test and or compaction factor test in accordance with IS: 1199 shall be carried out by the contractor every two hours or as directed for the test specimens and shall be recorded for reference. The Engineer-in-Charge may, at his discretion, may waive the above tests for small and unimportant concreting.

8.10 LOAD TEST OF CONCRETE

- i) Load test on concrete, if desired by the Engineer-in-Charge, shall be carried out as soon as possible after expiry of 28 days from the time of placing of concrete as per IS : 456. Entire cost of load testing shall be borne by the contractor and if, any portion of the structure is found unacceptable under the relevant clause of IS: 456, the same shall be dismantled and replaced by a new structure as per specification at no extra cost.
- ii) If the adjacent structure gets damaged, the same shall be made good free of charge by the contractor to the satisfaction of the Engineer-in-Charge.

8.11 FORMWORK

- i) If it is so desired by the Engineer-in-Charge, the contractor shall prepare before commencement of the actual work, design and drawings for formwork and centering and get them approved by the Engineer-in-Charge. The formwork shall conform to the shape, line and dimensions as shown on the drawings.
- ii) The centering shall be true and rigid and thoroughly braced both horizontally and diagonally. The forms shall be sufficiently strong to carry without undue deformation, the dead weight load.
- iii) Where the concrete is vibrated the form work shall be strong enough to withstand the effects of vibration without appreciable deflection, bulging, distortion or loosening of its components. The joints in the form work shall be sufficiently tight to prevent any leakage of mortar. The form work shall be such as to ensure a smooth uniform surface free from honeycombs, air bubbles, bulges, fins and other blemishes. Any blemish or defect found on the notice of the Engineer-in-Charge immediately and rectified free of charge as directed by him.
- iv) To achieve the desired rigidity tie bolts, the spacers the wires clamps as approved by the Engineer-in-Charge shall be used but they must in no way impair the strength of concrete or leaves stains or marks on the finished surface.
- v) Where there are chances of these fixtures being embedded, only mild steel or concrete of adequate strength shall be used. Bolts passing completely through liquid retaining walls/slabs for the purpose of security and aligning the form work should not be used.

8.12 CLEANING AND TREATMENT OF FORMS

- i) All forms shall be thoroughly cleaned of old concrete, wood shaving, saw dust, dirt and dust sticking to them before they are fixed in position. All rubbish loose concrete, chippings, shavings, saw dust etc., shall be scrupulously removed from the interior of the forms before the concrete is poured as directed by the Engineer-in-Charge.
- ii) Before shuttering is placed in position, the form surface in contact with concrete shall be treated with approved non-staining oil or composition. Care shall be taken that the oil or composition does not come in contact with reinforcing steel or existing concrete surfaces. It shall not be allowed to accumulate at the bottom of the shuttering.
- iii) The form work shall be so designed and so erected that the forms for slabs and the sides of beams, columns and walls may be removed first, leaving the shuttering to the soffits of beams and their supports in position.
- iv) Supporting of beams shall not be done except with the approval of the Engineer-in-Charge and props can be reinstated in anticipation of abnormal conditions. If form work for column is erected for the full height of the columns, one side shall be left open and built up in section as placing of concrete proceeds. Wedges, spacer bolts, clamps or other suitable means shall be provided to allow accurate adjustments of the form work and to allow it to be removed gradually without disturbing the concrete.

8.13 REMOVAL OF FORMS

- i) The contractor shall begin the removal of form work only after approval of Engineer-in-Charge. He shall place on record the date on which the concrete is placed in different parts of the work and the date of the removal of form work there from. This record shall be checked and countersigned by the Engineer-in-Charge.
- ii) The contractor shall be responsible for the safe removal of form work but the Engineer-in-charge may delay the time of removal if he considers it necessary. Any work showing signs of damage through premature removal of form work or loading shall be entirely removal of form work or loading shall be entirely reconstructed without any extra cost to contractor.
- iii) Forms for various types of structural components shall not be removed before the minimum periods specified in IS: 456 (latest edition) which shall also be subject to the approval of the Engineer-in-Charge.
- iv) The form work shall be so made as to produce a finished concrete, true to shape, lines, levels, plumb and dimensions as shown in drawings.

8.14 RE – USE OF FORMS

- i) Before re – use all forms shall be thoroughly scrapped, cleaned, joints etc., examined and when necessary repaired and inside surface treated as specified herein before. Formwork shall not be used/ re-used if declared unfit or unserviceable by the Engineer-in-Charge.

8.15 FABRICATION AND PLACEMENT OF REINFORCEMENT STEEL

- i) The contractor shall prepare and furnish to LIXIL bar-bending schedule with working drawings for all R.C.C. works for review and approval by the Engineer-in-Charge. No work shall be commenced without the approval of the bar-bending schedule by the Engineer-in-Charge.
- ii) The contractor shall supply, fabricate and place the reinforcement steel to shapes and dimensions as per drawings and specifications.
- iii) Any adjustment of reinforcement to suit field conditions, construction joints other than those shown on drawings shall be subject to approval of the Engineer-in-Charge.

8.16 CLEANING

- i) Before placing the concrete all steel for reinforcement shall be made free from loose scale, rust, oil, grease, paint or any other harmful matter which may effect its bond with concrete.

8.17 BENDING

- i) Unless otherwise specified, reinforcing steel shall be bent in accordance with procedure specified in IS: 2520 and or as approved by the Engineer-in-Charge. Bends and shapes shall comply strictly with the dimensions given in the approved Bar Bending schedule. Bending schedule shall be rechecked by the contractor before bending and he shall be entirely responsible for its correctness.
- ii) No reinforcement steel shall be bent when in position in the work without approval of Engineer-in-Charge, whether or not it is partially embedded in concrete. Bars shall not be straightened in manner that will injure the material. Re-bending can only be done if approved
- iii) by the Engineer-in-Charge. Reinforcement bars shall be bent by machine or other approved means producing a gradual and even motion.

8.18 PLACING IN POSITION

- i) All reinforcement shall be accurately fixed and maintained in position as shown on the drawings by such approved means as steel chairs and or concrete spacer blocks. Bars intended to be in contact at crossing points shall be securely bound together at all such points by two number No. 20G annealed soft iron wire.
- ii) Binders shall tightly embrace the bars with which they are intended to be in contact and shall be securely held. The vertical distance between successive layers of bars shall be maintained by provision of steel spacer bars. They should be so spaced that the main bars do not sag perceptively between adjacent spacers.
- iii) The placing of reinforcement steel shall be completed well in advance of concrete pouring. Immediately before pouring, the reinforcement steel shall be checked by the Engineer-in- Charge for accuracy of placement and cleanliness and necessary corrections as directed by him shall be carried out.
- iv) The concrete cover over the reinforcement shall be as shown on the approved drawings unless otherwise directed by the Engineer-in-Charge. Care should be taken to ensure that projecting ends of ties and other embedded metal do not encroach into the concrete cover. Where concrete blocks are used for ensuring the cover and positioning reinforcement, they shall be made of mortar 1:2 (one-part cement: two parts sand) by volume and cured for at least 7 days.
- v) The sizes and locations of the concrete blocks shall be approved by the Engineer-in-Charge. Laps and anchorage lengths of reinforcing bars shall be in accordance with IS:456, unless otherwise specified. If the bars in a lap are not of the same diameter, the smaller will guide the lap length. The laps shall be staggered as far as practicable and as directed by the Engineer-in-Charge, and not more than 50% of bars shall be lapped at particular section.

9. BRICK WORK:**9.1 SCOPE**

This specification covers furnishing, installation, repairing, finishing, curing, protection, maintenance and handing over of masonry works for use in structures and at locations covered under the scope of the contract.

9.2 MORTAR

- i) Mortar for brick work except for half brick or lower thickness walls shall generally be in 1-part cement and 5 parts sand by volume unless otherwise stated. Mortar for half brick and lower thickness brick walls shall be 1-part cement and 4 parts sand by volume unless stated otherwise.
- ii) The unit of measurement for cement shall be a bag of cement weighing 50 Kg. and this shall be taken as 0.035 cum. Other ingredients in specified proportions shall be measured in boxes of suitable size. Sand shall be measured on the basis of its dry volume. In case of damp sand, its quantity shall be increased suitably to allow for bulking.
- iii) Cement and sand shall be mixed dry thoroughly on clean approved platform and water shall then be added to obtain a mortar of the consistency of a stiff paste, care being taken to add just sufficient water for the purpose. Mortar shall be used as early as possible after mixing and before it has begun to set and in any case within 30 minutes after water is added to dry mixture. Mortar unused for more than 30 minutes shall be rejected and removed from site of work.

9.3 LAYING

- i) Brick shall be soaked by submergence in clean water for at least 6 hours in approved vats before use. The contractor shall provide tanks of sufficient capacity to allow the specified immersion.
- ii) Bricks shall be laid in water by hand and not thrown. The bricks shall not be too wet at the time of use, as they are likely to slip on the mortar bed and there will be difficulty in ensuring plumbness of the wall. Bricks shall be laid in English bond unless specified otherwise. Broken bricks shall not be used.
- iii) Cut bricks shall be used if necessary, to complete bond or as closers. Bricks shall be laid with frogs upwards over full mortar beds. Bricks shall be pressed into mortar and tapped into final positions so as to be embed fully in mortar. Inside faces shall be buttered with mortar before the next brick is placed and pressed against it. Thus, all joints between bricks shall be fully filled with mortar.
- iv) Mortar joints shall be kept uniformly 10 mm thick. All joints on face shall be raked to minimum 10 mm depth using raking tool while the mortar is still green to provide bond for plaster or pointing. Where plaster or pointing is not provided, the joints shall be struck flush and finished immediately.
- v) Brickwork of two bricks thick or more shall have both faces in true plane. All brickwork shall be built tightly against columns, floor slabs or structural parts, around window and door frames with proper distance to permit caulked joint.

9.4 CURING OF MASONRY WORK

Masonry shall be cured by keeping it wet for seven days from the date of laying. In dry weather at the end of days work top surface of masonry shall be kept wet by ponding.

10. PLASTER WORK:**10.1 SCOPE**

- i) This specification covers furnishing, installation, repairing, finishing, curing, testing, protection, maintenance till handing over, of plastering to masonry and concrete.
- ii) Before commencing work on the finishing items the contractor shall obtain the approval of the Engineer-in-Charge regarding the scheduling of work to minimize damage by other

contractors. He shall also undertake normal precautions to prevent damage or disfiguration to work of other contractors and other installations.

10.2 PREPARATION OF SURFACE

- i) All joints in masonry walls be raked out to a depth of at least 10 mm with a hooked tool made for the purpose while the mortar is still green. Walls shall be brushed down with stiff wire brush, to remove all loose dust from the joints and thoroughly washed with water.
- ii) For all types of work the base cement concrete slab or masonry surface shall be roughened by chipping and cleaned of all dirt, grease or loose particles by hard brush and water. The surface shall be thoroughly moist to prevent absorption of water from the base course. Any excess of water shall be mopped up.
- iii) Prior to commencement of actual work, the approval of the Engineer-in-Charge shall be taken as to the acceptability of the base.

10.3 MORTAR:

- i) Mortar for plastering shall be as specified in the drawings and in the schedule of finishes. For sand cement plaster, sand and cement in the specified proportion shall be mixed dry on a watertight platform and minimum water added to achieve working consistency.
- ii) No mortar which has stood for more than half an hour shall be used, mortar that shows tendency to become dry before this time shall have water added to it.

10.4 CURING

- i) Curing of plaster shall be started as soon as the applied plaster has hardened enough so as not to get damaged. The Engineer-in-Charge will give the decision as to when the plaster has hardened in.
- ii) Curing shall be done by continuously applying water in a fine spray and shall be carried out at least 7 days. Each individual coat of plaster shall be kept damp continuously for a minimum two days.

11. PAINTING :

11.1 SCOPE OF WORK :

The work covered under these specifications consist of furnishing the various types of paints and also the workmanship for these items, in strict compliance with these specifications, which are given in detail here - in-after with the item of schedule of quantities.

11.2 MATERIALS :

- i) Paints, oils, varnishes etc. of approved brand and manufacture shall be used. Ready mixed paints as received from the manufacturer without any admixture shall be used.
- ii) If for any reason, thinning is necessary in case of ready mixed paint, the brand of thinner recommended by the manufacturer or as instructed by the Engineer-in-Charge shall be used. Approved paints, oils or varnishes shall be brought to the site of work by the contractor in their original containers in sealed conditions. The materials shall be brought in at a time in adequate quantities to suffice for the whole work or at least a fortnights work. The materials shall be kept in the joint custody of the contractor and the Engineer -in- charge. The empties shall not be removed from the site of work, till the

relevant item of work has been completed and permission obtained from the Engineer in-Charge.

- iii) The contractor shall associate the chemist of paint manufacturers before commencement of work, during and after the completion of work who shall certify the suitability of the surface to receive painting and the paint before use etc.

11.3 COMMENCING WORK :

- i) **Scaffolding :** Wherever scaffolding is necessary, it shall be erected on double supports tied together by horizontal pieces, over which scaffolding planks shall be fixed. No ballies, bamboos or planks shall rest on or touch the surface which is being painted.
- ii) Where ladders are used, pieces of old gunny bags shall be tied on their tops to avoid damage or scratches to walls.
- iii) For painting of the ceiling, proper stage scaffolding shall be erected.
- iv) Painting shall not be started until and unless the Engineer-in-Charge has inspected the items of work to be painted, satisfied himself about their proper quality and given his approval to commence the painting work.
- v) Painting, except the priming coat, shall generally be taken in hand after all other builders work, practical. The rooms should be thoroughly swept out and the entire building cleaned up at least one day in advance of the paint work being started.

11.4 PREPARATION OF SURFACE :

- i) The surface shall be thoroughly cleaned. All dirt, rust, scales, smoke and grease shall be thoroughly removed before painting is started. Minor patches if any in plastered/form finished surfaces shall be repaired and finished in line and level in C.M. 1:1 and cracks & crevices shall be filled with approved filler, by the contractor at no extra cost to the Department. The prepared surface shall have received the approval of the Engineer-in-Charge after inspection, before painting is commenced.

11.5 APPLICATION :

- i) Before pouring into smaller containers for use, the paint shall be stirred thoroughly in its containers. When applying also, the paint shall be continuously stirred in the smaller containers so that consistency is kept uniform.
- ii) The external surfaces of the buildings under reference including the R.C.C. Jalli, fins and the panels above and below the window etc. shall be finished in different colours of approved shade. The contractor will make suitable samples at site for Departments approval before taking up the work in hand and they will be allowed to proceed with the work only after getting Departments approval for the same.
- iii) The painting shall be laid on evenly and smoothly by means of crossing and

laying off, the later in the direction of the grain in case of wood. The crossing & laying off consists of covering the area with paint, brushing the surface hard for the first time and then brushing alternately in opposite directions two or three times and then finally brushing lightly in direction at right angles to the same. In this process, no brush marks shall be left after the laying off is finished. The full process of crossing and laying will constitute one coat.

- iv) Where so stipulated, the painting shall be done with spraying. Spray machine used may be (a) a high pressure (small air aperture) type or (b) a low pressure (large air gap) type, depending on the nature and location of work to be carried out. Skilled and experienced workmen shall be employed for this class of work. Paints used shall be brought to the requisite consistency by adding a suitable thinner. Spraying should be done only when dry condition prevails.
- v) Each coat shall be allowed to dry out thoroughly and rubbed smooth before the next coat is applied. This should be facilitated by thorough ventilation.
- vi) Each coat except the last coat, shall be lightly rubbed down with sand paper or fine pumice stone and cleaned of dust before the next coat is laid.
- vii) No left over paint shall be put back into the stock tins. When not in use, containers shall be kept properly closed.
- viii) The final painted surface shall present a uniform appearance and no streaks, blisters, hair marks from the brush or clogging of paint puddles in the corners of panels, angles of mouldings etc. shall be left on the work.
- ix) In case of cement based paints/primers, the absorbent surfaces shall be evenly damped so as to give even suction. In any weather, freshly painted surfaces shall be kept damp for at least two days.
- x) In painting doors and windows, the putty around the glass panes must also be painted, but care must be taken to see that no paint stains etc. are left on the glass. Tops of shutters and surfaces in similar hidden locations shall not be left out while painting. Perspect covers of electrical switch boxes have to be painted from inside by removing them. Care shall be taken while removing them in position after painting with respective approved paints. In painting steel work, special care shall be taken while painting over bolts, nuts, rivets, overlaps etc.
- xi) The additional specifications for primer and other coats of paints shall be as in accordance to the detailed specifications under the respective headings.
- xii) Any damage caused during painting work to the existing works/surfaces shall be made good by the contractor at his own cost.

LIST OF APPROVED MAKE OF MATERIALS / TRADE

Unless otherwise mentioned any one of the approved makes or brands shall be allowed to be used. Other specified ISI mark may be allowed to be used if recommended by the consultants and approved by Owner.

The tenderer shall distinctly understand that it will not be their prerogative to insist on a particular brand from the list. Final selection will be done by the consultants with the approval of Owner.

If the schedule of quantities prescribes a particular brand of materials or fittings, the same shall be considered while quoting the rates.

S.NO	DESCRIPTION OF ITEMS	APPROVED MAKES
1	CEMENT	ULTRA TECH / ACC / MAHA / KPC
2	READYMIX CONCRETE	ULTRA TECH / SARVANI
3	TMT STEEL (FE500)	TATA / VIZAG / JSW
4	STRUCTURAL STEEL	TATA / JINDAL
5	GI BINDING WIARE	JINDAL / TATA
6	SOLID CONCRETE BLOCK	GOOD QUALITY OF BLOCK APPROVED BY CLIENT
7	DESIGN MIX	M 25 / APPROVED BY ENGIN
8	ALL OTHER MATERIALS	AS APPROVED BY THE CLIENT
9	ALUMINIUM SECTIONS	JINDAL,HINDALCO, PROMINANCE, TOSTEM
10	INDUSTRIAL TILES (FLOOR & WALL TILES)	JOHNSON & APPROVED EQUIVALENT

11	WATER PROOFING COMPOUND & HARDNER	FOSROC, SIKA,, PEDILITE, MYK, BSF,
12	FLOAT GLASS / MIRROR	SAINTGOBIAN, ASAHI INDIA,
13	GLASS FILM	3M / LLUMAR
14	WALL PUTTY	BIRLA WHITE / JK WHITE/ ASIAN PAINT
15	LAMINATES	GREENLAM, CENTURYFLY, MERINOLAM
16	PLYWOOD / BOARD (WATERPROOF /FIREPROOF)	CENTURYPLY/ MERINOLAM/ GREENPLY
17	HARDWARE	OZONE/ DORMA/
18	FIREDOORS	SHAKTHI HARMOON/
19	GYPSUM BOARD	SAINT GOBIAN/ LAFARGE
20	EPOXY	COLOR PLUS/ MRF/
21	CARPET FLOOR	WELPSUN/
22	ACP PANEL	VIVA/ ALSTONE /
23	ACC BLOCK	NCL/ ULTRATECH
24	CHAIRS	GODREJ INTERO/ STEELCASE/
25	WORKSTATIONS	GODREJ INTERO / STEELCASE/
26	UPVC	SUPREME/ ASHIRVAD

LIST OF APPROVED MATERIAL / MAKES- ELECTRICAL

S.No	Item	Item with Description	Recommended Make
1	Electrical Cables	Copper Cable XLPE Antirodent FRLSH for Armoured & Flexible from 1core 0.5 sqmm to 75 sqmm 4core range	Polycab/Lap
2	Lights	Ceiling	Philips
3	Lights	LED profile Strips	Philips
4	Lights	Focus lights	Philips
5	Lights	Spot Lights	Philips
6	Lights	Tube lights	Philips
7	Lights	Flame proof	Philips
8	Lights	Emergency Exit Lights	Philips
9	Air Conditioners	1.5 ton,2 ton, 2.1 ton , 2.2 ton	Mitsubishi
10	Cable tags	100 mm to 300 mm PVC	Sure lock
11	Electrical tape	Insulation tape	Steel grip
12	Distribution boards	2 way - 12 way SPN,TPN	Siemens
13	Switch boards- Switches & Sockets	Metal & PVC/ABS 1 way - 12 way	Legrand /Crabtree/ Schinder (elephant grey)
14	MCB	1 pole - 4 pole grade C	Siemens
15	MCCB	3P/ 4 P	Schneider
16	Single Phase industrial box	16 A rating with plug top	legrand Ekinox
17	Three Phase industrial box	32 A rating with plug top	Havells
18	Casing and capping	PVC	Aeroplast
19	UPS	1 kva to 3 Kva	APC
20	flexible Hose	Braided and non braided	Aeroplast
21	Cable tray	Perforated 50*50*5 to 200*100*5	JSW
22	Glands	SS ,Double SS, PVC from 11 - 50 sqmm	Dowells
23	Lugs	Copper Pin & Ring 1 sqmm to 90 Sqmm	Dowells

PREQUALIFICATION FORMAT**PROJECT Name: -****Date:-****Prequalification Format****Civil Contractor – Re-measurable Contract (Item Rate Contract)**

Particulars	Description
A. GENERAL	
Name of Firm/ Type	Proprietary/Partnership/Private Ltd.

Address -	<hr/> <hr/> <hr/>
Telephone no-	<hr/> <hr/>
Office set up	<hr/> <hr/>
	Area: Office staff:
Contact Persons	
Mobile no/E-mail	
Established since	
B. Personnel	Sr.No. Name Qualification Design. Exp.
Proprietor / Partners/	1
Directors /Principles	2
	3
	4
	5
Engineers/ Supervisors/Foremen on Role Total No. Graduates / Diploma on Role	
Total No.	
Skilled Labours	
Unskilled Labours	
C. Financial	
Turn Over 5 – 10 Cr (In Crore.)	(Projected)
Bankers	

	Project Description
	Value : Time frame (months):
	Architect :
	Client:
	Project Description
	Value : Time frame (months):
	Architect :
	Client:
	Project Description
	Value : Time frame (months):
	Architect :
	Client:
H. List of Similar Jobs Completed other than AP/Telangana	
	Project Description:
	Value : Time frame (months):
	Architect :
	Client:
I. List of Projects in hand	
	Project Description:

	Value :	Time frame (months):
	Architect :	
	Client:	
J. List of Project Completed Interiors		
	Project Description:	
	Value :	Time frame (months):
	Architect :	
	Client:	

ANNEXURE - II

INDEMNITY BOND

(On Non-Judicial Stamp Paper of Rs. 100/-)

KNOW all men by these presents that I/We _____o hereby execute Indemnity Bond in favor of Lixil India Sanitaryware Pvt. Ltd.. on this _____ day of _____2026.

WHEREAS Lixil India Sanitaryware Pvt. Ltd, at plot no. 406/1 Near Bambhulla Dibba, Puntha Road Ambarupetha village, Bhimadole Mandal, West Godavari District-534425-Andhra Pradesh (address of the office) has appointed_____ as the Contractors for their Proposed repair work Project at _____.

THIS DEED WITNESS AS FOLLOWS:

I/We _____hereby do Indemnify and protect Lixil India Sanitaryware Pvt Ltd. against:

1. Any third party claims, civil or criminal complaints/liabilities, site mishaps and other accidents or disputes and/or damages occurring or arising out of any mishaps at the site due to faulty work, negligence, faulty construction and/or for violating any law, rules and regulations in force, for the time being while executing/executed works by me/us;
2. Any damages, loss or expenses due to or resulting from any negligence or breach of duty on the part of me/us or my sub contractor's if any, servants or agents;
3. All actions, suits, claims and demands brought or made against it in respect of anything done or committed to be done by the Contractor in execution of or in connection with the work of this Contract and against any loss or damage to the Owner in consequence of any action or suit being brought against the Contractor for anything done or committed to be done in the execution of the works of this contract. The Owner may at its description and entirely at the cost of the contractor defend such suit either jointly with the contractor or singly in case the later chooses not to defend the case;
4. Any claim by an employee of mine/ours or sub-contractor(s), if any, under the Workmen's Compensation Act, 1923 and Owners Liability Act, 1939 or any other law, Rules and Regulations in force for the time being and any Acts replacing and/or amending the same or any of the same as may be in force at the time and under any law in respect of injuries to persons or property arising out of and in the course of the execution of the contract work and/or arising out of and in the course of employment of any workman/employee;

5. Any act or omission of mine/ours of sub-contractor's if any, our/their servants or agents which may involve any loss, damage, liability, civil or criminal action.

IN WITNESS WHEREOF THE _____
has set his/their hand on this day of _____ 202.

SIGNED AND DELIVERED BY THE NAME AND ADDRESS
AFORESAID

_____ (Contractor)

IN THE PRESENCE OF WITNESSES:

FORMAT NO CLAIM CERTIFICATE (ON CONTRACTOR'S LETTER HEAD)**NO CLAIM CERIFICATE**

We confirm and declare that with the receipt of due payment against our Final Bill of as per the Contract, all our claims, dues, disputes, differences between us, the Contractor, M/s And the Owner, Lixil India Sanitaryware PVT Ltd under and with reference to above said Contract stands fully and finally settled.

We further absolve Lixil India Sanitaryware PVT Ltd From all liabilities present or future arising directly or indirectly out of the Contract.

We further confirm that the present No Claim Certificate without any no economic duress or fraud or any other compulsion.

Date:

Place:

Contractor

LIXIL CODE OF CONDUCT

LIXIL Group Supplier Code of Conduct

Compliance and Integrity

LIXIL Group requires all LIXIL entities to comply with all applicable laws and regulations and act ethically at all times and in all matters. In addition, LIXIL Group conducts its business operations with an emphasis on corporate social responsibility. LIXIL Group has the same expectations of our suppliers. The LIXIL Group Code of Conduct sets the rules for the LIXIL entities' business activities. This Supplier Code of Conduct ("**Code**") establishes related requirements for all of our suppliers.

*This Code sets forth LIXIL Group's minimum requirements for our suppliers, and does not supersede or replace stricter provisions or regulations that the suppliers may already be subject to.

Who must follow the LIXIL Group Supplier Code of Conduct?

All LIXIL Group's suppliers and their officers and employees are required to comply with this Code. LIXIL Group's suppliers ("**Suppliers**") include all entities and persons that provide products or services to any LIXIL Group Entity, pursuant to contractual obligations.

In order to comply with this Code, Suppliers are expected to establish their own compliance program, if one does not already exist. This includes implementing appropriate policies and procedures, allocating appropriate resources, providing all employees and officers with training, establishing a concern-raising system, and undertaking of improvement actions, such as conducting internal audits and investigations, and taking corrective actions.

Moreover, LIXIL Group expects Suppliers to take reasonable steps to ensure that next-tier suppliers and subcontractors acknowledge and implement the same standards with this Code.

Verification of Compliance with Supplier Code of Conduct

Suppliers are required to acknowledge that the standards in this Code are being met upon the commencement and renewal of a contractual relationship with LIXIL Group entity. Suppliers shall also maintain compliance with this Code throughout the relationship with LIXIL Group entity and demonstrate that they comply with this Code upon LIXIL Group's request.

Violation of Supplier Code of Conduct

Any violations of the requirements of this Code may jeopardize the Supplier's business relationships with LIXIL Group, up to and including termination.

THE SUPPLIER CODE OF CONDUCT

Suppliers are obligated to comply with all laws and regulations which apply to them and their business relations with LIXIL Group. This applies especially to the following requirements, but is not limited to:

HUMAN RIGHTS

Suppliers shall respect the human rights of employees.

- *Non-discrimination*

Suppliers shall not discriminate against any employees based on grounds including race, color, religion, national or ethnic origin, ancestry, age, disability, gender, pregnancy or maternity, marital status, sexual orientation, gender identity or expression, political or personal belief, or union membership.

- *Anti-harassment*

Suppliers shall provide a work environment that is free from harassment and bullying of any kind and any other offensive or disrespectful conduct.

LABOR STANDARDS

Suppliers shall comply with the labor laws of the countries and regions where they operate and international labor standards such as established by the International Labor Organization (ILO). In the event that we face discrepancies between internationally recognized standards and the laws of the relevant country or region, Suppliers shall comply with the higher standard.

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- *Prevention of forced or compulsory labor*

Suppliers shall not use forced, bonded (including debt bondage) or indentured labor or prison labor, slavery or trafficking of persons.

- *Prevention of child labor & juvenile worker protections*

Suppliers shall not employ a child at any stage of manufacturing or in the provision of services. The term "child" refers to any person under the age of 15, under the age for completing compulsory education, or under the minimum age for employment in the country, whichever is greatest. Suppliers shall also not employ persons under the age of 18 for work that by its nature or the circumstances in which it is carried out is likely to harm the health, safety, or morals of such persons.

- *Working hours & wages*

Suppliers shall not require their employees to work beyond the maximum legal working hours, and shall pay them at least legal minimum wage in compliance with local laws.

- *Freedom of association*

Suppliers shall uphold the freedom of association and the recognition of the right the collective bargaining. All employees have the right to freely form and join groups for the promotion and protection of their employment interests to the extent permitted by law.

HEALTH AND SAFETY

Suppliers shall provide a healthy and safe workplace for their employees. This should meet international, national, and industrial standards.

ENVIRONMENT

Suppliers shall comply with local and international environmental protection laws, regulations and principles. Suppliers shall, in order to reduce the environmental strain caused by their business activities, take actions to contribute to the preservation of the global environment. This includes promoting greener process and developing environmentally friendly products.

FAIR BUSINESS CONDUCT

Suppliers shall have an unwavering commitment to compliant, fair, ethical and responsible business conduct.

- *Anti-corruption*

Suppliers are required to comply with anti-bribery and anti-corruption laws and regulations applicable to their activities. In connection with any transaction as a LIXIL Group Supplier or any other transaction that otherwise involves LIXIL Group, the Supplier shall not transfer anything of value, directly or indirectly, to any third party or any third party employee in order to obtain improper benefits and/or advantages. These prohibitions include kickbacks and facilitation payments. In addition, Suppliers shall not offer any LIXIL entity benefits, including gifts and entertainment that may cause suspicion regarding fairness.

*A facilitation payment is the provision of money or good to a government official to perform, or speed up the performance of, a duty the official already has to you. For example, paying a customs official to clear goods for import, where he is technically required to clear them anyway, would be a facilitation payment.

- *Conflicts of interest*

Suppliers shall ensure that any personal relationship is not used to influence any LIXIL entity or employee's business judgment. If a Supplier or an employee of a Supplier is a relative or has any other relationship with a LIXIL entity that may

pose a potential conflict, the Supplier shall voluntarily and promptly disclose this fact to LIXIL Group or ensure that the LIXIL entity does so.

- *Fair competition*

Suppliers shall comply with all applicable antitrust and competition laws and regulations and never engage in illegal anticompetitive activities. In particular, Suppliers shall not engage in any conduct which might be viewed as restricting competition between LIXIL Group and any competitors of LIXIL Group.

- *International trade controls*

Suppliers shall never be owned or controlled by the governments of sanctioned countries/territories and act on behalf of those governments. Suppliers shall also never be entities that are incorporated in or operating from sanctioned countries/territories as well as individuals who are located or ordinarily resident in (or in some cases, nationals of) such countries. Suppliers shall also not be owned or controlled by sanctioned individuals or entities, or do business with sanctioned individuals or entities in respect of transactions that involve or relate to LIXIL Group.

- *Prohibition of involvement with criminal organizations and individuals*

Suppliers shall never engage in any criminal activities and have any relationships with criminal organizations or individuals.

- *Accurate accounting and financial records*

LIXIL Group expects Suppliers to keep true, accurate and complete business records of all matters related to business with LIXIL Group including all expenses and payments, in a form that can be made available to LIXIL Group upon request.

PROTECTING INFORMATION AND PROPERTY

- *Privacy data*

Suppliers shall comply with privacy laws and regulations that are in effect in the countries and regions where they operate. In particular, Suppliers shall acquire and use all personal information with prior consent and ensure that personal information is not illegally acquired, used, transferred, disclosed, or leaked.

- *Intellectual property*

Suppliers shall not use LIXIL Group and other's intellectual property unless authorized by the legitimate owner of the intellectual property. Intellectual property includes patents, designs, copyrights, trade secrets, know-how and trademarks.

- *LIXIL Group's assets*

When Suppliers are provided LIXIL Group's assets, Suppliers shall use them only for legitimate business purposes. Moreover, Suppliers shall protect confidential information related to LIXIL Group and shall not share it with anyone at any time unless authorized to do so by LIXIL Group.