



# **KAMARAJAR PORT LIMITED**

[A Company of Chennai Port Authority]  
(Ministry of Ports, Shipping and Waterways – Government of India)  
Vallur Post, Near NCTPS, Chennai – 600 120.  
CIN: U45203TN1999PLC043322

## **E- Procurement Mode**

### **OPEN TENDER**

for  
**PROVIDING INTERIOR WORKS AND OTHER  
ALLIED WORKS TO SEA FARERS CLUB HOUSE  
INSIDE KAMARAJAR PORT ON ITEM RATE BASIS**

**Tender No: 2025105093**

### **VOLUME -I**

### **Technical Bid**

**Due Date of Submission: 15:00Hrs up to 04.11.2025**

**Date & Time of Opening: 15:30Hrs on 05.11.2025**

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**ONLINE BID REFERENCE**

**TENDER NO.2025105093**

**TENDER for “Providing Interior Works and Other Allied Works to Sea Farers Club House inside Kamarajar Port on Item Rate Basis” through e-PROCUREMENT mode**

|                                                   |                                                                                                                                                             |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PERIOD OF DOWNLOADING<br>BIDDING DOCUMENT:        | FROM 14.10.2025 TO 04.11.2025                                                                                                                               |
| TIME & DATE OF<br>PRE BID MEETING:                | 22.10.2025 TIME 11.30 HOURS                                                                                                                                 |
| PLACE OF PREBID MEETING:                          | <b>DY. General Manager (Civil),<br/>Port Administrative Building, Kamarajar Port Limited,<br/>NCTPS Road, Vallur Post, Chennai-600120<br/>(Near Ennore)</b> |
| START DATE& TIME OF<br>ONLINE BID SUBMISSION:     | 30.10.2025 TIME 10.00 HOURS                                                                                                                                 |
| LAST DATE & TIME FOR<br>ONLINE SUBMISSION OF BID: | 04.11.2025 TIME 15.00 HOURS                                                                                                                                 |
| TIME & DATE OF<br>OPENING OF TECHNICAL BID:       | 05.11.2025 TIME 15.30 HOURS                                                                                                                                 |
| PLACE OF OPENING:                                 | PORT ADMINISTRATIVE BUILDING,<br>KAMARAJAR PORT LIMITED,<br>CHENNAI-600120                                                                                  |
| TIME & DATE OF<br>OPENING OF PRICE BID:           | AFTER EVALUATION OF TECHNICAL BID                                                                                                                           |

**Deputy General Manager (Civil)**  
Kamarajar Port Limited,  
Chennai-600120

**NOTICE INVITING TENDER**

1.0 Kamarajar Port Limited Invites Open tender from reputed GST registered contractors for **“Providing Interior Works and Other Allied Works to Sea Farers Club House inside Kamarajar Port on Item Rate Basis”** under two cover system at an estimated cost of **Rs.373 Lakhs Excluding GST** through e-Procurement mode on website: **e-procure.gov.in**.

|                                                          |                                                                                                                            |
|----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>Tender No:</b>                                        | 2025105093                                                                                                                 |
| <b>Name of the work</b>                                  | <b>Providing Interior Works and Other Allied Works to Sea Farers Club House inside Kamarajar Port on Item Rate Basis</b>   |
| <b>Estimated value of work put to tender (in INR)</b>    | <b>Rs.373 Lakhs Excluding GST</b>                                                                                          |
| <b>Bid Security / EMD</b>                                | <b>in the form of Demand Draft</b>                                                                                         |
| <b>Period of contract</b>                                | Six (06) Months.                                                                                                           |
| <b>Period of Online issue of tender documents</b>        | FROM 14.10.2025 TO 04.11.2025                                                                                              |
| <b>Last date of Receiving Queries / Clarifications</b>   | 22.10.2025 TIME 10.00 HOURS                                                                                                |
| <b>Pre-bid Meeting, time and Place</b>                   | 22.10.2025 TIME 11.30 HOURS<br>Port Administrative Building,<br>Kamarajar Port Limited,<br>Vallur Post, Chennai-600120.    |
| <b>Pre-Bid Clarification and Contact person</b>          | Senior Manager (Civil),<br>jsaravanan@kplmail.in<br>044-27950049                                                           |
| <b>Last date &amp; time for online submission of Bid</b> | 04.11.2025 TIME at 15.00 HOURS                                                                                             |
| <b>Date, time and Place of opening of Technical Bid</b>  | 05.11.2025 TIME 15.30 HOURS at<br>Port Administrative Building,<br>Kamarajar Port Limited,<br>Vallur Post, Chennai-600120. |

**Note : The following bidders are barred from submitting their bids for this subject work Due to having record of Cancellation of Contract due to Failure in Submission of Performance Security & Signing of Contract Agreement in the previous tenders in KPL.**

1. **M/s Tscale Constructions and Interiors**, No.6, IVY Terrace, Flat F2,Ist Floor, Ganesh Nagar, Korattur North,Chennai- 600 076.
2. **M/s Aakar Engineers & Contractors**, Aakar house, Mathura Palace, Begum Bridge, Meerut, Uttar Pradesh- 250 001.



- 1.1 The complete tender document including drawings can be downloaded from KPL website: [www.kamarajarport.in](http://www.kamarajarport.in) and e-procurement portal link and submit online as tender offer on or before the due date and time of submission.
- 1.2 The offer (both Techno-Commercial & Price) must be valid for a minimum of 90 days from the last date of online submission of offer; otherwise the offer shall be rejected as non-responsive.
- 1.3 Bidding is open to all eligible bidders meeting the eligibility criteria as defined in **Clause No.5** of Instructions to bidders. Bidders are advised to note the minimum qualification criteria specified below to qualify for the award of the contract.
- Average annual financial turnover of the firm during the last three years ending till the previous year of tender notification should be at least **Rs.1,12,00,000/-**
  - Experience of having successfully completed similar works during last 7 years (ending last day of month previous to the one in which tender applications are invited) i.e., should be either of the following
    - Three similar completed works costing each not less than the amount equal to 40% of the estimated cost i.e. **Rs. 1,49,20,000/-** (excluding GST) Or
    - Two similar completed works costing each not less than the amount equal to 50% of the estimated cost i.e. **(Rs.1,86,50,000/- excluding GST)** Or
    - One similar completed work costing not less than the amount equal to 80% of the estimated cost i.e. **Rs.2,98,40,000/- excluding GST)**

**“Similar Work” means having experience in executing work consisting Civil, Interior works such as Flooring, wall & Ceiling finishes, Carpentry work, Electrical works, HVAC works to the buildings in Port/ Railways/PWD/Central/State Governments/Central /State PSUs.**

**For evaluation purpose completion of single work comprising a minimum of any four items from the above categories shall be considered as similar work.**

**For substantiating the above similar work, contractor should submit the performance / experience certificate and Bill of Quantities. (BOQ)**

The value of similar works completed by the bidder will be brought to current cost level by enhancing the actual value of work with the multiplication factor as detailed below for assessing the eligibility of the bidder under experience.

The base year shall be taken as 2023-2024

| Year         | Multiplication factor |
|--------------|-----------------------|
| FY 2023-2024 | 1.00                  |
| FY 2022-2023 | 1.07                  |
| FY 2021-2022 | 1.14                  |
| FY 2020-2021 | 1.21                  |
| FY 2019-2020 | 1.28                  |
| FY 2018-2019 | 1.35                  |
| FY 2017-2018 | 1.42                  |

**Note:**

1. Bidder should indicate actual figures of costs and amount for the works executed by them in the schedule without accounting for the above mentioned factors.
2. The financial year of completion for the similar completed works shall be taken into account while applying multiplication factors for arriving current cost level.

Documentary Proof such as copy of Work Order/ Agreement along with BoQ of the work and Completion Certificate for the technical experience and Audited Balance Sheet, Profit & Loss account statements for Annual Turnover certified by Chartered Accountant for meeting qualification criteria, either in 'Original' or 'Notarized' / self attested shall be submitted along with the technical bid link through e-procurement mode. In case of self attested documents, the bidder has to produce the original document for verification before award of work.

- iii) The contractor shall submit letter of satisfactory performance of their plants & equipment machines. Also furnish that their Personnel are qualified and minimum numbers to be employed.
- iv) Documentary evidence for having valid GST/PAN details as under:
  - a. GST Registration Certificate No. \_\_\_\_\_
  - b. PAN No. \_\_\_\_\_
- v) Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity is more than the total bid value.

**Available Bid Capacity**

The bidder should possess the bidding capacity as calculated by the specified formula.

The formula generally used is

Available bid capacity = (A x M x N) - B, where

A= Maximum value of Engineering (Interior & Allied Works) executed in any one year during the last five years (updated to current cost level by enhancing the actual value of work at simple rate of 7% (seven percent) per annum, calculated from the date of completion to the date of Bid/Tender opening), taking into account the completed as well as works in progress.

M = Multiplier Factor (usually 1.5)

N= Number of years prescribed for completion of the work.

B= Value (updated at the current price level) of the existing commitments and ongoing works to be completed in the next 'N' years.

The Bidder shall furnish statements showing the value of existing commitments and on-going works as well as the stipulated period of completion remaining for each of the works preferably countersigned by the Engineer-in charge

- 1.4 Normally the contract will be awarded to the lowest bidder. However, the Employer/Board do not bind themselves to accept the lowest or any tender and reserve the right to accept any tender in part or to reject any tender without assigning any reason there for.
- 1.5 **The due date of submission of offers will be 04.11.2025 @ 15.00 Hrs**, unless otherwise notified. In the event of changes in the schedules, the Kamarajar Port Limited notifies the same through its web site/e Portal.
- 1.6 If the offers are not received according to the instructions detailed here above, they shall be liable for rejection.
- 1.7 For more details visit Port website: [www.kamarajarport.in](http://www.kamarajarport.in) or [www.eprocure.gov.in](http://www.eprocure.gov.in) or contact Senior Manager (Civil) at 044-27950049.
- 1.8 The bidder who need clarification on any specific issue if any shall submit the same addressed to the Deputy General Manager (Civil), Chennai – 600120 before the date and time indicated in bid reference table. No queries / clarifications shall be encouraged after the date and time indicated in the bid reference table. The bidder queries would be clarified through e-procurement portal and notification in this regard will be issued under tender section through our website [www.kamarajarport.in](http://www.kamarajarport.in).
- 1.9 Documentary evidence for having valid ESI/EPF details as under:
  1. ESI No. \_\_\_\_\_
  2. EPF No. \_\_\_\_\_
  3. GST No. \_\_\_\_\_
  4. MSME / NSIC Registration Copy \_\_\_\_\_

**Deputy General Manager (Civil)**  
Kamarajar Port Limited,  
Chennai-600120

### **INSTRUCTIONS FOR ONLINE BID SUBMISSION**

**Bidders to follow the following procedure to submit the bids online through the e-Procurement portal <http://eprocure.gov.in>.**

**The bidder shall obtain e-token from a licensed Certifying Authority of National Information Centre (NIC) such as MTNL / SIFY / TCS / nCode / eMudhra to get access for Online Bid Submission through the e-procurement site <http://eprocure.gov.in>.**

- (i) Bidder should do the registration in the tender site using the “Click here to Enroll” option available.
- (ii) Bidder can use “My Space” area to update standard documents in advance as required for various tenders and use them during bid submission. This will facilitate the bid submission process by reducing time.
- (iii) Bidder should read the tenders published in the site and download the required documents / tender schedules for the tenders.
- (iv) Bidder then logs into the site by giving the user id/password chosen during registration and password of the DSC/e-token.
- (v) Only one DSC should be used for one bidder. If a bidder uses more than one DSC token, the bid would summarily be rejected.
- (vi) Bidder should read the Tender schedules carefully and submit the documents as per the Tender.
- (vii) If there are any clarifications, the same may be clarified during the pre-bid meeting.
- (viii) Bidder should take into account the corrigenda, if any published before submitting the bids online.
- (ix) Bidder must in advance prepare the bid documents to be submitted as indicated in the tender schedule and they should be in the required format. If there is more than one document, they can be clubbed together.
- (x) Bidder selects the tender which he is interested using search option & then moves it to my favorites’ folder.
- (xi) From the folder, appropriate tender can be selected and all the details can be viewed.
- (xii) The bidder should read the terms & conditions and accept the same to proceed further to submit the bids.
- (xiii) The Bidder has to select the payment option as offline to pay the EMD and tender document cost as applicable.
- (xiv) The details of the DD instrument / any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the bid submitted will not be acceptable.

- (xv) *The bidder has to enter the password of the DSC / e-token and the required bid documents have to be uploaded one by one as indicated.*
- (xvi) *The bidder has to submit the relevant files required as indicated in the cover content. In case of any irrelevant files, the bid will be rejected / will not be accepted by the system.*
- (xvii) *The tendering system will give a successful bid updating message and then a bid summary will be shown with the bid no., the date and time of submission of the bid and all other relevant details. The bidder has to submit the relevant documents required as indicated in the cover content. In case of any irrelevant files, the bid will be rejected.*
- (xviii) *The bid summary has to be printed and kept as an acknowledgement as a token of the submission of the bid.*
- (xix) *The bid summary will act as a proof of bid submission for the subject tender and will also act as an entry point to participate in the bid opening date.*
- (xx) *For any clarifications regarding the Tender, the bid number can be used as a reference.*
- (xxi) *Bidder should log into the site well in advance for bid submission so as to submit the bid in time (i.e.) on or before the bid submission time. If there is any delay, due to other issues, bidder only is responsible.*
- (xxii) *Each document to be uploaded online for the tenders should be less than 2 MB. If any document is more than 2MB, it can be reduced by scanning at low resolution and the same can be uploaded.*
- (xxiii) *The time settings fixed in the server side & displayed at the top of the tender site, will be valid for all actions of requesting, bid submission, bid opening etc., in the e-tender system. The bidders should follow this time during bid submission.*
- (xxiv) *All the data being entered by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered will not be view able by unauthorized persons during bid submission & cannot be viewed by any one until the prescribed date & time of bid opening.*
- (xxv) *The confidentiality of the bids would be maintained. Secured Socket Layer 128-bit encryption technology is used. Data storage encryption of sensitive fields is done.*
- (xxvi) *Any document that is uploaded to the server is subjected to symmetric encryption using a generated symmetric key. Further this key is subjected to asymmetric encryption using buyer's public keys. Overall, the submitted tender documents become readable only after the tender opening by the authorized individual.*
- (xxvii) *For any queries, the bidders are asked to contact by mail [cppp-nic@nic.in](mailto:cppp-nic@nic.in) or by phone 1-800-233-7315 well in advance.*
- (xxviii) *Bidder is required to submit their tender through online in the form of Two Cover System on or before schedule bid due date of closing and time as notified in NIT. The tender received after the due date and time will not be entertained.*

- (xxix) *Tender Document can be submitted online only in the designated e-procurement portal eprocure.gov.in on or before the due date and time. The time of opening of technical bid will be as notified in the NIT.*
- (xxx) *Bidder should submit the tender as per specification of work, drawings and in accordance with the instructions to bidders, General Conditions of Contract and Special Conditions of Contract.*

**Deputy General Manager (Civil)**

Kamarajar Port Limited,

Chennai-600 120

**SECTION – 1**

**INSTRUCTIONS TO BIDDERS  
(ITB)**

## **SECTION – 1**

### **INSTRUCTIONS TO BIDDERS**

#### **A. GENERAL**

##### **1. Scope of Work**

The Seafarers building is a newly constructed one of around 15,000 Sq.ft with all amenities like Grand Lobby, waiting lobby, Home theatre, Library, Meditation room, Gym, Billiards room, Restaurant with attached Bar, Kitchen, Saloon, Shops, Suit rooms with toilets, Indoor play area with badminton courts & outdoor play area with tennis & Volley ball courts and other infrastructure like Electrical room, Store etc.

For the above said rooms & spaces, we have already provided some basic infrastructures like Electrical, data & voice works, public address system, CCTV, Fire detection & Alarm system, A/C & Plumbing works during the construction of the building.

In view of the above, we advise the contractor to visit the site, understand the existing facilities, Amenities & Infrastructure provided at present and take it into account before quoting the tender.

#### **The General Scope of work under this tender is as follows:**

- I. The contractor has to visit, understand, analyse the present condition of the site & works done in all aspect and clear their doubts in prior is mandatory.
- II. The contractor after analyzing the existing condition with the proposed drawings has to schedule the work accordingly with the maximum usage of the existing one without neglecting it in all aspects.
- III. The contractor has to be flexible and willing to complete the existing pending work if any in all aspects like Civil, electrical, data & voice works, CCTV, PAS, Speakers, CCTV, A/C etc., for the smooth progress of work. All new works to be done without disturbing the existing one as per tender. The contractor should have an office in Chennai or nearest location for the smooth progress of work.
- IV. In order to execute the proposed works in accordance with the existing site conditions, if any alterations or modifications to the existing amenities or structures are required, the necessary repair works shall be carried out by the contractor and will be paid for accordingly. Synchronizing all the existing Electrical, EDP, firefighting system, Network systems like CCTV, PA, Video conferencing system to the Proposed new facilities.

#### **The brief Scope of work under this tender are as follows:**

- V. All interior works like Flooring, Carpentry works like doors, wall panelling, Acoustical panelling, fixed furniture's like counters storage units etc. False ceiling to the areas as per the drawing.
- VI. Electrical works like conduits, wiring, sockets, lighting, Data & voice points to be done as per the drawings in line with the site condition.



- VII. Other works like CCTV, Fire and safety works, Public address system & HVAC to be done considering the existing works already done.
- VIII. Plumbing works has to be done in the First floor for all suit rooms with fixtures & fittings to be done as per the specifications. Plumbing works also to be done for the Swimming pool in line with site conditions and as per drawing.
- IX. KPL propose to provide the Multifunction showers with glass enclosures to the suit rooms. The supporting equipment's of Heat pumps, circulation pump to be carried out by the successful bidder. Also, RO Purifier & BIO Tank has to be supplied, installed & commissioned in coordination with Electrical & plumbing works.
- X. Lightning Arrestor has to be supplied, installed & commissioned.
- XI. Air conditioning works (HVAC) to be done as per the layout provided with all necessary copper piping, drain pipe and required civil works for the same.
- XII. Special Flooring works for the gym area, indoor & outdoor play area to be done as per the standards & specifications mentioned.
- XIII. Swimming pool from "Desjoyaux" to be coordinated and completed in all aspects like electrical & plumbing works.
- XIV. Kitchen Equipment's has to be supplied, installed & commissioned as per the drawings in coordination with Electrical & plumbing works.
- XV. The maintenance has to be undertaken for special works like swimming Pool, Jaquar luxury showers, fittings & Fixture, Heat Pumps, Kitchen equipment's etc as per the contract.
- XVI. Exterior works like Structural Glazing, ACP Works, MCM Cladding works, pergola works in Aluminium & Glass, Glass Handrails to be done.
- XVII. Flush doors, ABS door have to be provided for all rooms inside and outside of the building.
- XVIII. KPL will supply the brought-out items like Home Appliances, Gym Equipment's, Sports accessories, Furniture etc., if any. The required supporting works like fixing of above equipment/appliances shall be carried out by the Interior contractor under appropriate items in the BoQ.

**The above scope of work is indicative only it may vary i.e Inclusion & Omission of work depends on KPL's decision during execution period.**

**Any other works to be performed relevant to the BoQ items in the Kamarajar Port premises to be performed (apart from the above scope of works) as directed by KPL Engineer-in-charge.**

## **2. Availability of the project Area & Engineer-in charge**

- 2.1. The Employer shall provide the area that can be conveniently spared, adjacent to the site of work, at its discretion, subject to availability, for works and other appurtenant works to the contractor at free of cost.

- 2.2. The Employer will provide the land required for site offices, installation of concrete batching plant, testing laboratories etc., except labor camps at free of cost adjacent to the proposed Project site, during the tenure of the contract or such extended period, if any, subject to availability
- 2.3. The Employer may nominate their own personnel or engage any other person to act as Engineer-in charge for the project.
- 2.4. Throughout these bidding documents, the terms 'Bid' and 'Tender' and their derivatives (bidder/ bidder, bid/ tender, bidding/ tendering, etc.) are synonymous.

### **3. Source of Funds**

- 3.1. The funds shall be made available from internal resources and the Authority has sufficient funds in Indian Currency for execution of the works.

### **4. Eligible Bidders**

- 4.1. The invitation for Bids is open to all eligible bidders meeting the eligibility criteria as defined in **Clause No.5**
- 4.2. The Bidder shall provide in **Section 5**, Forms of Bid and Qualification Information, a statement that the bidder is not associated, nor has been associated in the past, directly or indirectly, with the Consultant or any other entity who has prepared the design, specifications, and other documents for the present tender.
- 4.3. Government-owned enterprises may only participate if they are legally and financially autonomous, operate under commercial law and are not a dependent agency of the Employer subject to fulfillment of minimum qualifying criteria.
- 4.4. Bidder shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the Employer in accordance with **Clause No. 33**.

### **5. Eligibility and Qualification Criteria:**

- 5.1. To be qualified for award of the contract, bidders shall provide evidence satisfactory to the Employer of their capability and adequacy of resources to carry out the contract effectively. Bids shall include the following documentation and information on the relevant information forms attached in **Section 6** with the Bid Document.
- 5.2. Qualification will be based on meeting all the minimum criteria in Section 6, regarding the applicant's in general and particular experience, personnel and equipment capabilities, and financial position, as demonstrated by the applicant's responses in the forms attached to the letter of application.
- 5.3. The applicant shall meet the following minimum criteria:
  - i) The applicant in the same name and style should have achieved an Average annual financial turnover of the firm during the last three years Audited Balance Sheet ending till the previous year of tender notification should be **at least Rs.1,12,00,000/-**.

- ii) Experience of having successfully completed similar works during last 7 years (ending last day of month previous to the one in which tender applications are invited) i.e., should be either of the following
- a) Three similar completed works costing each not less than the amount equal to 40% of the estimated cost i.e. **(Rs. 1,49,20,000/- excluding GST)** Or
  - b) Two similar completed works costing each not less than the amount equal to 50% of the estimated cost i.e. **(Rs.1,86,50,000/- excluding GST)** Or
  - c) One similar completed work costing not less than the amount equal to 80% of the estimated cost i.e. **Rs.2,98,40,000/- excluding GST)**

***“Similar Work” means having experience in executing work consisting Civil, Interior works such as Flooring, wall & Ceiling finishes, Carpentry work, Electrical works, HVAC works to the buildings in Port/ Railways/PWD/Central/State Governments/Central /State PSUs.***

***For evaluation purpose completion of single work comprising a minimum of any four items from the above categories shall be considered as similar work.***

***For substantiating the above similar work, contractor should submit the performance / experience certificate and Bill of Quantities. (BOQ)***

The value of similar works completed by the bidder will be brought to current cost level by enhancing the actual value of work with the multiplication factor as detailed below for assessing the eligibility of the bidder under experience.

The base year shall be taken as 2023-2024.

| <b>Year</b>  | <b>Multiplication factor</b> |
|--------------|------------------------------|
| FY 2023-2024 | 1.00                         |
| FY 2022-2023 | 1.07                         |
| FY 2021-2022 | 1.14                         |
| FY 2020-2021 | 1.21                         |
| FY 2019-2020 | 1.28                         |
| FY 2018-2019 | 1.35                         |
| FY 2017-2018 | 1.42                         |

**Note:**

- Bidder should indicate actual figures of costs and amount for the works executed by them in the schedule without accounting for the above mentioned factors.
- The cost of materials issued at free of cost by client/ Employer is not considered as part of the contract value and shall not be taken into account for arriving the value of similar works completed by the bidder to meet the minimum eligibility criteria as per Clause-5.3 of Section-I.

3. The financial year of completion for the similar completed works shall be taken into account while applying multiplication factors for arriving current cost level.

Documentary proof such as copy of work order/ agreement along with Bill of Quantities (BoQ) and completion certificate for the technical experience duly and **Audited Balance Sheet, Profit & Loss Account Statements For Annual Turnover certified by Chartered Accountant** for meeting qualification criteria, either in 'Original' or duly 'Notarized'/ self attested shall be submitted along with the technical bid link through e-procurement mode. In case of self attested documents, the bidder has to produce the original document for verification before award of work.

- i) The Contractor should have in their possession of sufficient tools and plants and/or proper tie-up with other suppliers of Plants and Equipment to complete this work.
- ii) The Contractor should have required bid capacity as defined in **Clause 5.7** of this Section to execute this work.

- 5.4. All the bidders shall upload the following documents and information duly filled along with documentary evidence (Notarized) to qualify technically as per the forms in **Section-6**.

- i) Bid Submission Letter (On letter head of the bidding firm) (**Form-1**)
- ii) Power of Attorney for Authorized Signatory of the firm (**Form-2**)
- iii) Average annual financial turnover of the firm during the last three (3) years ending till the previous year of tender notification along with audited balance sheets/profit & loss account (**Form-3**).
- iv) Experience on similar works executed during the last seven (7) years; and details like monetary value, clients, proof of satisfactory completion (**Form-4**).
- v) Information regarding projects in current contract commitments/work in progress (**Form-5**).
- vi) List of major items of construction equipment proposed to carry out the contract (**Form-6**).
- vii) Personnel / Staff proposed for the project (**Form-7**)
- viii) Claims/ current litigation/Arbitration if any, (**Form-8**)
- ix) Proposed site organization (**Form-9**)
- x) The proposed methodology and program of construction, backed with equipment planning and deployment, duly supported with broad calculations and quality control procedures proposed to be adopted, justifying their capability of execution and completion of the work as per technical specifications within the stipulated period of completion (**Form-10**).

- xi) Bid Security Declaration Form (**Form-11**) – **Not Applicable**
- xii) Performance Security Deposit (Bank Guarantee) (**Form-12**) - Draft.
- xiii) Form of Contract Agreement (**Form-13**)-Draft.
- xiv) Integrity Pact (**Form-14**)
- xv) Profile of the bidder ( **Form 15** )

- 5.5. **Sub-Contractors' experience and resources shall not be taken into account in determining the bidder's compliance with the qualifying criteria.**
- 5.6. The Bidders should provide accurate information on any litigation or arbitration resulting from contracts completed or under execution by him over the last five years.
- 5.7. Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity is more than the total bid value.

**Available Bid Capacity**

The bidder should possess the bidding capacity as calculated by the specified formula. The formula generally used is:

Available bid capacity =  $(A \times M \times N) - B$ , where

A= Maximum value of Engineering (Civil Works) executed in any one year during the last five years (updated to current cost level by enhancing the actual value of work at simple rate of 7% (seven percent) per annum, calculated from the date of completion to the date of Bid/Tender opening), taking into account the completed as well as works in progress.

M = Multiplier Factor (usually 1.5)

N= Number of years prescribed for completion of the work.

B= Value (updated at the current price level) of the existing commitments and ongoing works to be completed in the next 'N' years.

The Bidder shall furnish statements showing the value of existing commitments and on-going works as well as the stipulated period of completion remaining for each of the works preferably countersigned by the Engineer-in charge

- 5.8. Even though the bidders meet the above qualifying criteria, they are liable for disqualification, if they have:
- made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or
  - Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.,
  - Record of Cancellation of Contract due to Failure in Submission of Performance Security & Signing of Contract Agreement in any organization.

**6. One Bid per Bidder**

6.1. Each bidder shall submit only one bid for the tender. A bidder who submits or participates in more than one Bid (other than as a subcontractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the Bidder's participation to be disqualified.

6.2. **Joint Venture : No joint Venture is allowed in this contract.**

**7. Cost of Bidding**

The bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will in no case be responsible and liable for those costs.

**8. Site Visit**

8.1. The bidder is advised to visit and inspect the site of works and its surroundings and obtain for himself on his own responsibility all information that may be necessary for preparing the tender and entering into a contract for the execution of the works. The costs of visiting the site shall be borne by the bidder. Permission, if required, to visit the site, will be given during the tender period on application to:

**The Deputy General Manager (Civil)**

Kamarajar Port Limited,  
Vallur Post, Chennai - 600120.  
Telephone: 044 27950049.

8.2. The Bidder and any of his personnel or agents will be granted permission by the Engineer-in charge to enter upon his premises and lands for the purpose of such inspection, but only upon the express condition that the bidder, his personnel and agents, will release and indemnify the Engineer-in charge or his representatives from and against all liability in respect of such inspection and will also be responsible for death or personal injury, loss or damage to property and any other loss, damage, costs and expenses incurred as a result of the inspection.

8.3. It is the responsibility of bidders to visit the site as set out in the **Clause 8.1** above and obtain all information necessary for the purpose of preparing Tenders. Bidders must inspect and fully satisfy themselves as to:

- The requirements and extent of the Works.
- The means of access to the Site.
- The topographical features of the Site which may affect the tender.

**B. BIDDING DOCUMENTS**

**9. Content of Bidding Documents**

9.1. The tender documents contain the schedules stated below, and should be read in conjunction with any Addenda/ Amendments issued in accordance with **Clause 11**:

**Technical Bid**

| <b>Sl. No</b> | <b>Contents</b>                                                            |
|---------------|----------------------------------------------------------------------------|
| 1             | Online Bid Reference                                                       |
| 2             | Notice Inviting Tenders                                                    |
| 3             | Instruction for online bid submission                                      |
| 4             | Section 1 Instruction to the bidders                                       |
| 5             | Section 2 General Conditions of Contract & Special conditions of contract. |
| 6             | Section 3 General Description of Work and Other Conditions                 |
| 7             | Section 4 Contract data                                                    |
| 8             | Section 5 Technical Specifications of Materials and Works                  |
| 9             | Section 6 Forms                                                            |
| 10            | Section 7 Drawings                                                         |
| 11            | Section 8 PREAMBLE TO BOQ                                                  |

**Price bid** (Bill of quantities).

9.2.The bidding documents can be downloaded from KPL Website/e-procure.gov.in by the bidder.

9.3.The bidder is expected to examine carefully all instructions, conditions of contract, general description of work and other conditions, technical specifications, drawings, forms, bill of quantities and annexure in the bid document. Failure to comply with the requirements of the bid document shall be at the bidders' own risk. Pursuant to clause 25 hereof, bids which are not substantially responsive to the requirements of the bid documents shall be rejected.

**10. Clarification of the Bidding Documents****10.1. Pre-bid meeting**

PRE-BID MEETING WILL BE ON **22.10.2025 @ 11:30 HRS** to the following address:

**Deputy General Manager (Civil),**  
Port Administrative Building,  
Kamarajar Port Limited,  
NCTPS Road, Vallur Post,  
Chennai – 600120.  
(Near Ennore)

PRE-BID QUERIES WILL BE RECEIVED UP TO 22.10.2025 @ 10:00 HRS via email addressed to jsaravanan@kplmail.in and replies will be uploaded in E Portal / KPL website only.



**11. Amendment of Bidding Documents**

- 11.1. Before the deadline for submission of bids, the Employer may modify the bidding documents by using addenda.
- 11.2. Any addendum/corrigendum thus issued shall be part of the bidding documents and shall be published in the e-procurement portal/ KPL website. The amendment/addendum so issued will part of the tender document and shall be binding upon the bidders.
- 11.3. To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer shall extend as necessary the deadline for submission of bids, in accordance with **Sub-Clause 20.2** below.

**C. PREPARATION OF BIDS**

**12. law of the Bid**

- 12.1. The bid, and all correspondence and documents related to the bid exchanged by the bidder and the Employer shall be written in the English language. Supporting documents and printed literature furnished by the bidder may be in another language provided they are accompanied by an authenticated translation of the relevant passages in the above stated language, in which case, for purposes of interpretation of the bid, the English translation shall prevail.

**13. Documents comprising the Bid**

- 13.1. The bid submitted by the bidder shall comprise the following:

**A) Technical Bid**

- i) The documents stated in the **Clause 9.1** including the addition if any.
- ii) Qualification Information Form and Document (pursuant to **Clause 5** hereof and any other materials required to be furnished and submitted by the bidder in accordance with these instructions. The documents listed under the **Clause 5.4** and as per the **forms in Section 6** shall be filled in without exception and uploaded through **e-Procurement on website: e-procure.gov.in.**

**B) Financial Bid**

Price should be quoted in a spreadsheet file (.xls format) available in e procurement Portal only. Any indication of 'Quoted price' in the online technical bid documents shall lead to rejection of the bid outright. For evaluation purpose, the uploaded offer documents will be treated as authentic and final. No hard copy shall be submitted for reference purpose. The price bid submitted through e-procurement mode only will be taken up for the purpose for evaluation



The Quoted rate in e-portal is as per the terms and conditions specified in the tender. During finalization of L1, L2, L3.... Bidders quoted rate for the sum of the BOQ shall be considered for ascertaining the L1, L2, L3... etc. position.

**14. Bid Prices**

- 14.1. The contract shall be for the whole work as described in **Clause 1.1** of this Section, based on the Priced Bill of Quantities submitted by the Bidder.
- 14.2. The Bidder shall fill the Item Rate and Prices for each Item in the Bill of Quantities.
- 14.3. All duties, taxes (Other than GST), EPF, ESI and other levies payable by the contractor under this contract, or for any other cause shall be included in the rate quoted by the bidder in the BOQ.
- 14.4. NOT APPLICABLE
- 14.5. The GST will be reimbursed by KPL only on reflection of GST Paid by contractor in KPL's GST portal. Tax deducted at source shall be as per statutory requirement such as IT Act, GST Act, Tamil Nadu workers welfare Cess etc., as applicable. The Employer will perform such duties in regard to the deduction of such taxes at source as per applicable law. Any new taxes, levies, duties imposed after signing the contract shall be reimbursed by the employer on production of documentary evidence. Notwithstanding the payment from KPL, Contractor shall remit the GST value and file returns with Statutory Authorities timely.

**15. Currencies of Bid and payment**

- 15.1. The Unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees.

**16. Bid Validity:**

- 16.1. Bids shall remain valid for a period not less than 90 days after the deadline date for bid submission specified in **Clause 20**. A bid valid for a shorter period shall be rejected by the Employer as non-responsive.
- 16.2. In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the bidders may extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing or by fax. A bidder agreeing to the request will not be permitted to modify his bid.

**17. Bid Security (Earnest Money Deposit – EMD)**

A. The bidder shall have to submit the **Earnest Money Deposit of Rs.7,46,000/- (Rupees Seven Lakhs and Fourty Six Thousand only)** in the form of Demand Draft in favour of **“Kamarajar Port Limited”** from any **Nationalized/Schedule Bank (except Cooperative Banks)** encashable at **Chennai**.

B. EMD of unsuccessful bidders other than L1, and L2 will be refunded immediately after ranking of price bids. Earnest Money of L2 will be refunded immediately after entering in to agreement with L1 and acceptance of performance Guarantee from L1.

C. EMD is refunded suo-motto without any application from the bidders.

D. The Bid Security of the successful bidder will be discharged after he has signed the Agreement and furnished the required Performance Security.

**Bidders registered with MSME / NSIC with valid certificate holder shall be exempted from submission of EMD.**

**Note: A copy of the registration certificate with MSME / NSIC should be submitted along the submission of tender for claiming exemption from submission of EMD.**

**E. The Bid Security may be forfeited, if**

- a) The Bidder withdraws the Bid after Bid opening during the period of Bid Validity;
- b) The Bidder does not accept the correction of the Bid Price, pursuant to Clause 27; or
- c) The successful Bidder fails within the specified time limit to
  - i) Sign the Agreement or
  - ii) Furnish the required performance security

**Any bid not accompanied by the Bid Security (EMD) shall be rejected by the Authority as non-responsive.**

## **18. Alternative Proposals by Bidders**

**18.1 Conditional offer or Alternative offers shall not be considered in the process of tender evaluation and leads to rejection of Tender.**

## **19. SUBMISSION OF BIDS:**

### **19.1 e-Procurement:**

Bidders shall submit their bid on **online only through e-Procurement Mode**. The documents and information required for fulfilling the eligibility criteria as specified in the **Notice Inviting Tender Clause**.

## **20. Deadline for Submission of Bids**

**20.1** Bids must be uploaded in the website **www.eprocure.gov.in** not later than **04.11.2025 at 15 00 Hrs.**

**20.2** The employer may extend the deadline for submission of the bid by issuing an amendment in accordance with **Clause 11**, in which case all rights and obligations of the employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

**20.3** The bid document being downloaded from web site and uploaded through e-Tender website **www.eprocure.gov.in**, the bidder shall give an undertaking that no change have been made in document.

## **21.0 Modification and Withdrawal of Bids**

21.1 The bidders may modify, substitute or withdraw their tender after submission by giving notice in writing before the deadline prescribed in **Clause 20 through e-Procurement Mode**.

21.2 No bid shall be modified after the deadline for submission of bids.

21.3 Withdrawal of a Bid between the deadline for submission of bids and the expiration of the original period of bid validity specified in Clause 16.1 above or as extended pursuant to Clause 16.2 may result in disqualification from bidding.

## **E.BID OPENING AND EVALUATION**

### **22.0 Bid Opening**

22.1 On the due date and appointed time as specified in **Clause 20**, the Employer will first open Technical bids *in e-Procurement Mode* including modifications made pursuant to **Clause 21**. In the event of, the specified date for bid opening declared a holiday by the Employer; the bids will be opened at the appointed time and location on the next working day. The bid will be opened at Kamarajar Port Limited, Port Admin building, Vallur Post, Chennai-600120 and status of the opening can be viewed in e-procurement mode.

### **23.0 Process to be Confidential**

Information relating to the examination, clarification, evaluation and comparison of bids and recommendations for the award of a Contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful bidder has been announced.

### **24.0 Clarification of Bids**

24.1 To assist in the examination, evaluation and comparison Bids, the Employer may, at his discretion, ask any bidder for clarification of his Bid, including breakup of unit rates. The request for clarification and the response shall be in writing or by fax, but no change in the price or substance of the Bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids.

24.2 Subject to **Sub-Clause 24.1**, no bidder shall contact the Employer on any matter relating to his bid from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Employer, he should do so in writing.

24.3 Any effort by the Bidder to influence the Employer's bid evaluation, bid comparison, or contract award decisions, may result in the rejection of his bid.

### **25.0 Examination of Technical Bids and Determination of Responsiveness of Technical Bid**

25.1 Prior to evaluation of Technical Bids, the Employer will determine whether each bid (a)

meets the eligibility criteria defined in the **Clause 5**. (b) has been properly signed by an authorized signatory (accredited representative) holding Power of Attorney in his favour. The Power of Attorney shall inter-alia include a provision to bind the bidder to settlement of disputes Clause; (c) is submitted with the required Bid Security and; (d) is responsive to requirements of the bidding documents.

- 25.2 A substantially responsive technical and financial Bid is one which conforms to all the terms, conditions and specification of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality or performance of the Works; (b) which limits in any substantial way; the Employers' rights or the Bidder's obligations under the contract; or (c) whose rectification would affect unfairly the competitive position of other Bidders presenting responsive Bids.

## **26.0 Evaluation and Comparison of Financial Bids**

- 26.1 The Employer will evaluate and compare only the Bids determined to be responsive in accordance with **Clause 25**.
- 26.2 The estimated effect of the price adjustment conditions under **Clause 47 (Section 3)**, during the period of implementation of the Contract, will not be taken into account in Bid evaluation.
- 26.3 If the Bid of the successful Bidder is seriously unbalanced in relation to the Employer estimate of the cost of work to be performed under the contract, the Employer may require the Bidder to produce detailed price analysis for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those price with the implementation/construction methods and schedule proposed.

## **F.AWARD OF CONTRACT**

### **27.0 Award Criteria**

- 27.1 Subject to **Clause 28**, the Employer will award the Contract to the Bidder whose Bid has been determined to be responsive to Bidding documents and who has offered the lowest evaluated Bid Price, provided that such Bidder has been determined to be **(a)** eligible in accordance with the provisions of **Clause 4**, and **(b)** qualified in accordance with the provisions of **Clause 5** and pursuant to **Clause 25**. The second bidder (i.e. L<sub>2</sub>) shall be kept in reserve and may be invited to match with the bid submitted by the (L<sub>1</sub>) bidder, in case, such bidder(s) withdraws or is not selected for any reason, in exceptional circumstances.

### **28.0 Employer's Right to accept any Bid and Reject any or all Bids**

Notwithstanding **Clause 27** above, the Employer reserves the right to accept or reject any bid and to cancel the bidding process and reject all bids, at any time prior to award of Contract, without thereby incurring any liability to the affected bidders on the

grounds for the Employer's action.

**29.0 Notification of Award and Signing of Agreement**

- 29.1 The Bidder who's Bid has been accepted will be notified of the award by the Employer prior to expiration of the Bid validity period by fax or confirmed by registered letter. This letter (herein after and in Conditions of Contract called the "Letter of Acceptance") will state the sum that the Employer will pay the Contractor in consideration of the Execution, completion and maintenance of the Work by the Contractor as prescribed by the Contract (herein after and in the Contract called the "Contract Price")
- 29.2 The notification of award will constitute the formation of the contract, subject only to the furnishing of performance security in accordance with the provisions of **Clause 30**
- 29.3 The notification of award will be cancelled if the preferred bidder failed to furnish the performance security and sign the Agreement; the Employer reserves the Right to take further action on the Bid
- 29.4 The Agreement will incorporate all correspondence between the Employer and the successful Bidder. It will be signed by the Employer and the successful Bidder within stipulated period, following the notification of award. **Within 21 days of Issue of this letter, the successful Bidder will furnish the Performance Security and to sign the Agreement with the Employer.**
- 29.5 All costs, charges and expenses including stamp duty in connection with the contract as well as preparation and completion of agreement shall be borne by the contractor. Until such contract agreement is executed, this tender downloaded by the bidder including additional together with the written acceptance shall form a binding contract between the KPL and the Contractor and shall be the contract. The successful bidder shall sign all the pages of the downloaded documents and return to employer for their sign and its Form of Contract Agreement.
- 29.6 Upon furnishing the Performance Security and entered the contract Agreement with employer by the successful Bidder, the Employer will promptly issue Notice to proceed the work.

**30.0 Performance Guarantee:**

**30.1** Performance Guarantee shall consist of two parts;

- i)** Performance Security Deposit to be submitted at award of work and
- ii)** Retention Money to be recovered from Running Bills.

**30.1 Performance Guarantee should be 10% of Contract price of which Security Deposit 5% of contract price** should be submitted as Demand Draft or Bank Guarantee from any Nationalized Bank (except Cooperative Banks) encashable at Chennai within 21 days of Issue of letter of acceptance by KPL and **balance 5% recovered as Retention Money**

**from Running Bills.** Recovery of 5% of Retention Money is to commence from the first bill onwards @ 5 % of bill value from each bill subject to a maximum of 5% percent of the contract price.

**30.2 Retention Money** of 5% be refunded within 14 days from the date of payment of final bill. Balance Performance Security Deposit of 5% to be refunded immediately not later than 14 days of completion of defect liability period pursuant to Clause 32.3 of Section-2

**30.3** Failure of the successful bidder to comply with the requirements of Clause 30.1 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Bid Security.

**31.0 Advance Payment**

No Advance payment is contemplated in this Tender.

**32.0 Conciliator**

The Employer proposes that CIDC-SIDC Arbitration Centre be appointed as Conciliator under the Contract as provided in **Clause 25.3 of Section 2** of condition of contract. If the bidder disagrees with this proposal, the bidder should so state in the bid.

**33.0 Corrupt or Fraudulent Practices:**

33.1 The Employer requires that Bidders/Suppliers/Contractors under this contract, observe the highest standard of ethics during the procurement and execution of this contract. In pursuance of this policy, the Employer:

- a) defines, for the purpose of these provisions, the terms set forth below as follows:
  - i. “corrupt practice” means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and
  - ii. “fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition.
- b) will reject a proposal for award of work if the employer determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.
- c) will declare a Bidder ineligible, either indefinitely or for a stated period of time, to be awarded a contract/contracts if he at any time determines that the Bidder has engaged in corrupt or fraudulent practices in competing for, or in executing the contract.

33.2 Furthermore, bidder shall be aware of the provisions stated in **Sub Clause 57.2** of the Conditions of Contract.



**34.0 INTEGRITY PACT –**

The integrity pact available in the tender document is an integral part of this tender document and all bidders have to execute the same and upload during bid submission. In case a bidder does not execute the integrity pact, his bid shall be liable for rejection. The names of the IEM's (Independent external Monitors) are given below:

| Name                                                                                                                                                            | Phone Numbers | e-mail id              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|
| Shri.Jatinderbir Singh, IAS (Retd)<br>House No No.1186,<br>Sector 77, Mohali – 140308<br>Punjab State                                                           | 9968607788    | jatinderbir@gmail.com  |
| Shri.Muvvala Kondala Rao, IFoS<br>(Retd)<br>201, Kalakuj – B,<br>Cooperative Society, Lane 6,<br>Dahanukar Colony, Kothrud,<br>Pune – 411038, Maharashtra State | 9422161512    | mkraomuvvala@gmail.com |

**35 The following documents also form a part of this tender document:**

**1. KPL's Work Manual 2024 and amendments, if any (available in [www.kamarajarport.in](http://www.kamarajarport.in))**

**2. Policy & Procedure for Suspension and banning of business dealings against erring and defaulting agency in KPL. (available in <https://www.kamarajarport.in/content/innerpage/manuals.php>)**

**Any amendments/versions of the above issued from time to time shall form a part of document.**

**4. GFR 2017 (General Financial Rules - 2017), Manual for Procurement of Works- updated June 2022. Any amendments/versions of the above from time to time shall be considered.**

**36. Temporary Work:**

If any temporary item of work is needed for the execution of the contract, the required details shall be submitted by the bidder with the proposals and connected drawings along with the tender. Further during construction, the contractor shall provide the Temporary road arrangement for movements of Vehicle. No payment shall be made for any temporary items of work. Before any Temporary works are commenced, the contractor shall submit sufficiently in advance to the Engineer or his representative for approval, his proposals for all temporary works including drawings and design calculations. The Engineer or his representative shall be at liberty to make any modifications to the temporary works in accordance with the conditions of the contract and the contractor shall carry out such modifications. In the event of the contractor

considering that such modifications required by the Engineer or his representative will affect the security of the temporary works, or increase the contractor's liability under the contract, he shall give notice in writing to the Engineer within seven days of receipt of such communication. The Engineer will thereupon consider the matter and communicate his decision, which shall be final and binding on the contractor. Notwithstanding the approval by the Engineer or his representative of any submitted design for any of the temporary works the contractor shall remain entirely responsible for such works in all respects.

- 37.** The area where the construction works have to be executed is inside the port area, due care shall be taken to avoid hindrance to other movement. During the construction period necessary safety measures have to be taken for the men working at site. The bidder shall inspect and examine the site and its surroundings and shall satisfy himself before submitting his tender nature of the site, the stacking and movement of the traffic, the quantities and nature of work and materials necessary for the completion of the works and the means of access to the site, the accommodation he may require and in general, shall himself obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect his tender. No extra charges consequent to wrong assumptions / assessment by the bidder or otherwise shall be allowed. The bidder shall take into account all these aspects before quoting their rates and shall not hold the Employer responsible for any details that might have been omitted to be mentioned in the tender schedule which may affect the pricing of the tender and any claim by the bidder on this account will not be entertained by the KPL.

In case any additional investigations are required to be done at site by the bidder, he may do so at his own cost with the prior approval of the Engineer. The site will be handed over in one stage. In case if there is delay in handing over the site, due to the port activities, the Engineer at his discretion may grant extension of time, as he considers reasonable for the proper completion of work. The bidder has to take into account all the delays due to the port activities. The grant of such extension of time however will not bestow on the contractor any right to claim compensation / extra payment.

- 38.** Drains, pipes, cables, overhead wires and similar services encountered in the course of the work shall be guarded from injury by the contractor at his own cost, so that they may continue in full and uninterrupted use to the satisfaction of the Engineer or his representative and the contractor shall not store materials or otherwise occupy any part of the site in a manner to hinder the operation of such services.
- 39.** If any damage be done by the contractor to any mains, pipes, cables or lines (whether above or below structure) whether or not shown in the drawing, the contractor must make good or bear the cost of making good the same without delay, to the satisfaction of the Engineer or his representative.
- 40.** KPL shall not be held liable for any damages or compensation payable under the law in respect or in consequence of any accident or injury to any workmen or other persons in the employment of the contractor or any sub-contractor and the contractor shall indemnify and keep indemnified the Employer against all such damages and compensation and against all claims, demands, proceedings, costs, charges, expenses whatsoever in respect thereof or in relation thereto.



**SECTION - 2**

**PART – I - GENERAL CONDITIONS OF CONTRACT**

**PART – II - SPECIAL CONDITIONS OF CONTRACT**

## SECTION - 2

### PART I – GENERAL CONDITIONS OF CONTRACT

#### B. General

##### 1. Definitions

In the contract (as hereinafter defined) the following words and expressions shall have the meaning hereby respectively assigned to them except where the context otherwise required. Terms which are defined in the Contract Data are also defined in the Conditions of Contract but keep their defined meanings. Capital initials are used to identify defined terms.

- 1.1. **"Board"** -The Board means the Board of Directors, Kamarajar Port Limited or their successors or Assignees.
- 1.2. **"Employer"** means Kamarajar Port Limited (KPL)
- 1.3. **"Engineer-in charge"** means the Officer nominated or appointed by Kamarajar Port Limited for the work.
- 1.4. **"Engineer-in charge's representative"** means the officer appointed by Kamarajar Port Limited in writing who shall direct and supervise and to perform the duties set forth in **sub -Clause 5** hereof and be in-charge of the works.
- 1.5. **The Conciliator** is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instances as provided for in **Clauses 24 and 25..**
- 1.6. **Bill of Quantities** means the priced and completed Bill of Quantities forming part of the Bid.
- 1.7. **Compensation Events** are those defined in **Clause 42** here under.
- 1.8. **The Completion Date** is the date of completion of the Works as certified by the Engineer-in charge or Engineer in charge's representative in accordance with **Sub Clause 53.**
- 1.9. The **Contract** is the contract between the Employer and the Contractor to execute, complete and maintain the Works. It consists of the documents listed in **Clause 2.3** below.
- 1.10. The **Contract Data** defines the documents and other information, which comprise the Contract.
- 1.11. The **Contractor** is a person or corporate body whose Bid to carry out the Works has been accepted by the Employer.
- 1.12. The **Contractor's Bid** is the completed Bidding document submitted by the Contractor to the Employer.
- 1.13. The **Contract Price** is the price stated in the Letter of Acceptance and thereafter as adjusted as per the completed cost of works in accordance with the provisions of the Contract.

- 1.14. **Days** are calendar days; months are calendar months.
- 1.15. A **Defect** is any part of the Works not completed in accordance with the Contract.
- 1.16. **The Defects Liability Period** is the period named in the Contract Data and calculated from the Completion Date.
- 1.17. The **Engineer-in charge and/or Engineer-in charge's representative** is the person (or any other competent person appointed and notified to the contractor to act in replacement of the Engineer-in charge or Engineer-in charge's representative) who is responsible for supervising the Contractor, administering the Contract, certifying payments due to the Contractor, issuing and valuing Variations to the Contract, awarding extensions of time, and valuing the Compensation Events.
- 1.18. **Equipment** is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.
- 1.19. The **Initial Contract Price** is the Contract Price listed in the Employer's Letter of Acceptance.
- 1.20. The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Engineer-in charge or Engineer-in charge's representative by issuing an extension of time.
- 1.21. **Materials** are all supplies, including consumables, used by the contractor for incorporation in the Works.
- 1.22. Plant is any integral part of the Works which is to have a mechanical, electrical, electronic or chemical or biological function
- 1.23. The Site is the area defined as such in the Contract Data.
- 1.24. Site Investigation Reports are those, which were included in the Bidding documents and are factual interpretative reports about the surface and sub-surface conditions at the site.
- 1.25. **Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by the Engineer-in charge or Engineer-in charge's representative.
- 1.26. The Start Date is given in the Contract Data. It is the date when the Contractor shall commence execution of the works. It does not necessarily coincide with any of the Site Possession Dates.
- 1.27. A Subcontractor is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.
- 1.28. Temporary Works are works designed, constructed, installed, and removed by the Contractor, which are needed for construction or installation of the Works.

- 1.29. A Variation is an instruction given by the Engineer-in charge or Engineer-in charge's representative which varies the Works.
- 1.30. The Works are what the Contract requires the Contractor to construct, install, and turn over to the Employer, as defined in the Contract Data.
- 1.31. The Trained Work Person are those employed/ proposed to be employed by the Contractor at the Project Site, who have participated and are in possession of a valid Competency Certificate through a programme run under the auspices of a University, State Technical Board, Ministry of Government of India.

## **2. Interpretation**

- 2.1. In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Engineer-in charge or Engineer-in charge's representative will provide instructions clarifying queries about the Conditions of Contract.
- 2.2. If sectional completion is specified in the Contract Data, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion date for the whole of the Works).
- 2.3. The documents forming the Contract shall be interpreted in the following order of priority:

- |   |                                                                           |
|---|---------------------------------------------------------------------------|
| 1 | Section 1 Instruction to the bidders                                      |
| 2 | Section 2 General Conditions of Contract& Special conditions of contract. |
| 3 | Section 3 General Description of Work and Other Condition:                |
| 4 | Section 4 Contract data                                                   |
| 5 | Section 5 Technical Specifications of Materials and Works                 |
| 6 | Section 6 Forms                                                           |
| 7 | Section 7 Drawings                                                        |
| 8 | Section 8 APPENDIX                                                        |
| 9 | Section 9 PREAMBLE TO BOQ                                                 |

## **3. Language and Law**

The language of the Contract and the law governing the Contract are stated in the Contract Data.

## **4. Engineer-in charge or Engineer-in charge's representative's Decisions**

Except where otherwise specifically stated, the Engineer-in charge or Engineer-in charge's representative will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

**5. Delegation**

The duties of the Engineer-in charge's Representative are to watch and supervise the works and to test and examine any materials to be used or workmanship employed in connection with the works. He shall have no authority to relieve the contractor of any of his duties or obligations under the contract not except as expressly provided here under or elsewhere in the contract to order any work involving delay or any extra payment by the employer or to make any variation of or in the works. The Engineer-in charge may from time to time in writing delegate to the Engineer-in charge's representative any of the powers and authorities vested in the Engineer-in charge and shall furnish to the contractor, a copy of all such written delegations of powers and authorities. Any written instruction or approvals given by the Engineer-in charge's representative to the contractor within the terms of such delegation (but not otherwise) shall bind the contractor and the employer as though it had been given by the Engineer-in charge, provided as follows.

- i. Failure of the Engineer-in charge's Representative to disapprove any work or materials shall not prejudice the power of the Engineer-in charge thereafter to disapprove such work or materials and to order the pulling down or removal or breaking up thereof;
- ii. If the contractor shall be dissatisfied by reason of any decision of the Engineer-in charge's Representative, he shall be entitled to refer the matter to the Engineer-in charge who shall thereupon confirm / reverse or vary the contents of such decisions.

The Engineer-in charge or Engineer-in charge's representative may delegate any of his duties and responsibilities to other people except to the Conciliator after notifying the Contractor and may cancel any delegation after notifying the Contractor.

**6. Communications**

Communications between parties which are referred to in the conditions are effective only when in writing. A notice shall be effective only when it is delivered (in terms of Indian Contract Act 1872).

**7. Joint Venture.**

No Joint Venture shall be entertained in this contract.

**8. Subcontracting**

- 8.1. The Contractor shall not subcontract or sublet the whole of the works, except where otherwise provided by the contract. The contractor shall not sublet any part of the works without the prior written consent of the Engineer-in charge (which shall not be unreasonably withheld) and such consent, if given shall not relieve the contractor of any liability or obligation under the contract and he shall be responsible for the acts, defaults and neglects of any subcontractor, his agents, servants or workmen as fully as if they were the acts, defaults or neglects of the contractor, his agents, servants or workmen, Provided always that the provision of labor on piece work basis shall not be deemed to be subletting or assignment of benefit or interest under this clause.

**8.2. Other Contractors**

The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of other contractors. The Contractor shall as refer to in the Contract Data, also provide facilities and services for them as described in the Schedule. The Employer may modify the schedule of other contractors and shall notify the contractor of any such modification.

**9. Personnel**

- 9.1. The Contractor shall employ the key personnel named in the Schedule of Key Personnel as referred to in the Contract Data to carry out the functions stated in the Schedule or other personnel approved by the Engineer-in charge or Engineer-in charge's representative. The Engineer-in charge or Engineer-in charge's representative will approve any proposed replacement of key personnel only if their qualifications, abilities, and relevant experience are substantially equal to or better than those of the personnel listed in the Schedule.
- 9.2. If the Engineer-in charge or Engineer-in charge's representative asks the Contractor to remove a person who is a member of the Contractor's staff or his work force stating the reasons the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

**9.3. Employment of Technical Staff**

- a) The contractor shall employ following technical staff when ever required to cater various stages of the work as directed by the Engineer-in-charge or Engineer-in-charge representative.

| Sl. No | Requirement of Technical staff                                                                      | Minimum Experience | Qualification                             | Experience (Minimum requirement)                                                                                                                                                                                             | No. of persons |
|--------|-----------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1.     | Project Manager                                                                                     | 5 years            | Degree/Diploma in Civil Engineering       | Should have held the specific responsibility at least for in last 5years in Civil Construction works                                                                                                                         | 01             |
| 2.     | Site Engineer                                                                                       | 3Years             | Degree/ Diploma in Civil Engineering      | Should have held the specific responsibility at least for in last 3 years in Civil Construction works                                                                                                                        | 01             |
| 3.     | Electrical Engineer                                                                                 | 3 Years            | Degree/ Diploma in Electrical Engineering | Should have held the specific responsibility at least for in last 3 years experience on Electrical works                                                                                                                     | 01             |
| 4.     | Design supervision and guidance for execution works including selection of materials as per tender. |                    | KPL approved Architect                    | Should have visit minimum Twelve visits during tenure of the contract. The payment of Rs. 12,000/-for each visit will be paid to the Architect and same will be paid by KPL under relevant item no 118 of Miscellaneous BOQ. | 01             |

**Notes:**

- a) The contractor shall provide a deployment schedule of the key personnel along with the construction schedule and the same will be approved by KPL Engineer-in-charge.

- b) Rate of recovery in case of non-compliance shall recovered from the contractor's bills are Rs.20,000/- Per month per person for S.No. 1, 2 & 3. In case contractor failed / to replace the above technical staff Engineer-in charge shall take the action as per the Contract agreement.
- c) The Engineer-in-charge or his nominee will approve any proposed replacement of key personnel only if their qualifications, abilities, and relevant experience are substantially equal to or better than those of the personnel listed in the Schedule.
- d) If the Engineer or his nominee asks the Contractor to remove a person who is a member of the Contractor's staff or his work force stating the reasons the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

The technical staff should be available at site, at all times during the course of execution of work. He will take instructions from the Engineer-in charge as and when required by him.

The decision of the Engineer-in charge as to the period for which the required technical staff for S.No.1, 2 & 3 was not employed by the contractor and as to the reasonableness of the amount to be deducted on this account shall be final and binding on the contractor as to the amount and the contractor's liability to pay the said amount act.

9.4. **Design Supervision: Refer clause 9.3 a (3 ) :**

The Technical Manpower provided in this contract i.e. KPL approved architect is to act on behalf of KPL and The deployed person not to work for the execution contractor, he will assist KPL for proper completion of contract.

**10. Employer's and Contractor's Risks**

The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

**11. Employer's Risks**

**11.1. The Employers risks are**

- a. in so far as they directly affect the execution of the Works in the country where the Permanent Works are to be executed.
  - (i) War and hostilities (whether war be declared or not), invasion, act of foreign enemies;
  - (ii) rebellion, revolution, insurrection, or military or usurped power or civil war;
  - (iii) ionizing radiations or contamination by radioactivity from any nuclear fuel or from any nuclear waste, from the combustion of nuclear fuel, radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof



- (iv) Pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds; and
- (v) Riot, commotion or disorder, unless solely restricted to the employees of the contractor or of his Subcontractors and arising from the conduct of the works;
- (vi) Floods, tornadoes, earthquakes and landslides
- b. Loss or damage due to the use or occupation by the Employer of any Section or part of the Permanent Works, except as may be provided for in the Contract;
  - A. loss or damage to the extent that it is due to the design of the Works, other than any part of the design provided by the Contractor or for which the Contractor is responsible; and
- b) any operation of the forces of nature (in so far as it occurs on the site) which an experienced contractor;
  - (i) Could not have reasonably foreseen, or
  - (ii) Could reasonably have foreseen, but against which he could not reasonably have taken at least one of the following measures
    - A. Prevent loss or damage to physical property from occurring by taking appropriate measures, or
    - B. Insure against it.

## **12. Contractor's Risks**

All risks of loss of or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the Contract other than the excepted risks are the responsibility of the Contractor.

## **13. Insurance**

- 13.1. The Contractor shall provide, in the joint names of the Employer and the Contractor, termination cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the Contract Data for the following events which are due to the Contractor's risks:
  - a) loss of or damage to the Works, Plant and Materials;
  - b) loss of or damage to Equipment;
  - c) loss of or damage of property (except the Works, Plant, Materials and Equipment) in connection with the Contract; and
  - d) personal injury or death.
- 13.2. Policies and certificates for insurance shall be delivered by the Contractor to the Engineer-in charge or Engineer-in charge's representative for the Engineer-in charge or Engineer-in charge's representative's approval before the Start Date. All such insurance

shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

- 13.3. If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.
- 13.4. Alterations to the terms of insurance shall not be made without the approval of the Engineer-in charge or Engineer-in charge's representative.
- 13.5. Both parties shall comply with any conditions of the insurance policies.

**14. Site Investigation Reports**

The Contractor, in preparing the Bid shall rely on the Site Investigation Report referred to in the Contract Data, supplemented by any information available to the Bidder.

**15. Queries about the Contract Data**

The Engineer-in charge or Engineer-in charge's representative will clarify queries on the Contract Data.

**16. Contractor to Construct the Works**

The Contractor shall construct and install the Works in accordance with the Specification and Drawings.

**17. The works to be completed by the intended completion date**

The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the program submitted by the Contractor, as updated with the approval of the Engineer-in charge or Engineer-in charge's representative, and complete them by the Intended Completion Date.

**18. Approval by the KPL Engineer-in charge**

- 18.1. The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Engineer-in charge or Engineer-in charge's representative, who is to approve them if they comply with the Specifications and Drawings.
- 18.2. The Contractor shall be responsible for design of Temporary Works.
- 18.3. The Engineer-in charge or Engineer-in charge's representative's approval shall not alter the Contractor's responsibility for design of the Temporary Works.
- 18.4. No payment will be made for the temporary works required for the proper completion of the permanent work.
- 18.5. All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Engineer-in charge or Engineer-in charge's representative before their use.

**19. Safety**

19.1. The Contractor shall be responsible for the safety of all activities on the Site.

**20. Discoveries**

20.1. Anything of historical or other interest or of significant value unexpectedly discovered on the Site is the property of the Employer. The Contractor is to notify the Engineer-in charge or Engineer-in charge's representative of such discoveries and carry out the Engineer-in charge or Engineer-in charge's representative's instructions for dealing with them.

**21. Possession of the Site**

21.1. The Employer shall give possession of all parts of the Site to the Contractor free from encumbrance. If possession of a part is not given by the date stated in the Contract Data the Employer is deemed to have delayed the start of the relevant activities and this will be Compensation Event.

**22. Access to the Site**

22.1. The Contractor shall allow the Engineer-in charge or Engineer-in charge's representative and any person authorized by the Engineer-in charge or Engineer-in charge's representative access to the Site, to any place where work in connection with the Contract is being carried out or is intended to be carried out and to any place where materials or plant are being manufactured, fabricated / assembled for the works.

**23. Instructions**

23.1. The Contractor shall carry out all instructions of the Engineer-in charge or Engineer-in charge's representative, which comply with the applicable laws where the Site is located.

**24. Disputes**

24.1. If the Contractor believes that a decision taken by the Engineer-in charge or Engineer-in charge's representative was either outside the authority given to the Engineer-in charge or Engineer-in charge's representative by the Contract or that the decision was wrongly taken, the decision shall be referred to the conciliator within 28 days of the notification of the Engineer-in charge or Engineer-in charge's representative's decision. Employer's decision will be final and binding on the contract.

**25. Settlement of Disputes**

25.1. If a dispute of any kind whatsoever arises between the Employer and the Contractor in connection with, or arising out of, the Contract or the execution of the Works, whether during the execution of the Works or after their completion and whether before or after repudiation or other termination of the Contract, including any disagreement by either party with any action, inaction, opinion, instruction, determination, certificate or valuation of the Engineer-in charge or Engineer-in charge's representative, the matter in dispute shall, in the first place be referred to the Disputes Review Board [DRB] in case of contracts valuing more than Rs.5 Crores and above, and for contracts valuing less

than Rs. 5 crores, the dispute will firstly be settled by the Conciliator, failing which any party may invoke arbitration clause.

Unless the Contract has already been repudiated or terminated or frustrated, the Contractor shall in every case, continue to proceed with the Works with all due diligence and the Contractor and Employer shall give effect forthwith to every such decision of the Engineer-in charge or Engineer-in charge's representative unless and until the same shall be revised, as hereinafter provided, by the Conciliator or in a Dispute Review Board Recommendation/Arbitral Award.

#### 25.2. **Decision by Conciliator**

- (i) The Conciliator shall give a decision in writing within 28 days of receipt of a notification of a dispute.
- (ii) Conciliator shall be paid daily at the rate specified in the Contract Data together with reimbursable expenses of the types specified in the Contract Data and the cost shall be divided equally between the Employer and the Contractor, whatever decision is reached by the Conciliator. Either party may refer a decision of the conciliator within 28 days of the conciliator's written decision. If neither party refers the disputes to arbitration within 28 days, the Conciliator's decision will be final and binding.

#### 25.3 **Arbitration**

Any dispute in respect of contracts where party is dissatisfied by the conciliator's decision shall be decided by arbitration as per forth below:

- (i) A dispute with Dispute Review Expert shall be finally settled by arbitration in accordance with the Indian Arbitration and Conciliation Act, 1996, or any statutory amendment thereof. The arbitral tribunal shall consist of 3 arbitrators, one each to be appointed by the Employer and the Contractor, and the third to be appointed by the mutual consent of both the arbitrator, failing which by making a reference CIDC – SIAC Arbitration Centre from their panel.
- (ii) Neither party shall be limited in the proceedings before such arbitrators to the evidence nor arguments already put before the Engineer-in charge or Engineer-in charge's representative or the Board, as the case may be, forth purpose of obtaining said recommendations/decision. No such recommendation/decision shall disqualify the Engineer-in charge or Engineer-in charge's representative or any of the members of the Board, as the case may be, from being called as a witness and giving evidence before the arbitrators or any matter whatsoever relevant to the dispute.
- (iii) The reference to arbitration shall proceed notwithstanding that the works shall not then be or be alleged to be complete, provided always that the obligations of the Employer, the Engineer-in charge or Engineer-in charge's representative and the Contractor shall not be altered by reason of the arbitration being conducted during

the progress of the works. Neither party shall be entitled to suspend the works to which the dispute relates, and payment to the contractor shall be continued to be made as provided by the contract.

- (iv) If one of the parties fails to appoint its arbitrators in pursuance of Sub-Clause (i), within 14 days after receipt of the notice of the appointment of its arbitrator by the other party, then Chairman of the nominated institution shall appoint arbitrator within 14 days of the receipt of the request by the nominated institution. A certified copy of the Chairman's order, making such an appointment shall be furnished to both the parties.
- (v) Arbitration proceedings shall be held at Chennai, Tamil Nadu, India, and the language of the arbitration proceedings and that of all documents and communications between the parties shall be 'English'.
- (vi) The decision of the majority of the arbitrators shall be final and binding upon both parties. The expenses of the arbitrators as determined by the arbitrators shall be shared equally by the Employer and the Contractor. However, the expenses incurred by each party in connection with the preparation, presentation, etc. Of its case prior to, during and after the arbitration proceedings shall be borne by each party itself.
- (vii) All arbitration awards shall be in writing and shall state the reasons forth award.
- (viii) Performance under the contract shall continue during the arbitration proceedings and payments due to the Contractor by the Employer shall not be withheld, unless they are subject matter of the arbitration proceedings.

## **26. Replacement of Conciliator.**

- 26.1. Should the Conciliator resign or die, or should the Employer and the contractor agree that the conciliator is not fulfilling his functions in accordance with the provisions of the contract; a new conciliator will be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days the Conciliator shall be appointed by the Appointing authority designated in the contract data at the request of either party within 14 days of receipt of such request.

## **C. Time Control**

### **27. Programme**

- 27.1. Within the time stated in the Contract Data the Contractor shall submit to the Engineer-in charge or Engineer-in charge's representative for approval of a Programme showing the general methods, arrangements, order, and timing for all the activities in the Works along with monthly cash flow forecast.
- 27.2. An update of the Programme shall be a programme showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work including any changes to the sequence of the activities.

- 27.3. The Contractor shall submit to the Engineer-in charge or Engineer-in charge's representative, for approval, an updated Programme at intervals no longer than the period stated in the Contract Data. If the Contractor does not submit an updated Programme within this period, the Engineer-in charge or Engineer-I n charge's representative may withhold the amount stated in the Contract Data from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Programme has been submitted.
- 27.4. The Engineer-in charge or Engineer-in charge's representative's approval of the Programme shall not alter the Contractor's obligations. The Contractor may revise the Programme and submit it to the Engineer-in charge or Engineer-in charge's representative again at any time. A revised Programme is to show the effect of Variations and Compensation Events.

**28. Extension of the Intended Completion Date**

- 28.1. The Engineer-in charge or Engineer in charge's representative shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work and which would cause the Contractor to incur additional cost.
- 28.2. The Engineer-in charge or Engineer-in charge's representative shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Engineer-in charge or Engineer-in charge's representative for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.
- 28.3. The Engineer-in charge or Engineer in charge's representative shall provide Provisional Extension of Time (EOT) with right to levy of Liquidated damages till the completion of work based on the requests of the contractor with revised construction schedule. On completion of the work, Final Extension of time shall be granted by the competent authority based on the joint statement signed by both the parties (Contractor and Engineer- in-charge or Engineer-in-charge representative) as per the procedure laid in KPL work procedure manual 2014.

- 29.** The Early Warning provisions shall be as per Clause 32.

**30. Delays Ordered by the Engineer-in charge**

The Engineer-in charge may instruct the Contractor to delay the start or progress of any activity within the Works.

### **31. Management Meetings**

- 31.1. The Engineer-in charge and the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.
- 31.2. The Engineer-in charge shall record the business of management meetings and is to provide copies of his record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken is to be decided by the Engineer-in charge or Engineer-in charge's representative either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

### **32. Early Warning**

- 32.1. The Contractor is to warn the Engineer-in charge at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price or delay the execution of works. The Engineer-in charge or Engineer-in charge's representative may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate is to be provided by the Contractor as soon as reasonably possible.
- 32.2. The Contractor shall cooperate with the Engineer-in charge or Engineer-in charge's representative in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Engineer-in charge.

#### **32.3. Defects Liability Period**

The defect Liability period for the contract shall be **12 months** from the date of issue of completion certificate.

### **D. Quality Control**

### **33. Identifying Defects**

The Engineer-in charge shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Engineer-in charge or Engineer-in charge's representative may instruct the Contractor to search for a Defect and to uncover and test any work that the Engineer-in charge considers may have a Defect.

### **34. Tests**

If the Engineer-in charge instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does,



the Contractor shall pay for the test and any samples. If there is no Defect the test shall be a Compensation Event.

**35. Correction of Defects**

- 35.1. The Engineer-in charge or Engineer-in charge's representative shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion and is defined in the Contract Data. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.
- 35.2. Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Engineer-in charge notice.

**36. Uncorrected Defects**

If the Contractor has not corrected a Defect within the time specified in the Engineer-in charge notice, the Engineer-in charge or Engineer-in charge's representative will assess the cost of having the Defect corrected, and the Contractor will pay this amount.

**E. Cost Control**

**37. Bill of Quantities**

- 37.1. The Bill of Quantities shall contain items for the Design, Drawings, construction, Procurement of materials, installation, testing work to be done by the Contractor.
- 37.2. The Bill of Quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the Bill of Quantities for each item. The payment will be made on completion, approval and acceptance of the above Engineering works by KPL at the rates quoted in the Bill of Quantities.
- 37.3 The description of the item of work given in the schedule of quantities should be read along with the specifications, drawings and the conditions of contract.
- 37.4 It is to be expressly understood that the measured work is to be taken net according to the drawing or as may be directed from time to time by the KPL Engineer or his representative and that the value of the work done will be calculated by the Measurement of various items at the respective rates without additional charges for any necessary incidental or contingent work connected therewith as detailed in specifications and conditions of contract.
- 37.5. The quantities given under the Bill of Quantities are those upon which the approximate estimated cost of work are based, but they are subject to alterations, omissions, deduction and additions and not necessarily show the actual quantities of work to be done and can be increased or decreased at the discretion of the Engineer. However, the consequent variation in the total contract value will be limited to 10% under normal circumstances. The rates quoted shall be firm for such variation. In case the variation results in the total contract value exceeding the prescribed percentage, the revision of

rates, if any, shall be applicable only for that portion of contract carried out in excess of the permissible percentage.

- 37.6 The Quantities provided in the Bill of Quantities (BOQ) is to be operated for executing the work wherever required inside the Port apart from scope of work indicated in Clause 1.1 under Section-1
- 37.7 KPL has right to omission or addition of any work in the general layout drawing. Any claim in this regard will not be entertained by the KPL during the contract period and in the event of extension of time.

### 38. Change Orders

#### 38.1. Item Rate Contracts.

The following procedures will be adopted in the finalization of rates for Variation, Extra and Substituted items.

#### 38.2. Variations

The quantities indicated in the BOQ are only approximate, which may vary as per the site conditions. Without prejudice to the other provisions existing in the contract, the following clauses shall apply:

- i. Variation means variation in quantities of items, i.e. where there is increase or decrease in the quantities of items of work in the agreement. In other words, the nomenclature remains the same but the quantities vary with those provided in the agreement.
- ii. Variation **beyond  $\pm 10\%$**  of the Contract Value shall require the approval of Competent Authority.
- iii. The rates payable for the variations up to 25% in respect of individual items in the contract shall be as per the contract rates(*i.e. Estimated rates(+/-) Contractor's Quoted Rate in BoQ*)
- iv. Variation of Quantities **exceeding 25%** of the Individual BOQ Items to be duly intimated by the contractor to KPL and shall require the approval of Competent Authority before the commencement of execution of these items by KPL,
- v. The rates payable for variations in quantities in excess of 25% in respect of individual items shall be worked out at market rates prevailing at the time of commencement of execution of these items by KPL.

#### 38.3. Extra /Substituted Items

##### **Extra Items:**

Extra items are those which are not expressly or impliedly included in the original contract.

- a) Extra Items that are completely new and are in addition to the items contained in the schedule of quantities of the contract.

- b) Items which are not available in the agreement but are required to complete the work.
- c) Provisions of extra items in a contract must be utilized exclusively within the scope of work and in no case be extended to other works under any circumstances.
- d) Where extra items cannot be avoided, the approvals shall be regulated on the following lines:
  - (i) The circumstances under which the necessity for an extra item had arisen shall be clearly indicated and the orders for executing such extra items shall be authorized by the Head of the Execution Department concerned as per DOP.
  - (ii) In case there are any agreed variations in the contract with reference to the computation of extra item rates, such rates shall be calculated in accordance with the terms of agreed variations.
  - (iii) In the absence of any specific provision in this regard, extra items shall be calculated in accordance with the relevant clause of the General Conditions of Contract.
  - (iv) Extra item rates can also be proposed on the basis of similar items appearing in any of the accepted tenders if in the opinion of the Executing Department such rates are reasonable (or) from CPWD SSR/ TN PWD SSR (or) from Central or State PSU's**
  - (v) The rates for the extra items shall also be worked out at market rates prevailing at the time of commencement of execution of these items.
  - (vi) The proposal for extra items shall be prepared and after obtaining the signature of the contractor, shall be sent for concurrence of Finance and the sanction of Competent Authority. If the proposal is in order, the concurrence/sanction shall be at the earliest possible time to avoid disruption in progress of work.
  - (vii) Total cost of extra items sanctioned up-to-date along with anticipated value of work done under the contract under reference shall be given in the proposal before it is sent for sanction.

**Substituted Item:**

Substituted items are items which are taken up in lieu of those already provided in the contract. For substituted items, the agreement rate of the original item will be adjusted for the difference in market rates (prevailing at the time of commencement of execution of these items) of original and substituted items.

**39. Cash flow forecasts**

When the Program is updated, the Contractor is to provide the Engineer-in charge or Engineer-in charge's representative with an updated cash flow forecast.

**40. Payment Certificates**

- 40.1. The Contractor shall submit to the Engineer-in charge or Engineer-in charge's representative monthly statements of the estimated value of the work completed less the cumulative amount certified previously.
- 40.2. The value of work executed shall be determined by the Engineer-in charge or Engineer-in charge's representative.
- 40.3. The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.
- 40.4. The value of work executed shall include the valuation of Variations and Compensation Events.
- 40.5. The Engineer-in charge or Engineer-in charge's representative may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

#### **41. Payments**

- 41.1. Submission of "Request for Inspection" (RFI) before commencement of any work at site. Subsequently on completion of particular Item of work, preparation of "Joint Measurement Record" (JMR) to be prepared by Contractor and the work done measurements are jointly recorded along with KPL's Engineer which is duly signed and the same shall be submitted for Contractor's Bill for Payment.
- 41.2. Bills shall be prepared and submitted by the Contractor. Joint measurements shall be taken continuously and need not be connected with billing stage. The system of 3 copies of measurements, one each for Contractor, Engineer-in charge, Engineer-in charge's Representative and signed by both Contractor and Engineer-in charge's Representative shall be followed.
- 41.3. Payment to the contractor shall be made on the recorded measurements and the contractor will have to submit bills in the prescribed form once in a month and payment will be made ordinarily once in a month. **The Port shall pay 75% of the net amount of the bill submitted within 10 days from the date of receipt of the bill and the balance within 30 days from the date of receipt of the bill.** On completion of the work or on the prior termination of the contract final measurement will be taken and account adjusted accordingly.
- 41.4. Contractor shall submit final Bill within 60 days of issue of defects liability certificate. Client's Engineer-in charge or Engineer-in charge's representative shall check the bill within 60 days after its receipt and return the Bill to Contractor for corrections if any, 50% of the undisputed amount shall be paid to the contractor at the stage of returning the bill.

- 41.5. The contractor should re-submit the bill, with corrections within 30 days of its return by the Engineer-in charge or Engineer-in charge's representative. The resubmitted bill shall be checked and paid within 60 days of its receipt.
- 41.6. If an amount certified is increased in a later certificate because of award by the Conciliator or an Arbitrator, the Contractor shall not be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.
- 41.7. Items of the Works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.
- 41.8. While preparing the first bill of contractual payment the contractor should submit the following:
- a. Proof of labor license as per contract labor (Regulation & Abolition Act 1970).
  - b. An unconditional undertaking from contractor certified by principal employer (or) his authorized representative in respect of compliance towards all statutory obligations laid down by applicable laws as listed under special conditions of contract
  - c. Proof of EPF & ESI registrations
  - d. Proof of registration under building and other constructions under act 1996 & Labour Act 1996
- 41.9. While preparing the subsequent bills, contractor should submit the following.
- a) EPF remittance towards contractual employer
  - b) ESI remittance
  - c) An undertaking from contractor certified by principal employer (or) his representative in respect of compliance of all other statutory obligations of contractual labours.
- 41.10. **Bidders should adhere the basic cost of Item indicated in the respective BoQ items. To substantiate this, necessary tax invoice for the material brought to be submitted along with running bills.**

## **42. Invocation / Forfeiture of Bank guarantees**

The various situations of breach of contractor attract invocation /forfeiture of performance guarantee.

Failure of the successful bidder to comply with the requirements of the tender constitutes sufficient grounds for cancellation of the award.

## **43. Compensation Event**

- 43.1** The following mutually agreed Compensation Events unless they are caused by the Contractor would be applicable:

- (a) The Employer does not give access to a part of the Site by the Site Possession Date stated in the Contract Data.

- (b) The Employer modifies the schedule of other contractors in a way which affects the work of the contractor under the contract.
  - (c) The Engineer-in charge or Engineer-in charge's representative orders a delay or does not issue drawings, specifications or instructions required for execution of works on time.
  - (d) The Engineer-in charge or Engineer-in charge's representative instructs the Contractor to uncover or to carry out additional tests upon work which is then found to have no Defects.
  - (e) The Engineer-in charge or Engineer-in charge's representative unreasonably does not approve for a subcontract to be let.
  - (f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of Letter of Acceptance from the information issued to Bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the site.
  - (g) The Engineer-in charge or Engineer-in charge's representative gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.
  - (h) Other contractors, public authorities, utilities or the Employer does not work within the dates and other constraints stated in the Contract that cause delay or extra cost to the Contractor.
  - (i) The effect on the Contractor of any of the Employer's Risks.
  - (j) The Engineer-in charge or Engineer-in charge's representative unreasonably delays issuing a Certificate of Completion.
  - (l) Other Compensation Events listed in the Contract Data or mentioned in the contract. Whenever any compensation event occurs, the Contractor will notify the Employer, within 14 days and provide a forecast cost of the compensation event.
- 43.2. If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Engineer-in charge or Engineer-in charge's representative shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.
- 43.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast has been provided by the Contractor, it is to be assessed by the Engineer-in charge or Engineer-in charge's representative and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable the Engineer-in charge or Engineer-in charge's representative shall adjust the Contract

Price based on Engineer-in charge or Engineer-in charge's representative's own forecast. The Engineer-in charge or Engineer-in charge's representative will assume that the Contractor will react competently and promptly to the event.

**44. Tax**

44.1 The rates quoted by the Contractor shall be deemed to be basic unit rate. The GST will be reimbursed by KPL only on reflection of GST Paid by contractor in KPL's GST portal. Tax deducted at source shall be as per statutory requirement such as IT Act, GST Act, Tamil Nadu workers welfare Cess etc as applicable. The Employer will perform such duties in regard to the deduction of such taxes at source as per applicable law. Any new taxes, levies, duties imposed after signing the contract shall be reimbursed by the employer on production of documentary evidence. Notwithstanding the payment from KPL, Contractor shall remit the GST value and file returns with Statutory Authorities timely.

**45. Currencies**

All payments shall be made in Indian Rupees unless specifically mentioned.

**46. Price Adjustment - Clause Deleted****47. Price Variation/Escalation Clause - Clause Deleted (Any other relevant clause also not applicable)****48. Liquidated Damages / Cancellation**

48.1 In case of delay in completion of the contract as per milestone indicated in clause 1.2 of Section-1, liquidity damages (L.D) may be levied at the rate of ½% of the contract value per week of delay or part thereof, subject to a maximum of 10 percent of the contract price.

The employer, if satisfied, that the works can be completed by the contractor within a reasonable time after the specified time for completion, may allow further extension of time at its discretion with or without the levy of L.D. In the event of extension granted being with L.D, the employer will be entitled without prejudice to any other right or remedy available in that behalf, to recover from the contractor as agreed damages equivalent to half Per cent (1/2%) of the contract value of the works for each week or part of the week subject to the ceiling defined in **Sub-Clause- 48.1**.

1. The Employer, if not satisfied that the works can be completed by the contractor and in the event of failure on the part of the contractor to complete work within further extension of time allowed as aforesaid, shall be entitled, without prejudice to any other right or remedy available in that behalf, to rescind the contract.
2. The employer, if not satisfied with the progress of the contract and in the event of failure of the contractor to recoup the delays in the mutually agreed time frame, shall be entitled to terminate the contract.



3. In the event of such termination of the contract as described in Clauses-48.2 & 48.2.2 or both, the employer shall be entitled to cover L.D up to Ten percent (10%) of the contract value and forfeit the security deposit made by the contractor besides getting the work completed by other means at the risk and cost of the contractor.
4. In case part/portions of the work completed and Port operate utilizes the portion of completed work, the rate of L.D will be restricted to the uncompleted value of work, the maximum LD being on the entire contract value of each BOQ's.

#### **48.2 Failure and Termination, Cancellation, Suspension and Foreclosure of Contract**

48.2.1 The company shall, in addition to other remedial steps to be taken as provided in the conditions of contract, be entitled to cancel the contract in full or in part, if the contractor

a.makes default in proceeding with the works with due diligence and continues to do so even after a notice in writing from the Engineer-in-charge, then on the expiry of the period as specified in the notice

Or

b.fails to achieve a monthly agreed quantity of 70% (Seventy percent) for a period of 6(six) consecutive month or for cumulative period of six months to the extent of non-availability caused by i) a Force Majeure event or ii) an act of omission of company, not occurring due to any default of the contractor.

Note: - In such cases the contractor may be Banned for minimum one year from participating in future bidding allowing the present business to continue without going into termination of the contract. (Not to be part of Tender Document- Procedure for banning of business shall be followed as per Guidelines of Banning of Business.)

Or

a. commits default/breach in complying with any of the terms and conditions of the contract and does not remedy it or fails to take effective steps for the remedy to the satisfaction of the Engineer- in-charge, then on the expiry of the period as may be specified by the Engineer-in-charge in a notice in writing

Or

b.fails to complete the work or items of work with individual dates of completion, on or before the date/dates of completion or as extended by the company, then on the expiry of the period as may be specified by the Engineer-in-charge in a notice in writing

Or

c. shall offer or give or agree to give any person in the service of the company or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for act/acts of favour in relation to the obtaining or execution of this or any other contract for the company

Or

d. obtains a contract with the company as a result of ring tendering or other non- bonafide method of competitive tendering

Or

e. transfers, sublets, assigns the entire work or any portion thereof without the prior approval in writing from the Engineer-in-charge. The Engineer-in- charge may give a written notice; cancel/terminate the whole contract or portion of it in default. The approving authority shall be TAA or CMD if originally awarded by empowered Committee of Directors headed by Chairman/CMD or Board.

The Engineer-in-charge may by giving a written notice, cancel the whole contract or portion of it in default.

48.2.2 The contract shall also stand terminated under any of the following circumstances:

- a) If the contractor being an individual in the case of proprietary concern or in the case of a partnership firm any of its partners is declared insolvent under the provisions of Insolvency Act for the time being in force, or makes any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors amounting to proceedings for liquidation or composition under any Insolvency Act.
- b) In the case of the contractor being a company, its affairs are under liquidation either by a resolution passed by the contractors company or by an order of court, not being a voluntary liquidation proceedings for the purpose of amalgamation or reorganization, or a receiver or manager is appointed by the court on the application by the debenture holders of the contractor's company, if any.
- c) If the contractor shall suffer an execution being levied on his/their goods, estates and allow it to be continued for a period of 21 (twenty-one) days.
- d) On the death of the contractor being a proprietary concern or of any of the partners in the case of a partnership concern and the company is not satisfied that the legal representative of the deceased proprietor or the other surviving partners of the partnership concern are capable of carrying out and completing the contract. The decision of the company in this respect shall be final and binding which is to be intimated in writing to the legal representative or to the partnership concern.

48.2.3 On termination of the contract or on cancellation of the contract, the Engineer- in-charge shall have powers:

- a. To take possession of the site and carry out balance work through any other agency.
- b. To give the contractor or his representative of the work, 7 (seven) days' notice in writing for taking final measurement for the works executed till the date of cancellation or termination of the contract. The Engineer-in-Charge shall fix the time for taking such final measurement and intimate the contractor in writing. The final measurement shall be carried out at the said appointed time notwithstanding whether the contractor is present or not. Any claim as regards measurement which the contractor is to make shall be made in writing within 7 (seven) days of taking final measurement by Engineer-In-charge as aforesaid and if no such claim is received, the contractor shall be deemed to have waived all claims regarding above measurements and any claim made thereafter shall not be entertained.
- c. After giving notice to the contractor to measure up the work of the contractor and to take such whole or the balance or part thereof, as shall be unexecuted out of his hands and to give it to an- other contractor or take up departmentally, to complete the work. The contractor whose contract is terminated shall not be allowed to participate in future bidding for period of minimum one year.

48.2.4 In such an event, the contractor shall be liable for loss/damage suffered by the employer because of action under this clause and to compensate for this loss or damage, the employer shall be entitled to recover higher of the following:

- i) Forfeiture of security deposit comprising of performance guarantee and additional performance security, if any, at disposal of the employer.
- Or
- ii) 20% of value of incomplete work. The value of the incomplete work shall be calculated for the items and quantities remaining incomplete (as per provision of agreement) at the agreement rates including price variation as applicable on the date, when notice in writing for termination of work was issued to the contractor.

It is being clarified that the above liability is over and above the penalties payable by the contractor on account of shortfall in quantities.

The amount to be recovered from the contractor as determined above, shall, without prejudice to any other right or remedy available to the employer as per law or as per agreement, will be recovered from any money due to the contractor on any account or under any other contract and in the event of any shortfall, the contractor shall be liable to pay the same within 30 days. In case of failure to pay the same the amount shall be debt payable. In the event of above course being adopted by the Engineer-in-charge, the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased materials, equipment or entered into agreement or made advances on any account or with a view to the execution of work or performance of the contract. And in case action is taken under any of provision aforesaid, the contractor shall not be entitled to recover or to be paid any sum for any work thereof or actually performed under this contract unless and until the engineer-in-charge has certified in writing the performance of such work and value payable in respect thereof and he shall only be entitled to be paid the value so certified.

The need for determination of the amount of recovery of any extra cost/expenditure or of any loss/damage suffered by the company shall not however arise in the case of termination of the contract for death/demise of the contractor as stated in 48.2.2 (d).

#### **48.2.4 Suspension of Work:**

Suspension of work – The Company shall have power to suspend the work. The contractor shall on receipt of the order in writing of Engineer-in-charge (whose decision shall be final and binding on the contractor), suspend the progress of work or any part thereof for such time in such manner as the Engineer-in-Charge may consider necessary so as not to cause any damage, or endanger the safety thereof for any of the following reasons:

- e) on account of any default on the part of the contractor, or
- f) for proper execution of the works, or part thereof, for reasons other than the default of the contractor or,
- g) for safety of the works, or part thereof.

The contractor shall, during such suspension properly protect and ensure the works to the extent necessary and carry out the instruction of the Engineer-in-charge. If the suspension is ordered for reasons (b) & (c), the contractor shall be entitled to an extension of time equal to the period of every such suspension plus 25%. This shall also be applicable for completion of the item or group of items of the work for which a separate period of completion as specified in the contract and of which the suspended work forms a part.

The contractor shall carry out the instructions given in this respect by the Engineer-In Charge & if such suspension exceeds 45 (forty-five) days, the contractor will be compensated on mutually agreed terms.

#### **48.2.5 Foreclosure of contract:**

If at any time after acceptance of the tender the company decides to abandon or reduce the scope of work for any reason whatsoever the company, through its Engineer-in-Charge, shall give notice in writing to that effect to the contractor and contractor shall act accordingly in the matter. In the event of abandonment, the contractor shall have no claim to any payment of compensation or otherwise whatsoever, other than those mentioned below: -

- a) to pay reasonable amount assessed and certified by the Engineer-in-Charge of the expenditure incurred, if any, by the contractor on preliminary works at site e.g. temporary access roads, temporary construction for labour and staff quarters, office accommodation, storage of materials, water storage tanks and water supply for the work including supply to labour/ staff quarters, office etc.
- b) to pay the contractor at the contract rates full amount for works executed and measured at site up to the date of such abandonment.

- c) to pay for the materials brought to site or to be delivered at site, which the contractor is legally liable to pay, for the purpose of consumption in works carried out or were to be carried out but for the foreclosure, including the cost of purchase and transportation and cost of delivery of such materials. The materials to be taken over by the company should be in good condition and the company may allow at its discretion the contractor to retain the materials in full or in part if so desired by him and to be transported by the contractor from site to his place at his own cost with due permission of the EIC.
- d) to take back the materials issued by the company but remaining unused, if any, in the work on the date of abandonment/reduction in the work, at the original issue price less allowance for any deterioration or damage caused while in custody of the contractor.
- e) to pay for the transportation of tools and plants of the contractor from site to contractor's place or to any other destination, whichever is less.

48.2.6 The contractor shall, if required by the Engineer-in-Charge, furnish to him books of accounts, papers, relevant documents as may be necessary to enable the Engineer-in-Charge to assess the amounts payable in terms of clauses 48.2.5 (a) (c) & (e) of the contract. The contractor shall not have any claim for compensation for abandonment of the work, other than those as specified above.

#### **48.2.7 Carrying out Part Work at Risk & Cost of Contractor.**

If the progress of the work or of any portion of the work is unsatisfactory, the Engineer-in-Charge, after giving the contractor 15 days' notice in writing, without cancelling or terminating the contract, shall be entitled to employ another Agency for executing the job or to carry out the work departmentally or contractually through tendering / limited tendering process, either wholly or partly, debiting the contractor with cost involved in engaging another Agency or with the cost of labour and the prices of materials, as the case may be. The certificate to be issued by the Engineer-in-Charge for the cost of the work so done shall be final and conclusive and the extra cost, if any, shall be borne by the contractor. However, when this clause is invoked, penalty will not be applicable other than on account of delayed completion.

The value of the work taken away shall be calculated for the items and quantities taken away at the agreement rates including price variation as applicable on the date, when notice in writing for taking away part work was issued to the contractor. The contractor, from whom part work is being taken out, shall not be allowed to participate in the tendering process if any.

If the expenses incurred by the department is less than the amount payable to the contractor at his agreement rates, the difference shall not be payable to the contractor.

In the event of above course being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advance on any account or with a view to the execution of the work or the performance of the contract

**49. Incentives or Bonus** – Deleted.

**50. Advance Payment:** No advance payment will be paid.

**51. performance Guarantee & Security Deposit**

*Please Refer Clause 30 of Section-1.*

**52. Cost of Repairs**

Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the

Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

## **F. Finishing the Contract**

### **53. Completion**

After completion of the work, the contractor will serve a written notice to the Engineer-in charge or Engineer-in charge's representative/Employer to this effect. The Engineer-in charge or Engineer-in charge's representative/Employer upon receipt of this notice shall conduct a complete joint survey of the work along with the contractor within 7 days and prepare a defects list jointly. The defects pointed out by the Engineer-in charge or Engineer-in charge's representative/Employer/ Designer supervision representative would be rectified by the Contractor within 14 days and there after accept report to be signed jointly by the contractor and the Employer. This joint acceptance report shall be treated as 'Completion Certificate'.

### **54. Taking Over**

The Employer shall take over the Site and the Works within seven days of the Engineer-in charge or Engineer-in charge's representative issuing a certificate of Completion.

### **55. Final Account**

The Contractor shall supply to the Engineer-in charge or Engineer-in charge's representative a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Engineer-in charge or Engineer-in charge's representative shall issue a Defect Liability Certificate and certify any final payment (excluding SD) that is due to the Contractor within 60 days of receiving the Contractor's account if it is correct and complete. If it is not, the Engineer-in charge or Engineer-in charge's representative shall issue within 15 days a schedule that states the scope of the corrections or additions that are necessary for the correction and certify payment of 50% of undisputed amount to the contractor. If the Final Account is still unsatisfactory after it has been resubmitted, the Engineer-in charge or Engineer-in charge's representative shall decide on the amount payable to the Contractor and issue a payment certificate, within 60 days of receiving the Contractor's revised account.

## **56 Operating and Maintenance Manuals**

- 56.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the Contract Data.
- 56.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the Contract Data, or they do not receive the Engineer-in charge or Engineer-in charge's representative's approval, the Engineer-in charge or Engineer-in charge's representative



shall withhold the amount stated in the Contract Data from payments due to the Contractor.

**57. Termination**

57.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

57.2 Fundamental breaches of Contract include, but shall not be limited to the following:

- (i) the Contractor stops work for 28 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Engineer-in charge or Engineer-in charge's representative;
- (ii) the Engineer-in charge or Engineer-in charge's representative instructs the Contractor to delay the progress of the Works and the instruction is not withdrawn within 28 days;
- (iii) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- (iv) a payment certified by the Engineer-in charge or Engineer-in charge' representative is not paid by the Employer to the Contractor within 50 days of the date of the Engineer-in charge or Engineer-in charge's representative 's certificate;
- (v) the Engineer-in charge or Engineer-in charge' representative gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer-in charge or Engineer-in charge' representative;
- (vi) the Contractor does not maintain a security which is required;
- (vii) the Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the tender document; and
- (viii) If the Contractor, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in the executing the Contract.
- (ix) If the Contractor has contravened **Clause33**.

For the purpose of this paragraph: "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution. "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition."

57.3 When either party to the Contract gives notice of a breach of contract to the Engineer-in charge or Engineer-in charge's representative for a cause other than those listed under Sub Clause 57.2 above, the Engineer-in charge or Engineer-in charge's representative shall decide whether the breach is fundamental or not.

57.4 If the Contract is terminated the Contractor shall stop work immediately, make the Site safe and secure and leave the Site as soon as reasonably possible.

57.5 **The Performance Security will be forfeited and credited to the Port's account in the event of a breach of contract by the contractor.**

## **58. Payment upon Termination**

58.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Engineer-in charge or Engineer-in charge's representative shall issue a certificate for the value of the work done less advance payments received up to the date of the issue of the certificate, less other recoveries due in terms of the contract, less taxes due to be deducted at source as per applicable law and less the percentage to apply to the work not completed as indicated in the Contract Data. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer.

58.2 If the Contract is terminated at the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Engineer-in charge or Engineer-in charge's representative shall issue a certificate for the value of the work done, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works and less advance payments received up to the date of the certificate, less other recoveries due in terms of the contract and less taxes due to be deducted at source as per applicable Law

## **59. Property**

All materials on the Site, Plant, Equipment, Temporary Works and Works for which payment has been made to the contractor by the Employer, are deemed to be the property of the Employer, if the Contract is terminated because of a contractor's default.

## **60. Release from Performance**

If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Engineer-in charge or Engineer-in charge's representative shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which commitment was made.

## **61. Additional Clause**

### **61.1 Site Order and Instruction**



A work order book shall be maintained on the site, and it shall be the property of Employer and the Contractor or his authorized representative shall promptly sign orders given therein by the Engineer-in charge or Engineer-in charge's representative and comply with them. The compliance shall be reported by Contractor to the Engineer-in charge in sufficient time so that it can be checked. The blank work order book with machine numbered pages in duplicate with a perforated sheet for three copies will be provided by the contractor for this purpose. Whenever any instructions are written in the work order book, the Contractor shall be supplied the first carbon copy, one copy shall be supplied to the Employer, or his site representative and remaining copies shall be retained by the Engineer-in charge.

#### **61.2 Notice to Engineer-In-Charge**

The contractor shall give to the Engineer-in charge normally 48 hours notice except in exceptional cases of urgency, of his intention to set out or give levels or check for any part of the works so that timely arrangement may be made for checking or issuing instructions. He shall indicate therein by which date the information, if any, is required by him.

#### **62. Force Majeure**

- 62.1 The Contractor shall not be liable for forfeiture of its Performance Security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- 62.2 For purposes of this Clause, "Force Majeure" means on event of situation beyond the control of the Contractor that is not foreseeable is unavoidable, and its origin is not due to negligence or lack of care on the part of Contractor. Such events may include, but not be limited to, acts of the Employer in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- 62.3 If a Force Majeure situation arises, the Contractor shall promptly notify the Employer in writing of such condition and the cause thereof. Unless otherwise directed by the Employer in writing, the Contractor shall continue to perform its obligations under the Contract as far as is reasonably practical and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

#### **63. Custody of Drawings:**

The Drawings shall remain in sole custody of the Engineer-in charge or Engineer-in charge's representative but two copies of these shall be furnished to the Contractor free of cost. The contractor shall provide and make at his own expense any further copies-required by him. At the completion of the contract the contractor, shall return to the

Engineer-in charge or Engineer-in charge's representative all drawings provided under the contract, if so desired by the Engineer-in charge or Engineer-in charge's representative .

The contractor shall give adequate notice in writing to the Engineer-in charge or Engineer-in charge's representative of any further drawing or specification that may be required for the execution of the works or otherwise under the contract.

In case alternative design submitted by the contractor is accepted by the Employer's Engineer and works executed as per alternative design, the original tracing and copies of drawings which may be with the Contractor shall be handed over to the Engineer-in charge or Engineer-in charge's representative on completion of the work and such tracings and drawings shall become the property of the Employer's Engineer. One copy of the Drawings furnished to the contractor or prepared by the Contractor and approved by the Employer's Engineer in case of contractor's alternative designs as aforesaid shall be kept by the Contractor at the site and the same shall at all the reasonable times be available for inspection and use by the Engineer-in charge or Engineer-in charge's representative and by any person authorized by the Employer's Engineer in writing.

The Engineer-in charge or Engineer-in charge's representative shall have full power and authority to supply to the contractor, from time to time during the progress of the works such further Drawings and instructions as shall be necessary for the purpose of the proper and adequate execution and maintenance of the works. Such supplementary drawings, issued / approved during the currency of contract will also form part of the contract and the Contractor shall carryout and be bound by the same.

### **63.1 One copy of Drawings to be kept on Site**

One copy of the drawings, provided to or supplied by the contractor aforesaid, shall be kept by the contractor on the site and the same shall at all reasonable times be available for inspection and use by the Engineer-in charge or Engineer-in charge's representative and by any other person authorized by the Employer's Engineer in writing.

### **63.2 Disruption of Progress**

The contractor shall give notice to the Engineer-in charge or Engineer-in charge's representative whenever planning or execution of the works is likely to be delayed or disrupted unless any further drawing or instruction is issued by the Engineer-in charge or Engineer-in charge's representative within a reasonable time. The notice shall include details of the drawing for instruction required and of why and by when it is required and of any delay or disruption likely to be suffered if it is late.

### **63.3 Delays and Cost of Delay of Drawings**

If, by reason of any failure or inability of the Employer's Engineer to issue, within a time reasonable in all the circumstances, any drawing or instruction for which notice has been

given by the contractor in accordance with **Sub-Clause 63.2**, the contractor suffers delay then the Employer's Engineer shall, after due consultation with the contractor, determine any extension of time to which the contractor is entitled under Clause 28, and shall notify the contractor accordingly.

#### **63.4 Failure by contractor to submit Drawings**

If the failure or inability of the Employer's Engineer to issue any drawings or instructions is caused in whole or in part by the failure of the contractor to submit drawings, specification of other documents, which he is required to submit under the contract, the Employer's Engineer shall take such failure by the contractor into account when making his determination pursuant to **Sub-Clause 63.3**.

#### **63.5. Supplementary Drawings and Instructions**

The Employer's Engineer or Engineer-in charge or Engineer-in charge's representative shall have authority to issue to the contractor, from time to time, such supplementary drawings and instructions as shall be necessary for the purpose of the proper and adequate execution and completion of the works and the remedying of any defects therein. The contractor shall carry out and be bound by the same.

#### **63.6 Works Designed by Contractor**

Where the contract expressly provides that part of the Works shall be designed by the contractor, he shall submit to the Employer's Engineer, for approval such drawings, specifications, calculations and other information as shall be necessary to satisfy the Engineer-in charge or Engineer-in charge's representative as to the suitability and adequacy of that design and operation and maintenance manuals together with drawings of the works as completed, in sufficient detail to enable the Employer's Engineer to operate, maintain and adjust the works incorporating that design.

#### **63.7 Responsibility Unaffected by Approval**

Approval by the Employer's Engineer, in accordance with Sub-Clause 63.6, shall not relieve the contractor of any of his responsibilities under the contract.

#### **64. Housing for Labour**

Save in so far as the Contract otherwise provides, the Contractor shall provide and maintain such accommodation and amenities as he may consider necessary for all his staff and labour, employed for the purposes of or in connection with the Contract, including all fencing, water supply (both for drinking and other purposes), electricity supply, sanitation, cookhouses, fire prevention and fire-fighting equipment, furniture other requirements in connection with such accommodation or amenities **at their cost outside the Port premises. No labour camps shall be allowed inside the Port premises.**

**65. Dismantled Materials:**

The contractor shall treat all materials obtained during dismantling of a structure excavation of the site for work etc. as Board property and such materials shall be disposed of to the best advantage of Board according to the instructions writing issued by the Engineer-in charge or Engineer-in charge's representative

**66. Contractor to keep the site clean:**

During the execution of the works the Contractor shall keep the Site reasonably free from all unnecessary obstruction and shall store or dispose of any Contractor's Equipment and surplus materials and clear away and remove from the Site any wreckage, rubbish or Temporary Works no long required.

**67. Extraordinary Traffic:**

The contractor shall use every reasonable means to prevent any of the access roads communicating with or on routes to the site from being damaged or injured by any traffic of the contractor or any of his subcontractors and in particular shall select routes, choose and use vehicle Crushed Stone Aggregate also restrict and distribute loads so that any such extraordinary traffic will inevitable access from the moving of plant and materials from and to the site shall be limited as far as reasonably and so that no unnecessary damage or injury may be occasioned to such approach.

The contractor's attention is drawn to the fact that the other contractors employed by the Employer will be working in the vicinity of the construction of structures. Hence, the contractors shall allow other agencies for work if any and shall allow such agencies the use of scaffolding the similar conveniences which any building contractor might have put up and shall further give such agencies facilities to carry out their rates. Works like punching the walls, floors and making them good, required during the electrification shall be done by the building contractors for which they may not be made any special payment by the Port. The contractor's working arrangement should be in such a manner as to cause no hindrance to the other contractors working nearby or to the functions of the Harbour and to enable other contractors / department / other agencies to work contemporaneously on separate contracts.

**68. Interference with Traffic and adjoining properties:**

All operations necessary for the execution and completion of the Works and the remedying of any defects therein shall, so far as compliance with the requirements of the Contract permits, be carried on so as not to interfere unnecessarily or improperly with:

- a) the convenience of the public, or
- b) the access to, use and occupation of public or private roads and footpaths to or of properties whether in the possession of the Employer or of any other person.

The Contractor shall save harmless and indemnify the Employer in respect of all claims,

proceedings, damages, costs, charges and expenses whatsoever arising out of, or in relation to any such matters in so far as the Contractor is responsible there for.

**69. Supply of plant, materials and labour:**

- 69.1 Except where otherwise specified in the contract, the contractor shall at his own expenses supply and provide all the constructional plant, temporary works, materials both for temporary and permanent works under the contract, labour (including the supervision thereof) transport to or from site and in and about the works and other things of every kind required for the construction, completion and maintenance of the works.
- 69.2 The contractor shall not hire out any item of plant or equipment brought by him, in connection with the execution of the work under the contract to any other party in connection with any work of the latter in the Port without the written permission of the Engineer-in charge or Engineer-in charge's representative and such permission may or may not be granted by the Engineer-in charge or Engineer-in charge's representative.
- 69.3 The contractor shall at his own costs make due arrangements for the proper watch and safety of all materials and plant supplied to him by the Board / or brought by him for use on this work. He shall not remove such constructional plant or materials from the site without the permission of the Engineer-in charge or Engineer-in charge's representative.
- 69.4 If any of the materials supplied or constructional plant hired out by the department are lost or damaged in any way due to negligence or carelessness on the part of the contractor or his employees, the cost thereof determined by the Engineer-in charge or Engineer-in charge's representative shall be recovered from the contractor from any moneys due to him or to become due to him.

**70. Clearance of site on completion:**

Upon completion of works, the contractor shall clear away and remove from the site all the constructional plant, temporary works remaining thereon, any unused materials provided by the contractor, and surplus materials and rubbish of every kind and leave the site and works clean and in a workman-like condition to the satisfaction of the Engineer-in charge or Engineer-in charge's representative .If the contractor fails to remove any such constructional plant, temporary works or unused materials within such reasonable time after completion of works as may be allowed by the Employer's Engineer, then the Employer may sell the same and shall after deduction from the proceeds, cost, charges and expenses of and in connection with such sale, pay the balance if any, to the contractor. The Employer shall not at any time be liable for the loss or injury to any of the said constructional plant, temporary works or materials.

**71. Use of explosives: NOT APPLICABLE**

**72. Levels:**

The contractor shall provide all assistance, instruments, labour and materials as are normally required for taking levels for the work. The contractor shall provide at his own expense

experienced attendants for the Engineer-in charge or Engineer-in charge's representative his representative to assist him in taking levels and checking of alignments.

**73. Inflammable stores:**

The contractor shall comply with all Central and Local regulations in respect of storage of all inflammable stores or other materials safe involving risk to third parties and shall take all special precautions required in the transport and use of such materials. The contractors shall submit to the Engineer-in charge or Engineer-in charge's representative for approval, all drawings and documents required for the construction of storage sheds to the proper requirements.

**74. Accidents - Reporting of:**

The contractor shall within 24 hours of the occurrence of any accident at or about the site or in connection with the execution of the work, report such accident to the Employer's Engineer. The contractor shall also report such accidents to the competent authorities to whom such report is required by laws.

**75. Materials brought to site:**

Materials required for the works, whether brought by the Contractor or supplied by the Employer shall be stored by the contractor only at a place approved by the Engineer-in charge or Engineer-in charge's representative. The storage and safe custody of materials shall be the responsibility of the contractor. All materials brought to the site shall become and remains the property of the Employer and shall not be removed off the site without the prior written approval of the Engineer-in charge or Engineer-in charge's representative. But whenever the works are finally completed and advance, if any, in respect of any such materials is fully recovered, the contractor shall at his own expense forthwith remove from the site all surplus materials originally supplied by him and upon such removal, the same shall revert to and become the property of the contractor.

**76. Access to site:**

The Engineer-in charge or Engineer-in charge's representative and any person authorized by him shall at all times have access to the works and to the site and to all workshops and places where work is being prepared or when materials, manufactured articles, or machinery are being obtained for the works and the Contractor shall afford every facility for every assistance in or in obtaining the right to such access.

**77. Inspection register :**

An inspection register is required to be maintained at the site of work, duly issued by the Engineer-in charge or Engineer-in charge's representative and docketed by from the Engineer-in charge or Engineer-in charge's representative office. Which must be produced whenever called upon to do so by the Engineer-in charge or Engineer-in charge's representative or his representative during their inspection of the work. It will be the responsibility of the officer's



assistant to ensure that the observations of the inspection officers for each and every visit are available in the inspection register either through recorded notes or through pasting the inspection notes. The Engineer-in charge or Engineer-in charge's representative's assistant shall carry over such observation and defects, on which action is to be taken by the contractor, to the site order book with cross-reference in the inspection register. The observations recorded in the inspection register by Employer's Engineer or Engineer-in charge or Engineer-in charge's representative is reviewed during subsequent inspections to ensure their compliance.

**78. Work during Night or on Sundays and authorized Holidays:**

Subject to any provisions to the contrary contained in the contract, none of the permanent works shall be carried out during night or authorized holidays without prior permission in writing of the Engineer-in charge or Engineer-in charge's representative.

**79. Action where no specification of work is available:**

In the case of any class of work for which there is no specification, such work shall be carried out in accordance with the relevant Indian Standards and in the absence of Indian Standards, any equivalent international standards and in the event of there being no standard specifications then in such case, the work shall be carried out in all respects in accordance with the instructions and requirements of the Employer's Engineer.

**80. Safety Code**

The Contractor shall scrupulously adhere to and observe the following safety codes:

- i. Hoisting machines and tackles used in the Works including their attachments, anchorage and supports shall be in perfect condition as per stipulations of the relevant Rules. The ropes used in hoisting or lowering materials or as means or suspension shall be of durable quality and adequate strength and free from defects.
- ii. Workers employed shall be provided with protective footwear and rubber hand gloves and other gears. Those engaged in welding work shall be provided with welder's protective eye shield and gloves.
- iii. No paint containing lead or lead products shall be used except in the form of paste or ready-made paint. Suitable facemasks should be supplied for use by the Workers when the paint is applied in the form of spray or surface having lead paint dry rubbed and scrapped. Necessary and adequate facilities shall be provided by the Contractor to enable the Working painters to wash during the period of cessation of Work.

All Safety Rules shall be strictly followed while Working on live electrical systems or installations as stipulated in the relevant Rules.

**81. Life Saving Appliances and First Aid**

The Contractor shall provide and maintain upon the Works, sufficient, proper and efficient life saving appliances and first aid equipment to the approval of the Engineer-in charge or Engineer-in charge's representative. The appliances and equipment shall be available for use at all times.



**82. Details to be Confidential, Drawings and Photographs**

82.1 The Contractor shall treat the details of the Contract as private and confidential, save in so far as may be necessary for the purpose thereof, and shall not publish or disclose the same or any particulars thereof in any trade or technical paper or elsewhere without the previous consent in writing of the Engineer-in charge or Engineer-in charge's representative.

82.2 No photograph of the Works or any part thereof or plant employed thereon shall be taken or permitted by the Contractor to be taken by any of his employees or any employees of his Sub-Contractors unless otherwise specifically mentioned in the Contract without the approval of the Engineer-in charge or Engineer-in charge's representative .

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## **SECTION-2**

### **PART-II- SPECIAL CONDITIONS OF CONTRACT**

#### **1. LABOUR**

The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labor, local or other, and for their payment, housing, feeding and transport.

The Contractor shall, if required by the Engineer-in charge or Engineer-in charge's representative, deliver to the Engineer-in charge or Engineer-in charge's representative a return in detail, in such form and at such intervals as the Engineer-in charge or Engineer-in charge's representative may prescribe, showing the staff and the numbers of the several classes of labor from time to time employed by the Contractor on the Site and such other information as the Engineer-in charge or Engineer-in charge's representative may require.

#### **2. COMPLIANCE WITH LABOUR REGULATIONS**

- 2.1. During continuance of the contract, the Contractor and his sub-contractors shall abide at all times by all existing labor enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labor law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labor law in future either by the State or the Central Government or the local authority. Salient features of some of the major labor laws that are applicable to construction industry are given below.

The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, the Engineer-in charge or Engineer-in charge's representative /Employer shall have the right to deduct any money due to the Contractor including his amount of performance security. The Employer/ Engineer-in charge or Engineer-in charge' representative shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

- 2.2. The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time.

**CESS FOR TNCWWB**

As per the provisions of the Tamil Nadu Manual Workers (Regulation of Employment and Conditions of Work) Act, 1982 and Tamil Nadu Manual Workers (Construction Workers) Welfare Schemes, 1994 and G.O.(MS) No . 295, Dt.17.12.2013 of Labour and Employment (12) Department, payment of cess to TNCWWB at 1% of the building or other construction works undertaken by Kamarajar Port Limited.

A recovery of 1% of the billed amount shall be effected progressively from each running bill as well as the final bill of the contractor for the works which are covered under the above mentioned Cess act. Hence the bidder shall include the component of Cess while quoting their rates for individual items of Bill of quantities.

**3. SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK.**

- a) **Workmen Compensation Act 1923:** The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- b) **Payment of Gratuity Act 1972:** Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years' service or more or on death the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.
- c) **Employees P.F. and Miscellaneous Provision Act 1952:** The Act Provides for monthly contributions by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are:
  - (i) Pension or family pension on retirement or death, as the case may be.
  - (ii) Deposit linked insurance on the death in harness of the worker.
  - (iii) Payment of P.F. accumulation on retirement/death etc.
- d) **Maternity Benefit Act 1951:** The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.
- e) **Contract Labour (Regulation & Abolition) Act 1970:** The Act provides for certain welfare measures to be provided by the Contractor to contract labor and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labor.
- f) **Minimum Wages Act 1948:** The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the

employment is a scheduled employment. Construction of Buildings, Roads, and Runways are scheduled employments.

- g) **Payment of Wages Act 1936:** It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.
- h) **Equal Remuneration Act 1979:** The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.
- i) **Payment of Bonus Act 1965:** The Act is applicable to all establishments employing 20 or more employees. The Act provides for payments of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employees.
- j) **Industrial Disputes Act 1947:** The Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- k) **Industrial Employment (Standing Orders) Act 1946:** It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and gets the same certified by the designated Authority.
- l) **Trade Unions Act 1926:** The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.
- m) **Child Labour (Prohibition & Regulation) Act 1986:** The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in Building and Construction Industry.
- n) **Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979:** The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, travelling expenses from home up to the establishment and back, etc.,
- o) **The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996:** All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety

measures at the Building or construction work and other welfare measures, such as Canteens, First-Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

- p) **Factories Act 1948:** The Act lays down the procedure for approval at plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power engaged in manufacturing process.
- q) **Employees State Insurance ESI Act, 1948:** The ESI Act, 1948, is applicable to Factories using power and employing 10 or more personnel and establishment employing 20 or more persons and drawing wages/Salary up to Rs.21,000/- per month (Rs.25,000/- per month in case of persons with disability) effective from 01.01.2017 and the employee's contribution rate (w.e.f 01.07.2019) is 0.75% of the wages and that of employer's is 3.25% of the wages paid/payable in respect of the employees in every wage period. Accordingly, the contractual/casual employees drawing wages up to Rs.21,000/- per month (Rs.25,000/- in case of PWD) employed either directly by Port or through contractor are covered under ESI Act, 1948.

**Note: Any Amendments / Circular / Orders issued by the Central / State governments to the above Acts / Regulations will form part of the document and should be abided by the contractor.**

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## **SECTION - 3**

### **GENERAL DESCRIPTION OF WORKS AND OTHER CONDITIONS.**

## **SECTION – 3**

### **GENERAL DESCRIPTION OF WORKS AND OTHER CONDITIONS**

#### **Scope of Work**

The Seafarers building is a newly constructed one of around 15,000 Sq.ft with all amenities like Grand Lobby, waiting lobby, Home theatre, Library, Meditation room, Gym, Billiards room, Restaurant with attached Bar, Kitchen, Saloon, Shops, Suit rooms with toilets, Indoor play area with badminton courts & outdoor play area with tennis & Volley ball courts and other infrastructure like Electrical room, Store etc.

For the above said rooms & spaces, we have already provided some basic infrastructures like Electrical, data & voice works, public address system, CCTV, Fire detection & Alarm system, A/C & Plumbing works during the construction of the building.

In view of the above, we advise the contractor to visit the site, understand the existing facilities, Amenities & Infrastructure provided at present and take it into account before quoting the tender.

#### **The General Scope of work under this tender is as follows:**

- I. The contractor has to visit, understand, analyse the present condition of the site & works done in all aspect and clear their doubts in prior is mandatory.
- II. The contractor after analyzing the existing condition with the proposed drawings has to schedule the work accordingly with the maximum usage of the existing one without neglecting it in all aspects.
- III. The contractor has to be flexible and willing to complete the existing pending work if any in all aspects like Civil, electrical, data & voice works, CCTV, PAS, Speakers, CCTV, A/C etc., for the smooth progress of work. All new works to be done without disturbing the existing one as per tender. The contractor should have an office in Chennai or nearest location for the smooth progress of work.
- IV. In order to execute the proposed works in accordance with the existing site conditions, if any alterations or modifications to the existing amenities or structures are required, the necessary repair works shall be carried out by the contractor and will be paid for accordingly. Synchronizing all the existing Electrical, EDP, firefighting system, Network systems like CCTV, PA, Video conferencing system to the Proposed new facilities.

#### **The brief Scope of work under this tender are as follows:**

- V. All interior works like Flooring, Carpentry works like doors, wall panelling, Acoustical panelling, fixed furniture's like counters storage units etc. False ceiling to the areas as per the drawing.
- VI. Electrical works like conduits, wiring, sockets, lighting, Data & voice points to be done as per the drawings in line with the site condition.
- VII. Other works like CCTV, Fire and safety works, Public address system & HVAC to be done considering the existing works already done.



- VIII. Plumbing works has to be done in the First floor for all suit rooms with fixtures & fittings to be done as per the specifications. Plumbing works also to be done for the Swimming pool in line with site conditions and as per drawing.
- IX. KPL propose to provide the Multifunction showers with glass enclosures to the suit rooms. The supporting equipment's of Heat pumps, circulation pump to be carried out by the successful bidder. Also, RO Purifier & BIO Tank has to be supplied, installed & commissioned in coordination with Electrical & plumbing works.
- X. Lightning Arrestor has to be supplied, installed & commissioned.
- XI. Air conditioning works (HVAC) to be done as per the layout provided with all necessary copper piping, drain pipe and required civil works for the same.
- XII. Special Flooring works for the gym area, indoor & outdoor play area to be done as per the standards & specifications mentioned.
- XIII. Swimming pool from "Desjoyaux" to be coordinated and completed in all aspects like electrical & plumbing works.
- XIV. Kitchen Equipment's has to be supplied, installed & commissioned as per the drawings in coordination with Electrical & plumbing works.
- XV. The maintenance has to be undertaken for special works like swimming Pool, Jaquar luxury showers, fittings & Fixture, Heat Pumps, Kitchen equipment's etc as per the contract.
- XVI. Exterior works like Structural Glazing, ACP Works, MCM Cladding works, pergola works in Aluminium & Glass, Glass Handrails to be done.
- XVII. Flush doors, ABS door have to be provided for all rooms inside and outside of the building.
- XVIII. KPL will supply the brought-out items like Home Appliances, Gym Equipment's, Sports accessories, Furniture etc., if any. The required supporting works like fixing of above equipment/appliances shall be carried out by the Interior contractor under appropriate items in the BoQ.

**The above scope of work is indicative only it may vary i.e Inclusion & Omission of work depends on KPL's decision during execution period.**

**Any other works to be performed relevant to the BoQ items in the Kamarajar Port premises to be performed (apart from the above scope of works) as directed by KPL Engineer-in-charge.**

Along with the offer, the bidder should submit a bar chart indicating their programme of work. On award of contract, the contractor shall within fifteen (15) days after the date of the Letter of Acceptance and/or Work order, submit to the Engineer-in charge for his consent a programme, in such form and detail as the Engineer-in charge shall reasonably prescribe, for the execution of the works. The contractor shall whenever require by the Engineer, also provide in writing for his information a detailed description of the arrangements and methods which the contractor proposes to adopt for the execution of the works.

If at any time it should appear to the Engineer's representative that the actual progress of the works does not conform to the programme to which consent has been given the contractor shall produce, at the request of the Engineer's representative, a revised programme showing the modifications to such programme necessary to ensure completion of the works within the time for completion. The contractor shall submit to the Engineer-in charge within fifteen (15) days after the date of Letter of Acceptance and in any case prior to the commencement of the work, three copies of a detailed Critical Path Method (CPM) schedule and bar chart which shall be based on this preliminary programme submitted with the tender and as approved by the Engineer, showing the earliest and latest dates of commencement and completion of various activities of the work and also anticipated dates for delivery, erection / installation of bought out items for different sections of the work. The detailed Critical path method (CPM) schedule and bar chart shall be updated by the contractor every month.

The submission to and consent by the Engineer-in charge of such programme or the provision of such general descriptions or cash flow estimates shall not relieve the contractor of any of his duties or responsibilities under the contract.

The Engineer-in charge may at his discretion allot additional working area, if required by the contractor, anywhere inside the Port premises subject to availability and free of rental charges based on the requirements of work. The area occupied by the contractor beyond the time limit specified including extended period if any granted shall be charged as per the Employer's scale of rates.

During the construction period necessary safety measures have to be taken for the men working at site. The bidder shall inspect and examine the site and its surroundings and shall satisfy himself before submitting his tender as to the nature of the site, the quantities and nature of work and materials necessary for the completion of the works and the means of access to the site, the accommodation he may require and in general, shall himself obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect his tender. No extra charges consequent to wrong assumptions / assessment by the bidder or otherwise shall be allowed. The bidder shall take into account all these aspects before quoting their rates and shall not hold the Port responsible for any details that might have been omitted to be mentioned in the tender schedule which may affect the pricing of the tender and any claim by the bidder on this account will not be entertained by the Port. **In case any additional investigations are required to be done at site by the bidder, he may do so at his own cost with the prior approval of the Engineer.**

The site will be handed over in stages/ fully, depending upon the approved construction programme of work. In case, if there is delay in handing over the site, due to any other exigence of Port related activities, the Engineer-in charge at his discretion may grant extension of time, as he considers reasonable for the proper completion of work. The

bidder has to take into account all the delays due to this kind of port activities. The grant of such extension of time, however, will not bestow on the contractor any right to claim compensation / extra payment for idling of plant, labour and overhead loss etc., even at a future date for any reasons whatsoever.

1. The contractor is deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for works and of the rates and prices quoted in the priced Bill of Quantities and the schedule of rates and prices (if any) which rates and prices shall except insofar as they are otherwise provided in the contract, cover all his obligations under the contract apart from all matters and things necessary for the proper completion and maintenance of the work. The rate quoted shall be inclusive of all taxes, (excluding GST) levies, duties, cost of insurance etc. apart from the cost of materials to be procured by the contractor and also labour, tools, plants, fuel, consumables, etc.
2. If any temporary item of work is needed for the execution of the contract, the required details shall be submitted by the bidder with the proposals and connected drawings along with the tender. No payment shall be made for any temporary items of work. Before any Temporary works are commenced, the contractor shall submit sufficiently in advance to the Engineer-in charge or Engineer-in charge's representative for approval, his proposals for all temporary works including drawings and design calculations. The Engineer-in charge or Engineer-in charge's representative shall be at liberty to make any modifications to the temporary works in accordance with the conditions of the contract and the contractor shall carry out such modifications. In the event of the contractor considering that such modifications required by the Engineer-in charge or Engineer-in charge's representative will affect the security of the temporary works, or increase the contractor's liability under the contract, he shall give notice in writing to the Engineer-in charge within seven days of receipt of such communication. The Engineer-in charge will thereupon consider the matter and communicate his decision, which shall be final and binding on the contractor. Notwithstanding the approval by the Engineer-in charge or Engineer-in charge's representative of any submitted design for any of the temporary works the contractor shall remain entirely responsible for such works in all respects.
3. The description of the item of work given in the schedule of quantities should be read along with the specifications, drawings and the conditions of contract.
4. It is to be expressly understood that the measured work is to be taken net according to the drawing or as may be directed from time to time by the Engineer-in charge or Engineer-in charge's representative and that the value of the work done will be calculated by the measurement of various items at the respective rates without

additional charges for any necessary incidental or contingent work connected therewith as detailed in specifications and conditions of contract.

5. The area where the construction works have to be executed is inside the port area, due care shall be taken to avoid hindrance to other movement. During the construction period necessary safety measures have to be taken for the men working at site. The bidder shall inspect and examine the site and its surroundings and shall satisfy himself before submitting his tender nature of the site, the stacking and movement of the traffic, the quantities and nature of work and materials necessary for the completion of the works and the means of access to the site, the accommodation he may require and in general, shall himself obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect his tender. No extra charges consequent to wrong assumptions / assessment by the bidder or otherwise shall be allowed. The bidder shall take into account all these aspects before quoting their rates and shall not hold the Employer responsible for any details that might have been omitted to be mentioned in the tender schedule which may affect the pricing of the tender and any claim by the bidder on this account will not be entertained by the KPL. In case any additional investigations are required to be done at site by the bidder, he may do so at his own cost with the prior approval of the Engineer. The site will be handed over in one stage. In case if there is delay in handing over the site, due to the port activities, the Engineer-in charge at his discretion may grant extension of time, as he considers reasonable for the proper completion of work. The bidder has to take into account all the delays due to the port activities. The grant of such extension of time however will not bestow on the contractor any right to claim compensation / extra payment for idling of plant, labour and overhead loss etc., even at a future date for any reasons whatsoever. No claim towards idle time charges will be entertained by the Port for any reasons whatsoever.
6. Drains, pipes, cables, overhead wires and similar services encountered in the course of the work shall be guarded from injury by the contractor at his own cost, so that they may continue in full and uninterrupted use to the satisfaction of the Engineer-in charge or Engineer-in charge's representative thereof and the contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services.
7. If any damage be done by the contractor to any mains, pipes, cables or lines (whether above or below structure) whether or not shown in the drawing, the contractor must make good or bear the cost of making good the same without delay, to the satisfaction of the Engineer-in charge or Engineer-in charge's representative.
8. KPL shall not be held liable for any damages or compensation payable under the law

in respect or in consequence of any accident or injury to any workmen or other persons in the employment of the contractor or any sub-contractor and the contractor shall indemnify and keep indemnified the Employer against all such damages and compensation and against all claims, demands, proceedings, costs, charges, expenses whatsoever in respect thereof or in relation thereto.

9. The contractor shall indemnify and keep indemnified the Employer against all losses and claims for injuries or damage to any person or any property whatsoever (other than surface or other damage to land being or crop being on the site suffered by tenants or occupiers) which may arise out or in consequence of the construction and maintenance of the works and against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect of or in relation thereto. Provided always that nothing herein contained shall be deemed to render the contractor liable for or in respect of or to indemnify the Employer against any compensation or damages for or with respect to:
- i. The permanent use or occupation of the land by the works or any part thereof or surface or other damages as aforesaid.
  - ii. The right of the Employer to construct the works or any part thereof on over under or in through any land.
  - iii. Interference whether temporary or permanent with any right of light, airway or water or other easement or quasi easement which is the unavoidable result of the construction of the works in accordance with the contract.
  - iv. Injuries or damage to persons / property resulting from any act or neglect done or committed during the currency of the contract by the Employer, its agents, servants or other contractors (not being employed by the contractor) or for in respect of any claims, demands, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto provided further that for the purposes of this clause, the expression "the site" shall be deemed to be limited to the area defined in the specification or shown in the drawings in which land crops will be distributed or damaged as an inevitable consequence to carry out the works.

The contractor shall within 24 hours of the occurrence of any accident at or about the site or in connection with the execution of the work, report such accident to the Engineer's representative. The contractor shall also report such accidents within the prescribed time to the competent authorities to whom such report is required to be made by law.

**10. Contractor's Working-area**

- 10.1 The Employer shall provide the area that can be conveniently spared, adjacent to the site of work, at its discretion, subject to availability, for Yard works and other appurtenant works to the contractor at free of cost.
- 10.2 The Employer will provide the land required for site offices, installation of concrete batching plant, testing laboratories etc., except labor camps at free of cost adjacent to the proposed Project site, during the tenure of the contract or such extended period, if any, subject to availability.

**11. Compliance with rules and regulations:**

- 11.1 The contractor shall at all times during the currency of the contract conform to and comply with the regulations and by-laws of the State or Central Government or of the KPL and of all other local authorities, the provisions, contained in the various labour acts enacted by the State Legislature and Central Parliament in force and the rules made there under including those under Minimum Wages Act, Factories Acts, the Indian Electricity Act and Rules framed under it, Workmen's Compensation Act, Provident Fund Regulation Act, Employees Provident Act, 1961 and Schemes made under the said act, Health and Sanitary arrangements for worker and safety code and the Contract (Regulation and Abolition) Central Rules 1971 etc. for welfare and protection of workers or for the safety of the public and other insurance provisions. KPL shall not be liable for the failure of the contractor in conforming to the provisions of the Acts, Rules and Regulations referred to in the above para and in case of any contravention of the provision of the Acts, Rules and Regulations etc. The contractor shall keep Employer indemnified against any loss, cost and damages in the event of any action being taken for contravention.

**12. Port Rules**

- 12.1 The Contractor shall observe the conservancy rules relating to the Harbour and shall always take such necessary additional steps to keep the Harbour waters free of noxious or unhygienic matters coming from his works as are required by the Employer. Under no circumstances shall inflammable material be allowed to spill into the Harbour area.
- 12.2 The Contractor shall always observe and comply with the working rules and regulations of the Port in force or as issued from time to time.

**13 Entry of Labour in Port premises**

- 13.1 Only vehicles licensed by the Port will be allowed inside the Port premises. Two-wheelers are not allowed to enter the port premises.



13.2 Online RFID gate pass system is available for admission into the Port premises and is regulated by issue of RFID tags, passes for the contractor, his staff, labour, and materials on payment basis. These passes shall be accompanied by RFID identity cards valid for daily, weekly, monthly and yearly basis on the period of the contract. The identity card contains personal details of the labourer (including photograph), Aadhaar number, name of the work, name of the contractor, duration, etc. In case the contract is extended, necessary endorsement should be made by the concerned Engineer or his representative on the identity card regarding the extension of the contract period. The contractor is solely responsible for all the details incorporated in the passes and the identity cards and the KPL is indemnified against their misuse. **The entry passes shall be produced at the time of entry and any other time when demanded by the CISF personnel or department officials.**

The standard operating procedure is available in the RFID link in port website [www.kamarajarport.in/content/innerpage/rfid.php](http://www.kamarajarport.in/content/innerpage/rfid.php)

### 13.3 Customs and security arrangements

The contractor shall comply with all the regulations imposed by the customs and Port Security Authorities in respect of the passage of plant, vehicles, materials and personal through customs barriers.

### 13.4 Fair Wages

The contractor shall pay the labour engaged by him on the work not less than fair wages which expression shall mean whether for the time or piece work, the labour rates of wages as fixed by the Central Public Works Department as fair wages of the State payable to the different categories of labourers or those as notified under the Minimum Wages Act for the district for corresponding employees of the Employer whichever may be higher.

"The Engineer of the works or his authorized representative will make necessary arrangements for witnessing the payment by the contractor to his labourers. The contractor should arrange for that and get the certificate from the department as required in terms of the CPWD contract labour regulations".

### 13.5 Festival and Religious Customs

The contractor shall allow his labourers to avail the Government notified national and local festival holidays and also such closed holidays for the Port declared by the Employer and also have due regard to local religious and social customs in respect of labour employed by him.

### 13.6 Wage Records

The contractor shall, maintain records of wages and other remuneration paid to his employees in such forms as may be convenient and to the requirement of the Engineer



and Conciliation Officer, Central Ministry of Labour, Government of India or such other authorized persons appointed by the State Government. The Contractor shall also exhibit the different notices as required under the Minimum Wages Act, 1949, Payment of Wages Act, 1936 and other Act / Rules and Regulation made there under from time to time.

**13.7 Returns of Labour**

The contractor shall, if required by the Engineer, deliver to the Engineer's Representative or at his office, a return in detail in such form and at such intervals as the Engineer may prescribe showing the supervisory staff and the numbers of the various classes of labour from time to time employed by the contractor on the site and such information in respect of constructional plant as the Engineer's representative may require.

**13.8 Removal of workmen**

The contractor shall employ in and about the execution of the work only such persons those are careful, skilled and experienced in their several trades and calling to the approval of the Engineer. The Engineer shall be at liberty to object to and to require the contractor to remove from the above works any person employed by the contractor in or about the execution of the works who in the opinion of the Engineer misconducts himself or is incompetent or is negligent in the proper performance of his duties and such persons shall not be again employed in the works without permission of the Engineer.

**13.9 Contractor's temporary structures**

The contractor may at his own expenses and subject to the approval of the Engineer, construct temporary offices, stores, workshops in the area allotted to him and remove the same as per the order of the Engineer on completion of the contract. No hire charges are payable for the area allotted during the contract period or such extended time as granted by the Engineer. However, the hire charges for the land area utilized by the contractor after completion of the contract period or such extended time shall be recovered from the contractor at the rate fixed by the Port from time to time.

**13.10 Employment of the Government Retired persons**

No Engineer of gazetted rank or other class I & II officers employed in Engineering or administrative duties in an Engineering department of the Government of India / Port is allowed to work as a contractor for a period of 2 years of his retirement from Government / Port service without the previous permission of Government of India or by the Port as the case may be. The contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had

not obtained the permission of Government of India / Port as the case may be as aforesaid before submission of the tender or engagement in the contractor's service as the case may be.

**13.11 Regarding employment of the foreigner NOT APPLICABLE**

**14 Defects liability:**

**14.1. Defects Liability Period**

The contractor shall be responsible to make good and remedy at his own expense within the period as may be stipulated by the Engineer, any defects which may develop or may be noticed before the expiry of the period i.e. **twelve (12) months** from the certified date of completion and intimation of which has been sent to the contractor within seven days of the expiry of the said period by a letter.

**14.2. Default of the contractor in compliance:**

In case of default on the part of the contractor in carrying out such order, the Employer shall be entitled to employ and pay other persons to carry out the same and all expenses consequent thereon or incidentals thereto shall be borne by the contractor and shall be recoverable from him by the Employer or may be deducted by the Employer from any moneys due or which may become due to the contractor. The Port also reserves the right, to encash the Bank Guarantee deposited in the Port favour towards Performance Security Deposit for recovering the dues, claims, charges etc., payable to the Port by the Contractor.

**15. Cost of Remedying Defects:**

During the course of the execution of the contract, if any damage is caused to the Employer's properties by the contractor, the same shall be rectified by the Contractor at his own cost to the satisfaction of the Engineer-in charge within a reasonable time as specified by the Engineer.

**15.1 Contractor's failure to carry out the rectification of damages caused to the Employer's property**

In case of default on the part of the Contractor in carrying out such rectification of damages to the Employer's properties within a reasonable time, the Employer shall be entitled to employ and pay other persons to carry out the same and if such Work is work which, in the opinion of the Engineer, the Contractor was liable to do at his own cost under the Contract, then all costs consequent thereon or incidental thereto shall, after due consultation with the Contractor, be determined by the Engineer-in charge and shall be recoverable from the Contractor by the Engineer, and may be deducted by the Employer from any monies due or to become due to the Contractor and the Engineer-in charge shall notify the Contractor accordingly. The Port also reserves the

right, to encash the Bank Guarantee deposited in the Port favour towards Performance Security Deposit for recovering the dues, claims, charges etc., payable to the Port by the Contractor.

16. **Special risks:**

The contractor shall be under no liability whatsoever whether by way of indemnity or otherwise for or in respect of destruction of or damage to the works (Save any work condemned under the provisions of **Section-5, Part-III, clause23.1, "Removal of improper works and material"** and default of contractor in compliance with that hereof prior to the occurrence of any special Risks hereinafter mentioned) or temporary works or to property whether of the Employer or third parties or for in respect of injury or loss of life which is the consequence whether direct or indirect of war, hostilities (whether war be declared or not) invasion, act of foreign enemies, rebellion, revolution, insurrection or military or usurped power, civil war or (otherwise than among the contractor's own employees) riot, commotion or disorder (hereinafter comprehensively referred to as "the said special risks").

17. **Projectile, missile, etc.:**

Destruction, damage, injury or loss of life caused by the explosion or impact whenever and wherever occurring of any mine, bomb-shell, grenades or other projectile, Missile, ammunition or explosive of war shall be deemed to be a consequence of the said Special Risks.

18. **Increased costs arising from special Risks:**

The Employer shall reimburse to the contractor any increased cost of or incidental to the execution of the works (other than such as may be attributable to the cost of reconstructing work, condemned under the provisions of **Section-5, Part-III, clause23.1, "Removal of improper works and material"**. Default of contractor in compliance to that thereof prior to the occurrence of any special risks) which is howsoever attributable to or consequent on or the result of or in any way whatsoever connected with Special Risks (subject however to the provisions of this clause hereinafter contained in regard to outbreak of war) but the contractor shall as soon as such increase of cost shall come to his knowledge, forthwith notify the Engineer-in charge thereof in writing.

19. **Outbreak of war:**

If during the currency of the contract, there is an outbreak of war (whether war is declared or not) in any part of the world which whether financially or otherwise materially affects the execution of the works, the contractor shall unless and until the contract is terminated under the provisions contained in this clause, use his best endeavors to complete the execution of the works provided always that the Employer

shall be entitled at any time after such outbreak of war to terminate this contract by giving notice in writing to the contractor and upon such notice being given, this contract shall (save as to the rights of the parties under this clause and to the operation of Clause, "**Settlement of disputes by arbitration**" hereof) terminate but without prejudice to the rights of either party in respect of any antecedent breach thereof.

20. **Date of commencement and completion of work:**

The work shall be taken to have been commenced from the date on which the contractor takes over the site i.e. Issue of Notice to Proceed or the twenty first (21)<sup>st</sup> days of receipt of the letter of acceptance by the contractor, whichever is earlier and the contractor shall complete entire scope of the works within **06 (Six) months** from this date.

21. **Taking-over certificate:**

When the whole of the Works of each BOQ have been fully completed and have satisfactorily passed any Tests on Completion prescribed by the Contract, the Contractor may give a notice to that effect to the Engineer-in charge also after full filling the requirements as specified in **Clause 3, Part-I, Section -5**. Such notice shall be deemed to be a request by the contractor for the Engineer-in charge to issue a Taking-Over Certificate in respect of works. The Engineer-in charge shall within Thirty (30) days from the date of delivery of such notice either issue to the Contractor a Taking over Certificate or give instruction in writing to the Contractor specifying all the works, which in the Engineer's opinion is required to be done by the contractor before the issue of such certificate. The Contractor shall be entitled to receive such Taking-Over Certificate within Thirty (30) days of completion of each BOQ, to the satisfaction of the Engineer, of the works so specified and remedying any defect so notified.

22. **Supply of materials:**

No materials will be supplied free by the KPL unless otherwise stated elsewhere and it is the responsibility of the contractor to procure and supply all the materials required for the work at their cost.

23. **Service available at cost:**

23.1. **Supply of water for the works:**

***The contractor shall make his own arrangements for water at his own cost from outside. KPL will not provide water supply for the work.***

23.2. **Electricity Supply for Works:**

Electrical power required by the contractor will be provided that can be conveniently spared by the company from time to time.

1. The power point will be provided at the office premises or at the nearest panel

box.

2. The contractor has to make his own arrangement for the cable required to extend the power supply to the load point, energy meter of the rated capacity, control switch and other safety devices.
3. The power cables shall be properly laid and the switch board shall be erected as per the electricity rules and guidelines.
4. Power supply will be provided after the inspection of the installations by the KPL Engineer.
5. Electrical safety regulations shall be strictly followed.

**6. (i) For Works:**

Electrical power supply will be provided for the consumption charges of  
***Rs.11.00 per Unit***

7. The above rates are subjected to change from time to time as and when the TANGEDCO effects the tariff changes.

**23.3. Supply of drinking water**

The contractor has to make his own arrangements and no drinking water will be supplied by the Employer.

**23.4. Construction Water and fuel for plants and machinery**

The contractor shall make his own arrangements for the supply of water, fuel, etc., at his own cost for the plants and machinery etc.

**23.5. Financial background**

The work covered under this contract is a time bound work and the work will have to be completed within the stipulated period. The contractor shall be financially sound so as to ensure sufficient cash flow for the monthly work.

**23.6. Mode of measurement and payment**

The mode of measurement and payment are described in the "Preamble to Bill of Quantities", **Clause 3 of section9.**

**24. General conditions relating to works**

**24.1. Assistance for Engineer-in charge**

The contractor shall provide the Engineer-in charge at all times during the contract period sufficient and qualified personnel to assist the Engineer-in charge in this duties to carry out or check any work and / or measurement of works. The contractor is also to provide the Engineer-in charge with necessary survey instruments and computers etc., as directed for inspection or measurement of the works by the Engineer-in charge.

**24.2. Safety of adjacent structures of works**

In pursuance of the conditions of contract the contractor or his representative shall provide and erect to the approval of the Engineer-in charge such supports as may be required to protect efficiently all structures or works in the vicinity of working area or otherwise take such permanent measures to protect the structures or works. Any damage to the structures shall be made good by the contractor without delay as directed by the Engineer-in charge at his cost.

**24.3. Expatriate personnel**

Not Applicable

**24.4 Unauthorized persons**

No unauthorized persons will be allowed at the site. The contractor shall take steps to prevent trespass and prevent unauthorized persons from entering and / or being on the site. All the personnel will be required to wear their security passes as per requirements of local / port authorities. Access shall be limited to the area they are working in and allowed by local / port authorities. Such passes shall be arranged sufficiently in advance both for men as well as vehicles and shall be renewed as and when required. Non-availability of passes or personnel to carry out the job within the stipulated time period shall not be considered as a plea for extension of time or extra cost.

**24.5 Firefighting arrangements**

- a) The contractor may be subjected to periodic fire prevention inspections by local fire prevention authorities / Port Marine Department. Deficiency or unsafe condition shall be corrected at the cost of the contractor and the approval of the Engineer-in charge and the Port Marine Department.

These fire prevention inspections will include but are not limited to the following:

- i) Proper handling, storage and disposal of combustible materials, liquids and waste.
  - ii) Work operations, which can create fire hazards.
  - iii) Access to fire fighting equipment.
  - iv) Type, size, number and location fire extinguishers or other fire fighting equipment.
  - v) Inspection and maintenance of records for extinguishers.
  - vi) Type, number and location of containers for the removal of surplus materials and rubbish.
  - vii) General housekeeping.
- b) While carrying out works inside the Port area, the contractor shall isolate the zone under his occupation in consultation with the Marine Department. Smoke from

welding etc., should be kept to minimum to ensure that false alarms are not raised.

#### 24.6 **First aid facilities**

The contractor shall provide and maintain upon the work sufficient proper and efficient lifesaving appliances and first aid equipment to the approval of the Engineer-in charge and in accordance with the requirements of International Labour Organization (I.L.O.) Convention No.62. The appliances and equipment shall be available for use at all times. For work carried out within the dock area or in the vicinity of any wharf or quay, the contractor shall abide by all the provisions of the Dock Workers (Safety, Health and Welfare) Scheme, 1961. The contractor's particular attention is drawn to **Clause 12 of Section-2 part-1** of the above said Regulation in respect of erection and maintenance of staging. Contractor shall indemnify the Port from the cases booked by the Labour Enforcement Officer (L.E.O.) for his (contractor's) negligence. The contractor shall at his own expense, provide adequate First aid services on the site including trained first aid staff during all working hours. The contractor shall also make necessary arrangements with a local hospital and with doctors so that his sick or injured persons may receive the best available medical treatment with a minimum billing at any hour of the day or night. For this purpose, he shall provide a suitably equipped ambulance.

#### 24.7 **Site register**

For the purpose of quick communication between the Engineer-in charge and the contractor, site register shall be maintained at site in the manner as described below: Any communication, relating to the works may be conveyed through records in the Site Registers, such as communication from one party to the other shall be deemed to have been adequately served in terms of **Clause 61.1 of Section 2 part 1** of the Conditions of Contract. Each Site register shall have machine numbered pages in triplicate and shall be carefully maintained and preserved by the contractor and shall be kept in the office of the Engineer. Any instruction or order which the Engineer-in charge may like to issue to the contractor may be recorded by him in the Site Register and two copies thereof taken by him for his record.

#### 24.8 **Progress photographs**

The contractor shall arrange to take Progress Photographs and videos regularly at his cost; the positions from which the photographs/videos are to be taken shall be directed by the Engineer. The contractor shall submit on monthly basis minimum one set of color photographs (size 15cm x 10cm) containing 12 photographs in albums and also in CD form both photos and videos. Prints may not be reproduced without the approval of the Engineer. No extra rate shall be paid for this purpose and the quoted rate is deemed to cover the cost of this item also.



**24.9 Construction records**

The contractor shall keep and supply to Engineer-in charge full and accurate records of the dimensions and positions of all new work and any other information necessary for the Engineer-in charge to be able to prepare completion drawings, recording details of the work as constructed.

**24.10 Temporary fencing**

The contractor shall at his cost provide and maintain temporary fencing both fixed and movable type and gates to adequately enclose all boundaries of the site office / site workshop, site stores etc., including security and in accordance with the requirements of the Engineer-in charge and regulations of local authorities. These shall be altered, relocated and adopted from time to time as necessary and removed on completion, all expenses in this connection shall be borne by the contractor.

**24.11 Temporary access**

Access shall be provided to the site by the contractor from the nearby main road at no extra cost as directed by the Engineer-in charge or Engineer-in charge's representative. The contractor shall be responsible for proper maintenance of this access road and take all care to see that the existing services if any are maintained in working order. The contractor shall provide temporary access / approach if necessary, otherwise shall maintain the existing roads being used by him.

**24.12 License, permits, etc.,**

The contractor shall make his own arrangements for obtaining all necessary licenses, permits etc. that he may require during the progress of the works. The contractor shall have adequate supply of necessary materials from the very beginning to ensure that no serious delay or holdup occurs in the execution of works.

**24.13 Existing services**

The contractor's attention is drawn to the possibility that there might be existing underground or overhead services & service line inside and around the port areas i.e., within the site of the proposed works. It is the contractor's responsibility to work cautiously and carefully so that these are not damaged. Any damage to the services shall be repaired and restored immediately as directed by the Engineer-in charge without any extra cost. The contractor is required to ascertain and allow in his cost for any rerouting of the services that may be necessary for the due execution of the contract and any claim resulting from his failure to do so will not be admitted.

**24.14 Safety and security measures**

- a. The method of work for successful completion of work shall be at the sole discretion of the contractor. The contractor shall take all preventive and precautionary measures to ensure complete safety of all site personnel, inhabitants of the

buildings including any third party, together with all buildings on or around the site. Temporary and permanent including adjacent building and buildings completed or partly completed by any third party, till satisfactory completion of work in respect to each existing building.

- b. The contractor shall comply with all applicable Laws, Regulations and Standards. The contractor shall be responsible for the co-ordination of all safety matters and shall promptly comply with any specific safety instructions given by the Engineer-in charge or by the respective authorities.
- c. When any work is performed at night or where day light is shut off or obscured, the contractor shall, at his cost provide appropriate lighting facilities to continue execution and permit inspection. During such periods the access to the place of work shall also be clearly illuminated. All wiring for electric lights and power shall be installed and maintained, securely fastened in a place at the points and shall be kept away as far as possible from telephone and signal wires. All wiring shall be subject to approval by the Engineer.
- d. The contractor shall adequately safeguard the site, products, materials, plant and the works from damage and theft. The contractor shall provide his and his sub contractor's staff and work people with permits required for admittance to restricted areas. In relation with this contract the following shall be observed.
  - i) Any security procedures as demanded by local authorities / Port such as passes, badges interruptions to work, etc., shall be strictly adhered to.
  - ii) The cost for security measures under this Clause shall be borne by the contractor.

**24.15 Maintaining utility and services**

The contractor shall not damage, close or obstruct any utility areas, roads, Port traffic or other property until permits thereof have been obtained. If facilities are closed, obstructed, damaged or rendered unsafe by contractor's operation, the contractor shall, at his own cost, make such repairs and provide such temporary guards, lights and other signals or as necessary or required for safety and as will be acceptable to the Engineer-in charge and / or the Employer of the utility, highway, road or other property.

**24.16 Facilities, attendance etc., on nominated sub contractors**

The contractor shall allow for the provision of facilities, attendance etc., for the nominated sub-contractors. These facilities, attendance etc., include:

- a) Storage facilities for plant and equipment and products and materials.
- b) The use of sanitary accommodation, medical and welfare facilities.
- c) Watching and lighting and protection of their work as necessary.

**24.17 Limitation of operations**

The contractor shall refrain entering area of the site not allocated to him unless he obtains the prior written approval of the Engineer-in charge and appropriate authorities. Should the contractor wish to make use of any adjoining or property of offices or halls, he shall first obtain the written clearance / consent of the Engineer-in charge and then shall apply to the appropriate authority for permission to use the area. If such permission is granted, the contractor may make use of the area thus permitted to use, but on completion shall clear away and make good any damage at his own expense and pay all costs and charges in connection therewith. The contractor shall be solely responsible to obtain required permits / authorization from other agencies/ Departments for the due performance of the contract and delay if any arising thereof shall not be quoted as reason for extension of time and consequent additional cost. The Contractor has to comply with all Port operational procedures set forth by Port Authorities as and when required at his own cost.

**24.18 Work programme for areas with restricted access**

Work to be carried out inside the seaport shall be so programmed to ensure, that the time period required to carry out the entire activities is minimum. All advance preparations with regard to approvals, procurement of all materials, plant, personnel etc., shall be made to achieve the targets, this may call for working continuously or at unscheduled hours as directed and approved by the Engineer.

**24.19 Noises and dust control**

The contractor shall take all necessary precautions in reducing noise and dust caused by Plant and minimum acceptable level by means of mufflers, silencers, screens and the like.

**24.20 Access to contractor's plants, works, surveying etc.,**

The Engineer-in charge shall have at all time during working hours access to the Contractor's plant workshop etc., and shall have the right to call for and obtain any information regarding the maintenance and operation of plant, progress of works, etc., from the contractor. For making such visits to the Plant etc., the contractor shall make available to the Engineer-in charge, suitable transport facilities provided for the purpose.

**24.21 Life Saving Appliances and First Aid**

The Contractor shall provide and maintain upon the Works, sufficient, proper and efficient life saving appliances and first aid equipment to the approval of the Engineer. The appliances and equipment shall be available for use at all times.

**24.22 Details to be Confidential, Drawings and Photographs**

24.25.1 The Contractor shall treat the details of the Contract as private and

confidential, save in so far as may be necessary for the purpose thereof, and shall not publish or disclose the same or any particulars thereof in any trade or technical paper or elsewhere without the previous consent in writing of the Engineer.

24.25.2 No photograph of the Works or any part thereof or plant employed thereon shall be taken or permitted by the Contractor to be taken by any of his employees or any employees of his Sub-Contractors unless otherwise specifically mentioned in the Contract without the approval of the Engineer.

**25. Working Condition**

**25.1 Access to the Site**

The access of men and materials to the site has to be through any of the designated Gates of the Port. The contractor has to comply with all necessary formalities as per Port rules for movement of men material and equipment on to the site.

**25.2 Port Requirement**

The normal port operations will be continued throughout the progress of the works and the contractor shall carryout their works without any hindrance to others.

**25.3 Clearance of site on completion**

After completion of the contract the contractor shall remove at his own cost allbalance materials of construction, shutter, scaffolding, Electrical and any other equipment, plant or materials introduced by the contractor.

**25.4 Environmental Considerations**

The contractor shall refrain from using plant, which makes excessive noise, particularly during the hours of darkness, which shall be limited to 45db(A) at a distance of 100 m from the working area and other plants.

The information furnished hereinafter and provided elsewhere is given in good faith, but the Bidder shall satisfy himself regarding the weather, tides, etc., and no claim will be entertained due to any error in the information supplied.

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**Section 4**  
**CONTRACT DATA**

**CONTRACT DATA**

|                                                                      |                                                                                                                                                                                            |                               |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| The Employer is                                                      | Kamarajar Port Limited ( KPL )                                                                                                                                                             | 1.2 of sec – 2<br>Part – I    |
| The Engineer-in charge is                                            | Officer nominated or appointed by Kamarajar port Ltd for the works.                                                                                                                        | 1.30 of sec –2<br>Part – I    |
| The Engineer-in charge 's representative is                          | Officer nominated or appointed by Kamarajar port Ltd in writing who shall direct and supervise and to perform the duties set forth in sub clause 5 hereof and be in charge of the works. . | 1.40 of sec – 2<br>Part – I   |
| The Conciliator appointed jointly by the Employer and Contractor is: | * Name: .....<br>* Address: .....<br>* (to be filled in after the Conciliator has been appointed)                                                                                          | 1.5 of Sec 2,<br>Part -1<br>– |
| The Name and Identification/location no. of this contract            | “Providing Interior Works and Other Allied Works to Sea Farers Club House inside Kamarajar Port on Item rate basis”                                                                        | NIT                           |
| Signing of Agreement                                                 | Within 21 days of Issue of Letter of Acceptance, the successful bidder should furnish the performance security and sign the agreement with the Employer.                                   | 29.4 of Sec.-1                |
| Remitting of Performance Security                                    | Within 21 days of Issue of Letter of Acceptance                                                                                                                                            | 30.0 of Sec.-1                |
| Notice to proceed the works                                          | Upon furnishing the Performance Security and entered the contract Agreement with employer by the successful Bidder, the Employer will promptly issue Notice to proceed the work.           | 29.6 of sec 1                 |

|                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Start Date                                              | The work shall be taken to have been commenced from the date on which the Notice to proceed with the works to be issued by KPL.                                                                                                                                                                                                                                                                                                                                                                                                       | 20.0 of Sec.-3             |
| Programme for the work .                                | The contractor shall submit a Programfor the works within 21 days of delivery of the letter of Acceptance.                                                                                                                                                                                                                                                                                                                                                                                                                            | Clause1 and 27.1 of sec -2 |
| Programme Update                                        | The period between Programme updates shall be 30 days                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 27.3 of Sec-2 Part – I     |
| Late submission of an updated programme                 | The amount to be withheld for late submission of an updated Programme shall be 1% of the contract value.                                                                                                                                                                                                                                                                                                                                                                                                                              | 27.3 of Sec-2 Part – I     |
| The Intended Completion Date for the Whole of the works | <b>6 Months (Six Months )</b><br>from the Start Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.20 of Sec.-2 Part – I    |
| Defects Liability Period                                | Twelve (12) months from the date of issue of completion certificate                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 32.30 of Sec-2             |
| Minimum Insurance                                       | (a) Loss of or damage to the works, Plant and Materials- The Contractor is to insure for full contract value.<br>(b) loss of or damage to Equipment – All the equipment should be properly insured.<br>(c) loss of or damage of property (except the Works, Plant, Materials and Equipment) in connection with the Contract-The minimum insurance cover for physical property, injury and death is Rs.3,00,000/- per occurrence with the number of occurrences limited to four. After each occurrence, contractor will pay additional | 13 of Sec-2 Part – I       |



|                               |                                                                                                                                                                                        |                             |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
|                               | premium necessary to make insurance valid for four occurrences always and<br>(d) personal injury or death-Insurance is to be taken for all staff and employees employed in the project |                             |
| Termination of Contract       | Refer Clause No. 57 of Section 2 Part I                                                                                                                                                | 57 of Sec.-2 Part 1         |
| language                      | The language of the Contract documents is English                                                                                                                                      | 12.1 of Sec-1               |
| Contract Law                  | The law which applies to the Contract is the law of Union of India under the jurisdiction of Madras High Court                                                                         | 3 of Sec-2 Part 1           |
| Liquidated Damages            | Levied at the rate of 0.5% of the contract value per week of delay or part thereof, subject to maximum of 10% of the contract Price.                                                   | 48.1 of Sec.-2 Part – I     |
| Advances                      | No Advance payment will be made under this contract.                                                                                                                                   | 50 of Sec.-2 Part -I        |
| ECS payment                   | As per the Payment Clause                                                                                                                                                              | 3 of Section 8              |
| Entry of Labours              | Ref Clause No. 13.3 of Section 3                                                                                                                                                       | 13.0 of Section 3           |
| Electricity & Water Charges   | Refer Clause No. 23.1 & 23.2 Section 3                                                                                                                                                 | 23.1&23.2 of Section 3      |
| Employment of Technical Staff | Refer Clause 9.3 of Section 2 of Part 1                                                                                                                                                | 9.3 of Section 2 of Part 1  |
| ESI Contribution              | Refer Clause 3 q of Section 2 of Part II                                                                                                                                               | 3 q of Section 2 of Part II |
| Cess for TNCWWB               | Refer Clause 2.2 of Section 2 of Part II                                                                                                                                               | 2.2 of Section 2 of Part II |

## **SECTION –5**

### **TECHNICAL SPECIFICATION OF MATERIALS AND WORKS**

## **SECTION - 5**

### **PART I - MATERIAL AND WORKMANSHIP**

#### **1. General provision**

##### **1.1. Standards**

Unless otherwise specified in the Contract, the relevant provisions of the appropriate Bureau of Indian Standards / Indian Road Congress shall apply for all materials and workmanship. Where relevant BIS / IRC Standards do not exist, the latest version of the relevant British Standard Specification or Standard of the American Society for Testing Materials shall apply. Equivalent standards from other countries may be used provided they are demonstrated to be equal to or more onerous than the standard quoted. In such a case, the standard shall be provided with an acceptable translation.

IRC : Indian Road Congress

IS / BIS : Indian Standards

BSS : British Standard Specification

Cp : British Standard Code of Practice

ASTM : Standard of the American Society for Testing Materials

AASHTO : American Association of State Highways and Transportation Officials

##### **Standard products**

If mention is made in the Contract of named products of individual manufacturers, this indication of the standard or type and workmanship of goods, which are satisfactory to the Engineer. The Contractor may substitute similar Products of at least equal quality and suitability, subject to the approval of the Engineer-in charge provided that the Contractor has submitted with his Tender proposals for such substitution with full particulars of the proposed alternative products; otherwise, the Contractor's proposals may not be considered. Proposals by the Contractor for the supply of manufactured products shall be accompanied by certification that the manufacture's products are approved by the relevant standards authority.

#### **2. Test certificates**

Where specified, each consignment of materials or products intended for use in the Permanent works shall be accompanied by a manufacturer's test certificate showing that it conforms in all respects to the appropriate standards and specifications. If no such certificates are enclosed, the Engineer-in charge shall have the materials or products tested by a nominated testing authority. The costs of such tests shall be borne by the Contractor.

**3. As-built drawing**

During performance of work under this contract, the Contractor shall keep at the site of the works, records as a set of transparencies which shall be kept marked up in detail to indicate such changes or additions as may be requested by the Engineer-in charge or required to suit field or other conditions. Whenever, requested by the Engineer-in charge during the execution of the works, the contractor shall submit copies of these up to-date drawings. After completion of the project in all respects, the contractor shall submit as-executed drawings incorporating all changes made by the Engineer-in charge during execution, in the form of CDs along with one set of hard copies.

**4. Works to be kept dry**

If certain parts of the Works or Temporary works are liable to flooding at any stage, the Contractor shall be responsible for preventing such flooding and for promptly rectifying any damage to the works or Temporary works so occasioned by flooding.

**5. Materials and workmanship****5.1 Quality of materials, workmanship and testing facilities**

All materials are intended to form or forming part of the work. All workmanship and all work under the Contract shall be in accordance with the Contract and with the instructions of the Engineer-in charge. Those materials, which shall conform to the relevant standards, shall be subject to the approval of the Engineer-in charge and shall be subjected from time to time to such tests as the Engineer-in charge may direct. Tests shall be carried out either at the contractor's laboratory or at any other place as directed by the Engineer-in charge. The Contractor shall provide without delay, all such attendance, assistance, facilities and equipment as are required for examining, measuring, sampling and testing of work and the quality, weight and quantity of materials and things intended to form or forming part of the works as and where required by the Engineer-in charge. The Contractor shall re do/replace such work, materials and things rejected by the Engineer-in charge.

**5.2 Sampling**

Samples shall be taken in accordance with the relevant standards and in such a way and number that they can be considered to be representative of the full quantity of materials from which they are taken. Samples submitted for approval of materials to be supplied, or of the standard of workmanship and subsequently approved will be kept by the Engineer-in charge's Representative who may reject all materials or workmanship not corresponding in quality and character with the approved samples. Suitable labeled boxes or containers for the transport and storage of samples shall be provided by the Contractor.

### 5.3 **Testing**

All materials intended to form part of the Works shall, unless otherwise directed by the Engineer-in charge, be tested in accordance with relevant standards and with the requirements of this specification. The contractor shall carry out such tests of his own as is necessary to ensure compliance with the Specifications.

The Contractor shall be entitled to be represented at all tests carried out by or on behalf of the Engineer-in charge in order to determine whether workmanship and materials meet the requirements of the Specifications. Sufficient notice shall be given to the Contractor to enable him should he so wish to be present during any control test. Should the Contractor not wish to witness or be present at any control test, it shall be assumed that the Contractor accepts the validity of the results of that test.

### 5.4 **Prevention of damage to materials**

The Contractor shall take adequate measures to prevent damage, contamination and the like at any stage and by any cause to all materials intended to form part of the works.

### 5.5 **Costs of compliance**

The costs incurred by the Contractor in complying with the provisions of **Clause 5** shall be borne by the Contractor provided that the Employer shall reimburse to the Contractor.

- The cost of testing if the testing is ordered by the Engineer-in charge to be carried out by an independent person or agency at any place other than the Site or the place of manufacture or fabrication of the materials or things to be tested and is not specifically required by the Contractor to be carried out by an independent person or agency.
- The cost of core drilling if such drilling is required by the Engineer-in charge to obtain samples from the Works and not specifically required by the Contract;
- Such cost if any, of finished or partially finished work is ordered by the Engineer-in charge to be tested under load to ascertain whether the design of such work is appropriate for the purposes which it is intended to fulfil and such test is not clearly intended or provided for in the contract.

Not with standing the above provisions, the costs incurred by the Contractor in complying with the provisions of this Clause shall entirely be borne by the Contractor if the test shows workmanship, materials or things not in accordance with the provisions of the Contract or the Engineer's instructions.

### 5.6 **Compliance - no reason for extension of time**

Compliance by the Contractor with the provisions of this Clause shall not give the Contractor any right to extension of time for the completion of the works.

**5.7 Inspection before concealment**

Whenever work requiring inspection or testing is subsequently to be concealed, due notice shall be given to the Engineer-in charge so that inspection may be made or tests witnessed before concealment. Failure to give such notice may necessitate the Contractor's uncovering the work for inspection purposes and reinstating it all at his own expense.

**6. Levels and dimensions**

The Contractor shall carryout his own surveys and measurements to verify existing levels and dimensions of existing features shown on the drawings, as and when deemed necessary by him. Wherever dimensions or levels are shown on the Drawings such dimensions or levels shall take precedence over dimensions scaled from the Drawings and scaled dimensions shall be used only in the absence from the Drawings and/or elsewhere of other more precise information. Large scale Drawings shall be used in preference to drawings of a smaller scale. In the event of discrepancies between the Drawings and the specifications, the specifications shall have precedence over the Drawings. Whenever there is any doubt or in-consistency regarding the levels/datum's etc., indicated in the drawings, the same shall be got clarified from the Engineer-in charge before proceeding with the works. The Engineer's decision will be final and binding on the contract.

**7. Setting out****7.1. Setting out the works**

Setting out the works shall be done by the Contractor by such dates as to permit timely commencement of the work. The Contractor shall furnish, install and maintain all markers, buoys, shore beacons and other items necessary to define the works. The setting out of the Works under Contract shall be executed by the Contractor with the Engineer's Representative in attendance.

**7.2. Checking of setting out**

The Contractor shall provide the Engineer's Representative with sufficient equipment, duly calibrated in the field, labor and materials to enable the Engineer's Representative to check the Contractor's setting out at any time the Engineers' Representative may direct.

**7.3. Data for setting out the works**

The levels shown in the Drawings are referred to Chart Datum (C.D.) unless otherwise stated in the Drawings. Prior to commencement of work, the Contractor shall engage a qualified Surveyor to check the locations and levels of the existing reference points at the Site and install additional reference points for his works, which will not be affected by construction operations. Coordinates and levels of existing reference points will be

provided by the Engineer-in charge but the Contractor shall carry out all additional survey and leveling work necessary for setting out the works in fulfillment of his obligations.

**8. Conditions of site**

Before carrying out any work, the Contractor shall inspect the Site in conjunction with the Engineer's Representative to establish its general condition which shall be agreed and recorded in writing, and where, in the opinion of the Engineer-in charge or his Representative it is deemed necessary, by means of photographs. The boundary of the land provided for the execution of the works will be defined by the Engineer's Representative and the Contractor shall provide erect and maintain from commencement to final completion, approved markers indicating the boundary of the working area at regular intervals as the Engineer's Representative may require.

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**STANDARD/TECHNICAL SPECIFICATION - FOR CIVIL WORKS**

**All the materials and works are to be in confirmation / as per the BIS / CPWD / MORTH specification otherwise it is specifically described.**

1. As per tender specifications, drawings and standards etc. In general job shall be done as per CPWD specifications. However brief specifications are given here under for general guidance purpose of the Tenderers. The job scope includes casting of isolated footings as per drawings, and all other building activities including civil / sanitary / plumbing / electrical works as spelt out in the detailed drawings and specifications. It shall be clearly be noted that the bidders are required to give their lump-sum rates taking into consideration all aspects as per site requirements and drawings/specifications enclosed along with this tender document. Quoted offers shall be inclusive of all materials and labor. Water and Power shall have to be arranged by the contractor for execution of the tendered work. The contractor shall be responsible to complete the entire work in all respects and any other works necessary to complete the job though especially not covered in the scope of work. In general, the scope of work covers the following but not limited to:

- Anti-termite treatment as per CPWD to be executed by reputed party (Licensed holder)
- Earth work in excavation in all kinds of soils and in all lead & lift.
- Filling with surplus excavated earth.
- Filling with selected earth brought from outside at any lead & lift.
- Providing and filling silt earth / sand under floor in foundation.
- Providing and laying 1:4:8 (1 cement: 4 Crushed Stone Aggregate: 8 graded stone agg; 40mm nominal size) concrete in foundation bed.
- Providing and laying design mix of concrete grade M25 including steel/ply wood shuttering with steel/timber centering propping and scaffolding as per drawings.
- Providing cutting bending and placing steel reinforcement as per detail structural drawings.
- Providing and laying brick work in CM 1:4 (1 cement: 4 Crushed Stone Aggregate) in foundation strength of the bricks should be 75 class designation.
- Providing and laying damp proof course with application of two coats of polymer modified coating with a single component 100% acrylic polymer master Crete M-81 of choksey chemicals to be mixed with OP cement in the ratio 1:2 over the PCC work of ratio 1:1.5:3 (cement: 1.5 Crushed Stone Aggregate: 3graded stone of 10mm down nominal size)
- Providing and laying brick work in CM 1:6 (1 cement : 6 Crushed Stone Aggregate) in superstructure strength of the bricks should be 50 class designation.
- Providing drip course (bulging) on ail external projected slabs and chajjas.
- Providing 12mm cement plaster of mix 1:4 (1 cement: 4 Crushed Stone Aggregate) on fair side of brick/concrete surface.
- Providing 6mm ceiling plaster in CM 1:4 (1 cement: 4 Crushed Stone Aggregate)

- Providing 15mm cement plaster of mix 1:4 (1 cement: 4 Crushed Stone Aggregate) on rough side of brick wall surface.
- Providing and fixing 304 grade stainless steel railing combination of chrome & nickel with baluster as per the drawing.

**2. DOORS, WINDOWS/VENTILATORS:**

- As per drawing and specification.
- Door frames - as per drawing and specification
- Windows and Ventilators shall be as per detailed specifications including provision of safety grills.

**3. GENERAL REQUIREMENTS:**

- Water proofing treatment in sunken slabs and flat roofs.
- Providing and fixing circular CI box for ceiling fan clamp.
- 400mm long 50mm-dia PVC waterspouts to be connected to RW pipe.
- High Density PVC rain water/sanitary pipe with all specials and jointing.
- Water supply in composite pipes as per drawing.
- Washable acrylic distemper as specified in the schedule of finishes over wall putty prepared surfaces.
- Enamel paint over wood /steel surfaces over a coat of approved quality primer. White washing of ceilings.
- Making plinth protection with PCC (1:2:4) over bricks flat laid in CM 1:4 and finished with 15mm thick cement plaster in prop. 1:2 with floating coat of neat cement finish.
- House drains as per drawings/specifications.
- All exposed MS members and woodwork to be painted with two coats of synthetic enamel paint over a coat of primer.
- All wood shall be kiln seasoned and chemically treated. Water proofing roof paint in inclined surface.

**4. FLOORING & PAVING:**

- As per finishing schedule.

**5. HARDWARE AND FITTINGS:**

- 150mm long stainless steel handles with CP brass screws
- 200mm long stainless steel tower bolt with CP brass screws
- Stainless steel door stoppers

- Al drop with in built locking device.
- Stainless Steel ball bearing hinges 125X75X4mm.
- All hinges shall be fixed with CP brass screws.
- Mortise lock should be provided as per hardware drawing
- All window/ventilator panels shall be provided with fixtures such as stay & handles, for open able. The thickness of glass panes shall be 6mm. All toilet glass panes to be provided with frosted glasses.

**6. SANITARY AND PLUMBING WORKS:**

- European pattern W.C. with low level PVC flushing cistern as per drawing.
- Wash basin as per drawings. Wash basins to be provided with C.I. brackets.
- Glass shelves to be provided and Mirror 600mmx450mm
- Providing CP soap tray in the Toilet.
- Towel ring 200mm dia and Towel rail -750mm long as per drawing
- Rain water pipe (PVC) - 150mm dia with necessary fittings like bends, tees, junctions floor traps, terminal guard etc. with pipe clips and joints as per requirements
- Floor trap with jalli in toilet, kitchen.
- PP - R pipes of required sizes for water supply network.
- PVC soil/waste water pipe (150mm dia); vent pipe (75mm dia) with necessary fittings like bends, tees, junctions floor traps, terminal guard etc. with pipe clips and joints as per requirements of sanitary scheme.
- Septic Tank with Soak pit, Inspection chambers, manholes, drainage pipes etc. as per drawings.

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**PART-II - GENERAL INFORMATION:****1.0 GENERAL:**

The work under this tender shall be executed strictly in accordance with the constructional and material requirements defined under these specifications and as per BIS / CPWD / MORTH specified. The Contractor shall carefully acquaint himself with these specifications to determine his contractual obligations for the work. The conditions of these specifications will be binding on the Contractor and no deviation shall be permissible unless specifically approved by the KPL Engineer - in - Charge in writing. In absence of any detailed specifications, these specifications, latest Indian Specifications and code of practice shall become applicable. Wherever the codes and specifications are silent then the same shall be governed by sound engineering practices and the decision of the KPL Engineer-in-Charge in matters of interpretation etc., shall be final and binding on the Contractor.

**1.1 DRAWINGS/DIMENSIONS:**

Figured dimensions on drawings shall supersede measurements by scale and drawings to a large scale take precedence over those to a smaller scale. Special dimensions in the specifications shall be checked on site. The dimensions where stated do not allow for wastage, laps joints etc., the levels. Measurement and other information concerning the existing site on the drawings are believed to be correct, but the contractor shall verify them for himself and also examine the nature of the ground as no claim or allowance whatsoever shall be entertained hereinafter on account of any errors or omissions in the levels or the description of the ground turning out to be different from what was expected or shown on the drawings.

**1.2 CORRELATION OF DRAWINGS:**

Before commencement of work, the contractor shall correlate all relevant structural, construction and services drawings and satisfy himself that the information available is complete and unambiguous. The contractor shall be responsible for any error / difficulty in execution / damage incurred owing to any discrepancy in the drawings which has been overlooked by him and has not been brought to the notice of the KPL Engineer -in - charge before execution.

**1.3 B.I.S CODES OF PRACTICE:**

Wherever any reference is made in the specifications to any bureau of Indian Standard (IS) code of practice, it shall be understood to indicate the latest version of the code of practice in usage at the time of construction.

**1.4 ASSESSMENT OF QUANTITIES IN LUMP SUM CONTRACT:**

The bidders are advised to make their own assessment of the quantities based on the drawings and scope of work to arrive for the exact quantities. KPL shall not be responsible for any omissions / errors made by the bidder in assessment of the actual quantities required for the execution of the lump sum contract. Extra claim on account of the error made by the bidder in the assessment of the true quantities of the items of work shall not be entertained whatsoever.

**SPECIFICATIONS – CIVIL WORKS****2.0 SPECIFICATIONS FOR EXCAVATION AND EARTHWORK:****2.1 SCOPE:**

The scope of work broadly includes but is not necessarily limited to the following i.e. clearing of the site, excavation of foundation trenches, back filling, disposal of surplus earth as required including dewatering, shoring and strutting. Contractor shall provide all tools, labour, equipment and incidentals necessary required for completion of all aspects of work covered in these specifications.

**2.2 TYPES OF SOIL:**

Contractor shall thoroughly acquaint himself with the types of soil in excavation by an inspection of nature of the ground at site & scrutiny of the investigation details available with the KPL Engineer-in-Charge.

**2.3 CLEARING THE SITE:**

The site on which the structure is to be built shown on the drawings and the area required for setting out and other operations like road, drains, sheds, etc. should be cleared and all obstructions, loose stones, materials and rubbish of all kinds, stump, brush wood and trees removed as directed, roots being entirely grubbed up. All useful materials obtained will be the property of the Engineer-in-charge and will be handed over to the KPL Engineer-in-Charge. Rejected materials will be removed by the contractor to his own dump.

**2.4 GROUND LEVELS AND SITE LEVEL PLAN:**

Before starting the excavations, the requisite block levels of the entire plot shall be taken by the contractor in consultation with the KPL Engineer-in-Charge and a proper record of these levels to be kept, which shall be jointly signed by the Contractor and the KPL Engineer-in-Charge. A block level plan showing all the ground levels of the plot shall be prepared and shall jointly be signed by the Contractor and the KPL Engineer-in-Charge.

**2.5 SETTING OUT:**

After clearing the site, and preparing the site level plan, the Contractor will set out the center lines of the buildings or other involved works and get the same approved from the KPL Engineer-in-Charge.

It shall be the responsibility of the Contractor to install substantial reference marks, bench marks etc. and maintain them as long as required by the KPL Engineer-in-Charge. The Contractor will assume full responsibility for proper setting out, alignment, elevation and dimension of each and all parts of the work.

**2.6 EXCAVATION AND PREPARATION OF FOUNDATIONS FOR CONCRETING:****2.6.1 General:**

Foundations trenches shall be dug wet or dry to the dimensions as shown on the drawings or as directed by the KPL Engineer-in-Charge. The excavated materials shall be

stacked at a sufficient distance away from the edge of the excavated pit so as not to endanger the stability of the sides. The soil heap shall not exceed more than 2m from the ground.

The Contractor shall, at his expense and without any extra charge, make provision for all shoring and strutting, extra excavation in slope, extra excavation in working space, dredging or bailing out water, and the excavation shall be kept free from water when the foundation work is in progress.

If the excavation is carried out to greater width, length or depth than specified, extra depth shall be made up by filling in lean concrete and extra length or width by filling in with earth rammed hard or by masonry as directed by the KPL Engineer-in-Charge. Cost of such extra excavation and the filling required therein as specified above shall be borne in full by the Contractor.

If required to protect the sides of the pits and trenches, timber shoring and strutting shall be erected. The timbering shall be closed or open depending on the nature of the soil and work, and arrangement of timbering including sizes and spacing of members used shall be as approved by the KPL Engineer-in-Charge. NO EXTRA CHARGES shall be admissible on this account.

The bottoms of all excavation shall be trimmed and leveled in accordance with drawings / directions of the KPL Engineer-in-Charge. The bottoms of all excavation shall be rammed and wetted before deposition of concrete. The Contractor shall report to the KPL Engineer-in-Charge when the excavation is ready to receive concrete. NO concrete shall be placed in foundations until the contractor has obtained the approval of KPL Engineer-in-charge.

#### **2.6.2 PROTECTION:**

All foundation trenches and similar excavations shall be strong, fenced and marked with red lights at night for watchmen to avoid accidents.

Adequate protective measures shall be taken to see that the excavation does not affect or damage adjoining structures. All measures required for the safety of the excavation the people working in and near the foundation trenches, property and the people in the vicinity shall be taken care by the contractor at his own cost, being entirely responsible for any injury and damage to property caused by his negligence or accident due to his construction operations.

#### **2.6.3 STACKING OF EXCAVATED MATERIALS:**

Work for excavation shall include sorting out useful materials and stacking them on site as directed. Materials suitable and useful for back filling, plinth filling, leveling of the plot or other use shall be stacked convenient places, but not in such a way as to obstruct free movement of men, equipment and vehicles or encroach on the area required for constructional purposes.

#### **2.7 BACKFILLING:**

**2.7.1** Earth obtained from excavation (or approved earth brought from outside for which no extra payment shall be made) shall be filled in layers as described in 17.3 around foundations and under floors. In case extra earth used for filling is required under floors, plinth protection including sit outs, courtyards, and the contractor will do at their own cost. The lumpsum offer shall be deemed to include the earth filling required under floors and plinth protection with

plinth height shown in drawing above the bottom of the foundation concrete and finished courtyard level shown in Drawing below DPC coping level of the main building.

### **2.7.2 QUALITY OF FILLING:**

Fill shall be well compacted, well graded earth or sand and shall be free from tree stumps, organic matter, seed and peat etc. Where earth or sand from source other than excavation at site is used, the quality of such earth or sand shall be the same as that obtained from excavation at site, or superior to it. Fine Aggregate is for filling and Black Cotton soil shall not be used for back filling or plinth filling.

### **2.7.3 COMPACTION:**

The fill shall be spread in layers not exceeding 20 cm thick and each layer shall be watered and thoroughly consolidated by suitable mechanical rollers, rammers, vibrators or other approved plant or system of compaction. The fill material shall be pulverized before depositing in place. Optimum moisture content shall be maintained for the filled materials. Compaction shall be done so as to achieve a dry density of not less than 90% of the maximum density obtained at optimum moisture content, except for the upper 20 cm layer which shall be compacted to a density of not less than 95% of the maximum density.

In order that the fill shall be reasonably uniform throughout,, the material shall be dumped in place in approximately horizontal layers "Edge dumping", a process by which materials is pushed off edge of the fill and allowed to roll down the slope shall not be carried out, If there is traffic over the fill during construction, either by construction equipment or otherwise, it should be routed to make the compaction as uniform load shall be maintained and also care shall be taken to prevent any wedging action.

### **2.8 DE-WATERING:**

Work for excavation shall include bailing or pumping out water which may accumulate in the excavation during the progress of work either from subsoil, seepage, springs, rain or any other cause and diverting surface flow if any by bunds or other means. Pumping out water shall be done in such approved manner as to preclude the possibility of any damage to the foundation trenches, Concrete or masonry of any adjacent structure. When water is met with in foundation trenches, pumping out water shall be from an auxiliary pit of adequate size dug slightly outside the building excavations. The depth of the auxiliary pit shall be more than the working foundation trench levels. The auxiliary pit shall be refilled with approved excavated materials after de-watering is over. The excavation shall be kept free from water -

- 1) When Concrete/Reinforcement Work/water Proofing work is in progress.
- 2) Till the KPL Engineer-in-Charge consider that concrete / mortar is sufficiently set.

### **2.9 SURPLUS EXCAVATED MATERIAL:**

All excavated material certified as surplus and not useful, shall be removed by the Contractor from the site an approved manner at his own cost and risk so as indemnify owner from any claims any time of whatsoever nature.

### **3 CONTRACT SUM TO INCLUDE:**

Apart from other factors mentioned elsewhere in this contract, the contract sum shall also include for the following:



- (a) Clearing site.
- (b) Setting out works, profiles etc. as required and setting up bench marks and other reference marks.
- (c) Providing shoring and strutting and subsequently removing the same.
- (d) Bailing and pumping out water as required and directed.
- (e) Excavation at all depth (unless otherwise specified in the drawings) and removal of all materials of whatever nature wet or dry and necessary for the construction of foundation etc. and preparing bed for laying concrete.
- (f) Sorting out useful excavated materials, transporting them beyond the structure and stacking them neatly on the site for back filling or reuse as directed.
- (g) Back filling the trenches alongside masonry or concrete with approved excavated material up to the natural ground level including watering and ramming.
- (h) Necessary protection (including labour, materials and equipment) to ensure safety against risk of accident.
- (i) Drilling small holes as directed to explore the nature of substratum if necessary
- (j) Excavation if soft rock / hard rock if necessary.

#### **4.0 SPECIFICATIONS FOR ANTITERMITE TREATMENT: -**

##### **4.1 GENERAL:**

Prevention of termite from reaching the super structure can be achieved by creating a chemical barrier between the ground and the building by treating the soil beneath and around the foundations.

The work shall be carried out as per IS 6313 part II of 2001 or latest edition.

This shall be provided to sides and bottom of trenches and footing including treating the backfill of foundations up to ground level and the vertical surface of wall, and filling of each under floors and treating the surface at ground level 900mm around the building.

##### **4.2 MATERIAL:**

Anti termite treatment, shall be carried out strictly in accordance with CPWD specifications using Cholorophos (CPP) an Emulsified concentrate @ 1% concentration or any other approved chemical.

##### **4.3 PRE-CONSTRUCTION CHEMICAL TREATMENT:**

This is a process in which chemical treatment is applied to a building in the early stage of its construction at the rate specified in IS 6313 part II of 2001 or the latest edition.

Hand operated pressure pump shall be used for uniform spraying of the chemical. To have proper check for uniform spraying of chemical graduated containers shall be used. Proper check should be kept that specified quantity of chemical is used for the required areas during the operation.

**4.4 TIME OF APPLICATION:**

Soil treatment shall start when foundation trenches and pits are ready to take lean concrete in foundations. Laying of lean concrete shall start when chemical emulsion has been absorbed by the soil and the surface is quite dry. Treatment should not be carried out when it is raining or the soil is wet with rain or sub soil water. The foregoing applies also in the case of treatment to the filled earth surface within the plinth before laying the sub grade for the floor.

**4.5 DISTURBANCE:**

The treated soil barriers shall not be disturbed after they are formed. If by chance, treated soil barriers are disturbed, immediate steps shall be taken to restore the continuity and completeness of the barrier system.

**4.6 TREATMENT OF COLUMNPITS AND WALL TRENCHES:**

(a) The bottom surface and the sides (up to a height of above 300mm) of the excavation made for column pits and trenches shall be treated with the chemical at the rate specified in IS 6313 part II of 2001 or the latest edition.

(b) After the column foundation and the wall foundation come up, the backs fill in immediate contact with the foundation structure shall be treated at the rate specified in IS 6313 parts of 2001 or latest edition of the vertical surface of the substructure for each side. If water is used for ramming the earth fill, the chemical treatment shall be carried out after ramming operation is done by prodding the earth at 150mm centers close to the wall surface and spraying the chemical with the above dose. The earth is usually returned in layers and the treatment shall be carried out in similar stages. The chemical emulsion shall be directed towards the concrete to masonry surface of the columns and walls so that the earth in contact with these surfaces is well treated with the chemical.

(c) In the case of R.C.C framed structure with columns and plinth beams and R.C.C basement with concrete, mix is rich and dense (being 1:2:4 or richer), it is unnecessary to start treatment from bottom of excavation for columns and plinth beams. The treatment shall start at the depth of 500 mm below ground level. From this depth the back fill around the column, beams and R.C.C basement wall shall be treated at the rate as per IS 6313 part II of 2001 or the latest edition. The other details of treatment shall be as laid down in the clause (b) above.

**4.7 TREATMENT OF TOP SURFACE OF PLINTH FILLING:**

The top surface of the filled earth within plinth wall shall be treated with chemical emulsion at the rate as per IS 6313 part II of 2001 or latest direction (surface area) before the sand/sub-grade is laid. Holes up to 50 to 70 mm deep at 150mm centers both ways shall be made with crow bars on the surface of the soil with chemical emulsion.

**4.8 TREATMENT OF JUNCTIONS OF WALL AND FLOOR:**

To achieve continuity of the vertical chemical barrier on inner wall surface from the ground level, small channel 30 x 30 mm shall be made at all junctions of wall and columns with the floor (before laying the sub-grade) and rod holes made in the channel up to ground level 150mm apart and the chemical emulsion poured along the channel as per rate of application, mentioned in IS 6313 Part II of 2001 or the latest edition so as to soak the soil right up to bottom. The soil shall be tamped back into place after this operation.

**4.9 TREATMENT OF SOIL ALONG EXTERNAL PERIMETER OF BUILDING:**

During progress of work, provide hole in the soil with iron rods along the external perimeter of the building at intervals about 150 mm and depth 300 mm and filling these holes with chemical emulsion at the rate (as per IS 6313 part II of 2001 or the latest edition) per meter of perimeter of the external wall.

**4.10 TREATMENT FOR EXPANSION JOINTS:**

Anti termite treatment shall be supplemented by treating through expansion joints after the sub grade has been laid as per IS 6313 part II of 2001 or the latest edition.

**4.11 TREATMENT OF SOIL SURROUNDING PIPE AND CONDUITS:**

When pipes and conduits enter the soil inside the area of the foundations, the soil surrounding the points of entry shall be loosened around each such pipe or conduit for a distance of 150 mm and up to depth of 75 mm before treatment is commenced. When they enter the soil external to the foundations, they shall be similarly treated unless they stand clear of the walls of the building by about 75 mm for distance of over 300 mm from ground level.

**4.12 SAFETY PRECAUTIONS:**

All chemicals used for anti termite are poisonous and hazardous to health. These chemicals can have an adverse effect upon health when absorbed through skin, inhaled as vapors or spray mists or swallowed.

Person using or handling these chemicals should be warned of these dangers and advised that absorption through the skin is the most likely source of accidental poisoning. They should be cautioned to observe carefully the safety precautions given below:

These chemicals are usually brought to site in the form of emulsifiable concentrates. The containers should be clearly labeled and should be stored carefully so that children and pets cannot get at them. They should be kept securely closed.

Special care should be taken to prevent skin contact with concentrates. Prolonged exposure to dilute emulsions should be avoided. Workers should wear clean clothing and should wash thoroughly with soap and water, especially before eating or smoking. In the event of severe contamination, clothing should be removed at once and skin washed with soap and water, if chemicals splash into the eyes they should be flushed with plenty of fresh water and immediate medical attention should be sought.

The concentrates are oil solutions and present a fire hazard owing to the use of petroleum solvents. Flames should not be allowed nearby during mixing. Care should be taken in the application and present a fire hazard owing to the use of petroleum solvents. Flames should not be allowed nearby during the mixing.

Care should be taken in the application of chemicals to see that they are not allowed to contaminate wells or springs which serve as source of drinking water.

**5 SPECIFICATIONS FOR CAST - IN - SITU REINFORCED CEMENT CONCRETE:****5.1 GENERAL:****5.1.1 DESCRIPTION:**

This section covers the requirements for finishing of cement concrete, proportioning, batching, mixing, testing, placing, compacting, finishing, jointing, curing and all other work as required for cast in place reinforced concrete. The contractor shall provide all the materials including cement, steel, labour, equipment, 'form work', scaffolding etc., required for completion of all reinforced concrete works as per drawings and documents. Cement concrete shall be composed of cement, fine aggregates, coarse aggregates, water with or without admixture as approved, proportioned and mixed as specified herein.

**5.1.1.1 RELATED WORK SPECIFIED ELSEWHERE**

- (a) Steel Reinforcement
- (b) Form Work

**5.1.1.2 APPLICABLE CODES AND STANDARDS:**

The codes and standards generally applicable to the work of this section are listed hereinafter.

- IS : 383 Coarse and fine aggregates from natural sources for concrete.
- IS : 456 Code of practice for plain and reinforced concrete.
- IS : 516 Methods of testing for strength of concrete.
- IS : 1199 Methods of sampling and analysis of concrete.
- IS : 1489 Portland - Pozzolana cement
- IS : 1838 Performed fillers in expansion joints in concrete non-extruding and resilient type
- IS : 1946 Code of practice for use of devices in walls, ceiling and floors of solid Construction
- IS : 2389 Methods of testing of aggregates for concrete's
- IS : 2505 Concrete vibrators, immersion type
- IS : 2645 Integral cement water proofing compounds
- IS : 3414 Code of practice for design and installation of joints in buildings
- IS : 3558 Code of practice for use for immersion vibrators for consolidating concrete
- IS : 4082 Recommendation on stacking and storage of construction materials
- IS : 7861 Code of practice for extreme weather concretizing
- IS : 7861 Recommended practice for hot weather (Part I) concretizing
- IS : 8112 Ordinary Portland Cement (Grade - 43)
- IS : 12269 Ordinary Portland Cement (Grade - 53)
- IS : 783 Code of practice for Laying of RCC Pipes

**PART-I**

The following clauses are intended to amplify the requirements of the reference document listed above and the contractor shall comply with these clauses.

## **5.2 SUBMITTALS:**

### **5.2.1 Material Report:**

Prior to start of delivery of materials required, the following shall be submitted by the contractor to the KPL Engineer - in - Charge for approval.

Suppliers and / or sources of all consumable materials including cement, steel, fine and coarse aggregates, water additives, bricks and timber etc.

Quality Inspection Plan to ensure continuing quality control of ingredients by periodic sampling, testing and reporting to the KPL Engineer-in-Charge on the quality of materials being supplied.

## **5.3 PLANTS EQUIPMENT:**

The Contractor shall submit the following to the KPL Engineer-in-Charge well in advance.

The proposed program, methods and details of plant and Equipment for to be used to testing of ingredients and concrete samples. The proposed programme methods and details of plant & equipment to be used for concrete work.

## **5.4 REPORTS FOR INSPECTION AND TESTING:**

During concreting operations, the contractor shall conduct inspection and testing as described in sub section 3.15.2 herein, and all reports thereon shall be submitted in summary form to the KPL Engineer-in-Charge.

## **5.5 SCHEDULES:**

Before commencement of the work the contractor shall prepare working schedules of concreting giving dates and rate of pour for each item of work and submit the same to the KPL Engineer - in - Charge for their approval.

## **5.6 MATERIALS:**

Before bringing to the site, all materials for cement concrete shall be approved by the KPL Engineer - in - Charge. All approved samples shall be deposited in the office of the KPL Engineer - in - Charge before placing orders for the materials with suppliers. The materials brought on to the work shall conform in every respect of their approved samples.

Fresh samples shall be deposited with the KPL Engineer-in-Charge whenever type or source of any material changes. The contractor shall check fresh consignment of materials as it is brought on to the works to ensure that they conform to the specification and / or approved samples.

The KPL Engineer-in-Charge shall have the option to have any of the materials tested to find whether they are in accordance with specifications at the contractor's expense. All bills vouchers and test certificates which in the opinion of the KPL Engineer-in-Charge are necessary to convince him as to the quality of materials or their suitability shall be produced for his inspection when required.

Any materials which have not been found to the specification and not approved by the KPL Engineer - in - Charge shall be rejected forthwith and shall be removed from the site by the Contractor's at his own cost within the time stipulated by the KPL Engineer -in - Charge. The KPL Engineer - in - Charge shall have the powers to cause the contractors to purchase and use materials from any particular source, as many in their opinion be necessary for the proper execution of work.

#### **5.6.1 CEMENT:**

Cement shall be provided by the Contractor andn the following types of cement as specified shall be used

a) Ordinary Portland Cement of Grade-53 confirming to IS 12269-1987 from reputed manufacturers of cement such as Ultra Tech Cements, Birla Cements, ACC, India Cements, Madras Cements, Chettinad Cements, Dalmia Cements as approved by the Engineer.

Cement at site shall be stored in dry weather proof go-downs (or shed) built by the Contractor at his own costs in stacks which are not higher than 10 bags. The cement go-down shall be constructed as per CPWD specifications. The contractor shall conduct all necessary tests as specified in the IS, at his own cost to ascertain himself on quality of the material issued.

#### **5.6.2 AGGREGATES:**

a) Aggregates from natural sources shall be in accordance with IS 383. The contractor shall submit to the Engineer - in - Charge certificates of grading and compliance from the suppliers for all consignments of aggregates. In addition at site from time to time, the contractor shall test the aggregates in accordance with IS 2386 parts I, II, III and IV. The contractor shall allow for and provide all necessary apparatus for carrying out each test and for supplying test records to the KPL Engineer-in-Charge.

b) For fair faced concrete, the contractor shall ensure that aggregates are free from iron pyrites, and impurities which may cause discoloration.

c) The fine aggregates shall be Crushed Stone Aggregate, stone dust or other approved sand. It shall be free from clay, loan, and earth or vegetables matter and from salt or other harmful chemical impurities. It shall be clean, sharp, strong angular and composed of hard siliceous material.

The grading of Crushed Stone Aggregate as determined by the method prescribed in IS 2386 part I shall be within the limits of grading zone given below in Table I. When the grading falls outside the percentage limits given for sieves other than 600 micron, 300 micron and 150 micron (I.S) sieves by not more than 5 percent, it shall be regarded as falling within this zone. The 5 percent can be excess submission on one more sieves.

TABLE -1

FINE AGGREAGTE

| I.S. Sieve | Percentage passing for Grading |         |          |          |
|------------|--------------------------------|---------|----------|----------|
|            | ZONE -1                        | ZONE-II | ZONE-III | ZONE -IV |

|            |       |        |        |        |
|------------|-------|--------|--------|--------|
| 10 mm      | 100   | 100    | 100    | 100    |
| 4.75 mm    | 90-95 | 90-100 | 90-100 | 95-100 |
| 2.36 mm    | 60-95 | 75-100 | 85-100 | 95-100 |
| 1.18mm     | 30-70 | 55-90  | 75-100 | 90-100 |
| 600 micron | 15-34 | 35-59  | 35-60  | 80-100 |
| 300 micron | 5-20  | 8-30   | 8-30   | 20-65  |
| 150 micron | 0-10  | 0-10   | 0-10   | 0-15   |

The maximum quantity of silt as determined by the method prescribed in IS 2386 Part II shall not exceed 8%.

Stone dust shall be within the limits of Grading Zone III given in table -1. When the grading falls outside the percentage limits given for the sieves other than 600 micron and 300 micron (IS) sieves by not more than 5 percent and on 150 micron sieves by not more than 20 percent it shall be regarded as falling within this zone. The 5 percent can be excess summation on one or more services.

#### **5.6.2.1 COARSE AGGREGATES:**

The coarse aggregates shall be crushed stone or broken stone. Coarse aggregate obtained from crushed or broken stone shall be angular, hard, strong, dense, durable clean and free from soft, friable, thin, flat, elongated flaky pieces. The coarse aggregate should be from the approved source/quarry.

Coarse aggregate river shingle or pit gravel shall be rounded, sound hard, clean, non porous, suitably graded in size with or without broken fragments and free from flat particle of shale, clay, silt, loam and other impurities.

Except where it can be shown to the satisfaction of the KPL Engineer-in-Charge that a supply of properly graded aggregate of uniform quality can be maintained over the period of the obtaining the coarse aggregate in different sizes & blending them in correct proportions as and when required.

The maximum size of coarse aggregate shall be such that the concrete can be placed without difficulty so as to surround all reinforcement thoroughly and fill the corners of form work.

#### **5.6.3 WATER:**

Water used in the works shall be potable water and free from deleterious materials. Water used for mixing and curing concrete as well as for cooling and / or washing aggregate shall be fresh and clean, free from injurious amounts of oil, salts, acids, alkali, other chemical and organic matter.



Water shall be from the source approved by the KPL Engineer-in-Charge and shall be in accordance with clause 4.3 of IS 456.

Before starting any concreting work and whenever the source of water changes the water shall be tested for its chemical and other impurities to ascertain its suitability for use in concrete for approval of the KPL Engineer-in-Charge. No waters shall be used until tested and found satisfactory. Cost of all such tests shall be borne by the Contractor.

#### **5.6.4 ADMIXTURES AND ADDITIVES:**

Chemical admixtures are not to be used until permitted by the KPL Engineer-in-Charge. In case their use is permitted, the type, amount and method of use of any admixture proposed by the contractor shall be submitted to the KPL Engineer-in-Charge for approval.

The contractor shall further provide the following information concerning each admixture to the KPL Engineer-in-Charge.

- (a) Normal dosage and detrimental effects, if any, of under dosage and over dosage.
- (b) The chemical names of the main ingredients in the admixture.
- (c) The chloride ion content, if any, expressed as a percentage by weight of admixture.
- (d) Whether or not the admixture leads to the entrainment of air when used in manufacturer's recommended dosage.
- (e) Where two or more admixtures are proposed to be used in any one mix, the manufacturer's written confirmation of their compatibility.

In reinforced concrete, the chloride ion of any admixture as determined in accordance with IS 6925 and the total chloride ion in all admixture used in concrete mix shall not exceed 0.30 percent by weight of cement.

The admixture when used shall conform to IS 9103. The suitability of all admixtures shall be verified by trial mixes.

The addition of calcium chloride to concrete containing embedded metal will not be permitted under any circumstances.

Regarding admixtures when used shall be based on ligno-sulphonates with due consideration to clause 5.2 and 5.30 of IS 7861.

Waterproofing admixtures shall comply with IS 2645.

#### **5.7 PLANT:**

The Contractor shall obtain the approval of the KPL Engineer-in-Charge for all plant items he proposes to use for the manufacture and placing of concrete.

The arrangement shall maintain all items of plant at all times in a clean and efficient working condition.

#### **5.8 STORAGE**

All goods and products covered by this specification shall be procured well in advance and stored as specified below:

**5.8.1 CEMENT:**

Cement shall be stored on a raised floor in dry weather proof & dust free but well ventilated shed.

Cement bags shall be stacked close together away from external walls and in stacks of not more than ten bags to avoid lumping under pressure.

Cement stored during monsoons or cement expected to be in store for more than eight weeks shall be completely enclosed in 700 micron polyethylene sheet so arranged that the flap close on the top stack. The contractor shall ensure that protective polyethylene sheet is not damaged at any time during use.

Consignments of cement shall be used in order of delivery. A record shall be kept of the batch numbers of cement deliveries in such a form that the part of the works in which the cement is used can be readily identified, If during delivery or by test, the cement is found to be defective, the same shall be returned back forthwith.

The contractor shall be responsible for the storage of cement at the site and no claim will be entertained in the event of any damage occurring to cement due to faulty storage by the contractor or on account of his negligence.

Cement stored on site for a period longer than eight weeks shall be tested to the satisfaction of the KPL Engineer-in-Charge before it is used in the works. Cement that has failed the tests' conducted shall not be used in the works and shall be remarked from the site immediately without fail.

Supply of cement shall be made in 50-Kg bags bearing manufacturer's name and BIS marking. Every consignment of cement shall be accompanied with the manufacturer's test certificate with the following specific information / details:

- i. The complete test results conducted for the specifications mentioned in the contract.
  - ii. Reference to the supplies made on the strength of the test certificate sent to the KPL.
- i. The competent officer of the supplier should authenticate all the entries made in the test certificate.

The test certificate can be either original or photo copy duly authenticated by a responsible official of the supplier.

5.8.2 If so desired or if the cement so supplied is not accompanied with such test certificates, samples of cement procured by the contractor shall be taken by the Engineer's representative and got tested in accordance with provisions of relevant BIS codes. In case, test results indicate that the cement arranged by the contractor does not conform to the relevant BIS codes, the same shall stand rejected and shall be removed from the site by the contractor at his own cost within a week's time from the date of written order from the Engineer or his representative to do so.

5.8.3 The cement shall be brought to site in bulk supply of approximately 10 tonnes or as decided by the Engineer or his representative.

5.8.4 The cement shed with a capacity to store a minimum of 200 bags of cement or as decided by the Engineer or his representative shall be constructed by the contractor at the site of work for which no extra payment shall be made. The contractor shall be responsible for the watch & ward and safety of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer or his representative at any time. Thatched shed shall not be permitted.

5.8.5 If the consignment is not accompanied with manufacturer's test certificate or any additional test ordered by the Engineer's representative at random the contractor shall supply free of charge the cement required for testing. The cost of tests shall be borne by the contractor/department in the manner such indicated below;

- i) By the contractor if the results show that the cement does not conform to relevant BIS codes or the cement supplied by them is not accompanied with manufacturer test certificate leading to testing of cement at site.
- ii) By the Department if the retest results carried out at site show that the cement conforms to relevant BIS codes.

5.8.6 The requirements of cement shall be calculated on the basis of the standard formula for consumption of cement as laid down by the Engineer or his representative and over this theoretical quantity, the variation allowed shall be plus or minus 2% only.

5.8.7 The actual issue and consumption of cement on work shall be regulated and proper accounts maintained. The theoretical consumption of cement shall be worked out on the standard formula as laid down by the Engineer or his representative. Over this theoretical quantity shall be allowed a variation of minus 2%. In the event of it being discovered that the quantity of cement used is less than the quantity ascertained as hereinbefore provided (allowing variation on the minus side as stipulated above), the cost of quantity of cement not so used shall be recovered from the contractor at the local market rate prevailed during that time.

5.8.9. Cement brought to site and cement remaining unused after completion of work shall not be removed from the site without the written permission of the Engineer or his representative.

5.8.10A Copy of the manufacturer's test certificate showing conformity of the particular consignment to BIS specifications in addition to the invoice and bills shall be submitted by the contractor for the supply of cement.

#### **5.8.2 STORING OF AGGREGATE:**

Aggregate shall be stored on a suitable well drained raft of concrete, timber, metal or other approved material. The storage of aggregate on the ground will not be permitted.

Each size of aggregate shall be stored separately in such a manner as to prevent spillage and mixing of one aggregate with an adjacent aggregate. The dividing walls of any bins shall be of sufficient height and the aggregate shall be so deposited that a distance of 100 mm shall be left between the top of the division wall and any part of the aggregate stack.

When stacking piling, the aggregate shall not form pyramids resulting in segregation of different size particles. The stacks shall be regular and of a height not exceeding two meter.

#### **5.9 GRADES OF CONCRETE:**

The grades of concrete shall be in accordance with the following table. The grade of concrete to be used in each section of work will be shown in the drawings.

**CHARACTERISTIC STRENGTH**

| Grade of Concrete | Characteristic strength i.e., compressive strength of 15 cm cubes at 28 days (N/mm <sup>2</sup> ) | Nominal maximum aggregate size (mm) |
|-------------------|---------------------------------------------------------------------------------------------------|-------------------------------------|
| 10                | 10                                                                                                | 25                                  |
| 15                | 15                                                                                                | 25                                  |
| 20                | 20                                                                                                | 20                                  |
| 25                | 25                                                                                                | 20                                  |
| 30                | 30                                                                                                | 20                                  |
| 35                | 35                                                                                                | 20                                  |

Unless otherwise specified in the drawings the maximum nominal size of coarse aggregate for different grades of concrete shall as under:

- (a) For concreting in very narrow space or in very small thickness. 12mm
- (b) For all reinforced concrete work except in massive foundations. 20mm
- (c) For all ordinary plain concrete and massive reinforced foundations. 10mm

**5.10 WATER-CEMENT RATIO:**

The water cement ratio shall be within 0.45 & 0.70 depending upon the workability.

**5.11 WORKABILITY:**

The workability of fresh concrete shall be such that the concrete is just suitable for the conditions of handling and placing so that after compaction, it becomes completely consistent and homogeneously surrounds all the reinforcement and completely fills the formwork.

The workability of fresh concrete at the place of mixing shall be measured by compacting factor test and at the place of disposition by means of slump test During the finalization of trial mixes, the relationship between compacting factor and slump test shall be established for each grade of concrete as well as for various levels for workability.

Normally, in the condition of low water cement ratio as well as medium / high workability, the workability shall be achieved by increasing the cement content.

In case where the cement content is to be limited to reduce the heat of hydration, and the water cement ratio is also kept low to reduce the permeability or due to other requirements the desired workability may be achieved with the use of limited doses of plasticizer or air entraining agent. In such cases, the method of mixing and dosages of the plasticizer/air entraining agent shall be according to the manufacturer's specification and with the approval of Engineer-in-Charge.

Consistency and workability of the concrete shall be checked by measuring the slump of a truncated cone of concrete straight from the mixer under normal working conditions. The conical mould shall be of metal, 300mm high and 100mm and 200mm in diameter at top and bases respectively.

Moulds shall be prepared by the contractor. The slump range of concrete shall be as per the tabulation given below, as well as standards.

Slump test shall be performed as per IS 1881 at intervals established by the Engineer at the contractor's cost in such a way as to check that the degree of consistency established by the Engineer for work in progress is maintained. The table below gives a general slump range to be followed for various types of construction unless otherwise shown on drawings or instructed by the Engineer.

| Various types of Construction                           | Slump in mm |         |
|---------------------------------------------------------|-------------|---------|
|                                                         | Maximum     | Minimum |
| Reinforced foundation walls and footings                | 80          | 35      |
| Plain footings, caissons and structure walls            | 75          | 20      |
| Compressor foundations and for heavy mass constructions | 50          | 20      |
| Pumps and other misc. equipments foundations            | 75          | 35      |
| Columns, slabs, beams and reinforced walls              | 100         | 50      |

### **DURABILITY:**

The durability of concrete, depending on the exposure condition, is to be taken into account while designing the mix. For given aggregates, the cement content should be sufficient to make sufficiently low water/cement ratio and Appendix A of IS 456 shall be taken as guideline for durability considerations.

### **5.13 TRIAL MIXES: Clause Deleted**

**5.14 NOMINAL MIX CONCRETE:**

Nominal mix concrete may be used for all concrete of grade M-10 and below. If design mix concrete cannot be used for any reason for grade M-15 and M-20, nominal mix concrete may be used with the permission of the Engineer. Nominal mix concrete shall be in accordance with Table - 3 of clause 8.3 of IS 456. The stipulations of clauses 8.3.1 and 8.3.2 of IS 456 shall be taken into consideration.

**5.15 VOLUMETRIC MIX CONCRETE:**

Where concrete is specified in volumetric proportions such as 1:4:8, 1:3:6, 1:2:4, 1:1.5:3, 1:1:2 etc., in the bill of quantities, coarse and fine aggregates shall be measured by volume and cement by weight. The water cement ratio shall be within 0.45 & 0.70 depending upon the workability.

**6.0 BRICKS:**

A) All bricks shall be of 5.0 Class designation (50 Kg/Sqcm) quality locally available as approved by the KPL EIC.

B) Bricks shall be of nominal size as available in the market as specified in the item of work where no particular size is mentioned. Half brick wall shall be of one brick thick, bricks on end walls and brick flat paving may be done with either size of bricks.

C) Bricks shall be well burnt, sound, hard with sharp edges of uniform size and shape free from cracks, stones or particles of lime and other defects, shall be kiln burnt and satisfy the following requirement:

- a) They shall give a clear metallic sound when struck
- b) They shall be of uniform colour and size
- c) They shall not be cracked, stratified or under or over burnt
- d) The tolerance in dimensions shall be +/- 12mm in length, 6mm in width and 3mm in height.
- e) Keys or frogs shall be formed on one of the larger size, except in the case of machine extruded bricks where no frogs are required
- f) The increase in weight when soaked in water for 24 hours shall not be more than 20% of the dry weight of the bricks.
- g) If required by the EIC necessary test shall be conducted at the contractor's expense to ensure quality. In general, the bricks shall be the best quality locally available.

**6.1 Brick ballast:**

Under burnt bricks shall not be used for making brick ballast. These shall be made from lump ballast or bats, Ballast that is brittle and easily crushed under beaters shall not be used.

**6.2 BRICK WORK:**

- a) Class 5.0(50 Kg/Sqcm) designation brick work shall consist of bricks laid in cement mortar and as hereinafter specified.

b) No bricks may be used until after they have been soaked under water for at least one hour.

c) Care must be taken that the bricks are perfectly clean and free from lime, moss or dirt of any kind. If necessary they must be scrubbed before use.

d) Great care must be taken to masonry in progress of construction damp. When work is left off for the day troughs shall be formed, by means of fillets of mortar 51mm high all round the unfinished work and shall be kept filled with water. Vertical or inclined surfaces must be frequently watered from a rose headed can. Water should not be dashed with violence against new work as this washes out the mortar. Should the work be delayed owing to holidays or for other reason, the contractor must make adequate arrangements for keeping the work wetted, and shall continue to do so for at least ten days or such longer time as directed, after the brickwork has been completed.

e) Brick work in cement mortar with 5.0 (50 Kg/Sqcm) Class designation brick including racking out joints and curing complete as directed, in sub structure and superstructure in prop. 1:6

f) Half brick work Class 5.0 designation brick nogged wall in cement mortar embedded with protruding M.S. rod 6mm dia in column including racking out joint and curing complete as directed in super structure above plinth in prop. 1:4.

g) Half brick work reinforced brick wall in prop. 1:6 reinforced with two lines of M.S. rods 6mm dia as specified embedded in 38mm thick concrete course in prop. 1:2:4 with coarse agg. 12mm down at every fourth course embedded with protruding rod in column including curing etc. complete as directed in super structure above plinth level.

## **7.0 FLOORING/SKIRTING/CLADDING:**

### **a) Preparation of plinth filling :**

All plinth fillings shall be properly consolidated in layers, watered, rammed and allowed to consolidate to the EIC's satisfaction before any flooring is laid. When the flooring is to be laid over a foundation of sand, broken stone or brick or a combination of sand and broken stone or brick the filling shall be removed to a depth equal to the thickness of the flooring plus such foundation layers.

### **b) Foundations:**

#### **i) Sub-layer of sand:**

After the plinth filling has been prepared as detailed in specification above a sublayer of sand 300mm deep shall be laid watered and brought to an even surface.

#### **ii) Layer of broken stone or brick:**

Over the sand a foundation course of bricks shall be laid and the interstices filled in with sand, The bricks shall be tightly packed and laid so as to break joint.

## **8.0 CEMENT PLASTERING:**

### **i) Preparation of surface:**



All putlog holes in brick work and junction between concrete and brick work shall be properly filled in advance. Joints in brick work shall be raked about 10mm and concrete surface hacked to provide grip to the plaster. Projecting burrs of mortar formed due to gaps at joints in shuttering shall be removed.

The surface shall be scrubbed clean with wire brush/coil brush to remove dirt, dust etc. and the surface thoroughly washed with clean water to remove efflorescence, grease and oil etc. and shall be kept wet for a minimum of six hours before application of plaster.

ii) Proportion:

The cement plaster shall be in 1:4 prop of cement and Crushed Stone Aggregate.

iii) Mixing:

The cement and Crushed Stone Aggregate should be thoroughly mixed in dry condition. After dry mixing the materials shall be wetted with just sufficient water to bring the mortar to proper consistency of thick paste. Mortar should be used immediately after mixing and arrangements shall be made so that not more than 30 minutes elapse between the cement first coming in contact with the moisture and laying.

iv) Placing:

Plaster shall be laid over the prepared surface in one coat to the specified thickness and rubbed with 'PATAS' and trowel and shall be smooth, free from waviness and trowel marks. Curing the plaster must be kept wet throughout the entire process and for ten days after four hours of completion of plastering.

## **10.0 DAMP PROOFING COURSE: Clause Deleted**

### **PART-III - SPECIFICATION OF WORKS**

#### **1. Demolition / Dismantling**

1.1 The term Demolition implies breaking up. This shall consist of demolishing whole or part of work including all relevant items as specified or shown in the drawing.

1.2 The term Dismantling implies carefully removing without damage (up or down). This shall consist of dismantling one or more parts of the structure and other structures specified or shown in the drawing.

1.3 The tenderer is deemed to have inspected the structures for dismantling/ demolition and acquainted him with their condition. The dismantling/ demolition shall be done carefully, without causing any damage to the property of the port and / or other agencies. The debris collected after dismantling / demolition shall be immediately cleared from the site and dumped at the places as directed by the Nodal Officer or his nominee within the Harbour premises.

1.4 The demolished materials shall not be used by the tenderer for any other works.

1.5 Demolition shall always be planned beforehand and shall be done in reverse order of the one in which structure was constructed. The scheme of demolition/ dismantling of structures shall be got approved from the Nodal Officer before starting the work.

1.6 Any serviceable materials, obtained during dismantling or demolition, shall be separated out and stacked properly as directed by the Nodal Officer within a lead of 50 metres as specified

and handed over to the departmental stores as directed. All debris shall be disposed of as directed by the Nodal Officer from the existing structures.

1.7 Pre measurements will be jointly recorded for the dismantling items by the contractor (or his representative) and Nodal Officer's Nominee before starting the dismantling work.

1.8 **Road work/ Approach Road Work: Clause Deleted**

**2 DESIGN MIX CONCRETE: Clause Deleted**

**3 TRIAL MIX: Clause Deleted**

#### **4.0 Water and Slump Tests**

Frequent slump tests shall be carried out in accordance with IS:1199 on samples of concrete taken immediately before placing to determine the consistency of concrete.

#### **5.0 WORK CUBE TESTS**

Sampling & Strength of Designed Concrete Mix and Acceptance Criteria shall be as per IS: 456-2000 or latest version.

#### **6.0 Removal of improper works & material**

The Engineer shall during the progress of the works have power to order in writing from time to time the following:

- i) The removal from the site within such time or times as may be specified in the order of any materials, which in the opinion of the Engineer are not in accordance with the contract.
- ii) The substitution of materials not in accordance with the contract by proper and suitable materials and
- iii) The removal and proper re-execution (notwithstanding any previous test thereof or interim payment thereof) of any work which in respect of materials or workmanship is not in the opinion of the Engineer in accordance with the contract.

#### **7.0 Default of the contractor in compliance**

In case of the default on the part of the contractor in carrying out such order, the employer shall be entitled to employ and pay other persons to carry out the same and all expenses consequent thereon or incidental thereto shall be borne by the contractor and recoverable from him by the Employer from any moneys due or which may become due to the contractor.

**8.0** As soon as in the opinion of the Engineer, the work has been completed and satisfactorily passed in the final test that may be prescribed by the contract, the Engineer shall on receiving a written undertaking by the contractor, issue a certificate of completion in respect of the works and the period of maintenance shall commence from the date of such certificate.

**9.0** The working area should be cordoned off from the rest of the wharf / apron and there should be no obstruction/hindrance to the handling operations in the vicinity. The newly constructed structure shall be protected against all traffic usage including that during construction by providing necessary barricading, danger lights and flags etc., wherever necessary. Any part of the structure damaged by traffic or other causes occurring prior to its final acceptance shall be repaired or replaced in a manner satisfactory to the Engineer or his representative. Traffic shall be excluded from the newly constructed structure for a period of 14 days. Before the area is opened to traffic, it shall be cleaned

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## **PART – IV- SPECIFICATION FOR CONCRETE WORKS AND TEST PROCEDURES**

### **1. SCOPE OF WORK**

The work covered by this section of the specification includes but is not necessarily limited to the following:

- i.furnishing all plant, labour, equipment, materials and performing all operations in connection with all the concrete works for the different types of work to be executed under this contract and where applicable any design and drawing work in connection herewith
- ii.furnishing, placing and removal of shuttering for cast in-situ concrete as well as precast concrete, including the design and preparations of drawings for the form work structures.
- iii.furnishing and placing of reinforcement steel for cast in-situ concrete as well as precast concrete.
- iv.furnishing all plant, labour, equipment, materials and performing all operations in connection with the detailed design, construction, transport, storage and erection of pre-cast concrete beams, slabs.

The mixing, transportation, placing and curing of concrete for in-situ and precast items.

### **2. MATERIALS AND TESTING**

The materials like cement, coarse aggregate, fine aggregate, water etc. required for design mix concrete shall conform to "**Specification of Materials**" as per **BIS specifications and approval of Employer**

### **3. CONCRETE ADDITIVES**

No materials of any description shall be used in any concrete mix other than aggregates, cement and water as defined in this specification unless specified otherwise or with written approval of the Engineer in each and every case.

If permitted on works, admixtures for concrete, plaster, damp proof course etc., where specified shall be from approved standard manufacturers and shall be approved by the Engineer. It shall comply with the requirement of IS 2645. It shall be mixed with the concrete as per manufacturer's recommendation but not exceeding 3% by weight of cement and as approved by the Engineer.

### **4. CONCRETE CORES**

If the results of the cube tests do not fulfil the requirements as stated in the foregoing clause, or if, in the opinion of the Engineer defects of workmanship during construction give rise to doubt as to the strength, durability and/or safety of the structure or part thereof, supplementary testing shall be performed at the Engineer's request.

## **5. WATER AND SLUMP TESTS**

The moisture content of the aggregate shall be determined before concreting begins for the purpose of assessing the amount of free water to be added at the mixer and the Contractor shall provide himself with a chart, a copy of which shall be given to the Engineer's Representative for approval, relating moisture content in aggregate to water to be added at the mixer for all classes of concrete in use.

The amount of water introduced into the mix shall be strictly controlled and shall be the minimum amount consistent with achieving satisfactory workability and compaction.

## **6. PLACING AND COMPACTION**

### **6.1 Preparatory works**

The Engineer's approval in writing shall always be obtained before any concrete is placed in the works. The shutter or area of deposition shall be cleaned as specified in entitled "**Shuttering**".

All constructional equipment and materials required, or which may be required, during the concreting work and for curing, shall be on site and fully prepared for the work. The Engineer's approval to place concrete will only be given after all these preparations and other relevant requirements of the specification have been carried out and complied with.

### **6.2 Placing of concrete**

The methods of conveying and depositing concrete shall be such as to prevent segregation of the materials and shall be approved by the Engineer before concreting begins. Concrete shall be deposited directly in the work, without the need for re-handling, as soon as possible and not more than 60 minutes after mixing and in any case, before the initial set has taken place.

If any delay has occurred after mixing and the concrete has begun to set, it shall not be used in the works, and shall be removed from the Site. Normally, concrete for structures may be deposited by dropping through a maximum vertical height of 1.50 metres without the use of tubes, provided suitable measures are taken to prevent segregation and premature coating of upper reinforcing steel. Deposition of concrete at a height of more than 1.50 metres shall be executed by means of tubes, chutes or other means to the satisfaction to the Engineer.

### **6.3 Placing in layers**

Concrete other than tremie concrete shall be deposited in approved quantities and in horizontal layers of such thickness as to permit thorough compaction, expulsion of air and incorporation with the layers below. However, in no case may the thickness of the layer be deeper than 0.30 m. Each layer shall be placed and compacted before the preceding batch

### **Compaction of concrete**

All concrete shall be thoroughly compacted immediately after deposition to expel air and to ensure that the concrete is in full contact with all containing and embedded surfaces. Vibrators shall be used for compacting, unless otherwise specified or ordered by the Engineer.

The type of vibrator to be used is subject to the approval of the Engineer. For concrete placed in-situ the vibrators shall be of immersion type. Vibrators of the immersion type shall have a

frequency of 5000-8000 vibrations per minute for concrete with a slump of more than 80 mm and a frequency of 9000-12000 vibrations per minute for concrete with a slump of less than or equal to 80 mm.

The Contractor shall provide sufficient number of vibrators to properly compact each batch immediately after it is placed in the formwork.

### **Placing concrete on previously executed work**

Where concrete is to be deposited against or on top of previously executed work, the surface of the old concrete shall be thoroughly wire brushed and hacked and cleaned with water and air under pressure to expose the surface of the aggregate and to remove all laitance. Special care shall be taken to ensure that the new concrete is thoroughly compacted and rammed against the old. In certain cases, depending on the grade of concrete in use, the elapsed time between successive concreting operations and the weather conditions at the time of recommencing concreting, the Engineer may require the old concrete surface to be treated differently, including the use of "wash off" and "dry-bond" techniques, wire brushing etc., The cost of all such preparations shall be included in the rates.

#### **6.4 Concreting in un favorable weather**

Concreting will not be permitted during heavy rain or stormy weather. The decision of the Engineer in this regard is final and binding.

6.5 Until a period of seven days has elapsed from the time of placing the concrete, it shall be kept protected against direct sunlight, loss of moisture, rapid temperature change, rain and flowing water, mechanical injury and contamination by air-borne dust and / or sand. This period may be varied at the discretion of the Engineer. Following completion of the above period a further period of curing will be required by the Engineer. This may require that covers, sand layers and the like be kept in place for longer than the 7 day minimum curing period otherwise specified.

#### **6.6 Record of concreting**

The Contractor shall keep on site a complete record of the works showing the time and date when concrete is placed in each part of the works. This record shall be available at all times for inspection by the Engineer.

#### **6.7 Faulty work**

Any portion of the work, which is honeycombed, or otherwise defective shall on the written instruction of the Engineer, immediately be cut out and reconstructed in an approved manner at the Contractor's expense. Plastering of defective work will not be permitted.

### **7. SHUTTERING**

#### **Drawings and Calculations**

The Contractor shall submit drawings and substantiate their proposals, showing details of the shuttering he intends to use, for the approval of the Engineer. The drawings shall show the material proposed and indicate details of construction, such as sizes of members and spacing and position of waling, struts, bolts and wedges. Shuttering shall not be constructed until the drawing and the calculations, if applicable, have been approved by the Engineer, but

such approval shall not relieve the Contractor of the responsibility for the sufficiency of the shuttering. Any changes or modifications to the shuttering required by the Engineer shall not entitle the Contractor to any extra payment.

#### 7.1 **Dimensional tolerances**

Unless specifically indicated otherwise on the Drawings tolerances on dimensions of all finished concrete works shall be +4% and -0% of the design dimensions subject to a maximum of +10 mm. Deviations in the alignment or position of structural members of the permanent concrete work shall be within + or -10 mm.

#### 7.2 **Materials for shuttering**

Shuttering shall be made from good quality plywood or steel. All shuttering shall be accurately aligned and have close fitting joints. Plywood shall be resistant to penetration by water and shall be fixed and jointed in such a manner as to give a perfectly smooth and even finish to the concrete. The outside of steel shuttering must be painted in light colour to reduce temperature gain due to solar radiation. With the approval of the Engineer, shuttering may be made from good quality seasoned timber, free from loose knots, shakes and warped surfaces. This timber shall not be less than 30 mm in thickness and the board faces in contact with concrete and the board edges shall be planed smooth and joints shall be tongued and grooved.

#### 7.3 **Fixing of shuttering**

Shuttering shall be fixed in perfect line and be truly plane, with no crevices and joints and shall be securely braced, supported and wedged so as to retain its position without displacement or deflection during the placing and compaction of the concrete. Joints in shuttering shall be made so that no leakage of grout can occur from the concrete. All joints shall be either horizontal or vertical, unless the form of the finished concrete requires them to be otherwise. Chamfers measuring 30 mm by 30 mm are to be made to all exposed edges of concrete, unless otherwise shown on the Drawings or directed by the Engineer.

#### 7.4 **Curing of concrete**

Until a period of seven days has elapsed from the time of placing the concrete. It shall be kept protected against direct sunlight, loss of moisture, rapid temperature change, rain and flowing water, mechanical injury and contamination by air-borne dust and/or sand. This period may be varied at the discretion of the Engineer. Following completion of the above period, a further period of curing will be required as directed by the Engineer. This may require that covers, sand layers and the like be kept in place for longer than the 7 day minimum curing period otherwise specified.

The Contractor's attention is drawn to the importance of starting curing as soon as possible after placing the concrete.

All methods of curing and protecting freshly placed concrete shall be subject to the prior approval of the Engineer. These methods may include the use of curing membranes, watering, damp covers, shades and/or any other precautions acceptable to the Engineer.



## **8. JOINTS**

### **Construction joints**

Construction joints shall be formed either on horizontal or vertical planes. The exact position of construction joints, if not shown on the Drawings, shall be agreed with the Engineer before depositing the concrete.

Construction joints in structures shall generally be made across planes of minimum shear. They shall, in addition, be so located and the amounts of concrete placed at any one time shall be so limited in size and shape, as to minimize shrinkage and temperature effects. Shuttering for construction joints shall be square to the work and shall incorporate continuous shear keys of substantial proportions so as to produce a well-keyed joint.

#### **8.1 Expansion joints**

Expansion joints shall be formed at the locations shown on the drawings and be provided with a steel edging construction as shown on the drawings. The requirements for the steel construction shall be in accordance with relevant IS Specification.

Expansion joints shall be of the pre-moulded type and shall extend to the entire width of deck and from the bedding layer to 25 mm below the surface of the deck. They shall be held so upright during the placing and finishing of the concrete by a metal bulkhead a metal channel cap or other approved method. The concrete shall be deposited on both sides of the joint and shall be compacted and struck off before the bulk head is removed.

The joint filler shall comply with the requirements of IS 1838 -latest edition "Specification for pre-formed filler for expansion joints, in concrete non-extruding and resilient type".

#### **8.2 Sealing of joints**

After the curing period is over the temporary seal or other intruded materials of expansion joints shall be removed completely and the slots filled with the approved joint sealing compound. The joint opening shall be thoroughly cleared of all foreign matter before the sealing material is placed. If necessary, the foreign matter shall be blown out. All contact faces of the joint shall be cleaned with wire brush to remove loose material and shall be surface dried when the sealing compound is poured. The sealing compound shall conform to IS 1834 -1984 or its latest version.

The edges of joints shall be painted with a thin coat of bituminous paint which shall be allowed to dry before the sealing compound is applied. The primer shall be applied with a brush.

The bitumen shall be melted and fluxed with the oil when cold, solvent naptha shall be added. Bituminous emulsions shall not be used as primers. Alternatively the primer can be from the same manufacturer who is supplying sealing compound for the work.

Care shall be taken to ensure that the sealing compound is not heated above 200° C (392° F) and the temperature does not exceed 180° C (365° F) for long periods and for other temperature as specified by the manufacturer of the compound.

Sealing compound shall be poured into the joint opening in such a manner that the material will not be spilled on the exposed surface of the concrete. Any excess filler on the surface of the deck shall be removed immediately and the deck surface cleaned.



## **9. STEEL REINFORCEMENT**

### **9.1 Materials**

The steel reinforcement required for this work shall conform to **"Specification of Materials" as per BIS specifications and approval of Employer**

### **9.2 Bending and cutting schedules**

The Contractor shall prepare for his own use bending schedules, bar lists, cutting schedules and sheet lists for each individual structure from the information given on the Drawings and in the Specification and shall be responsible for ensuring that correct information is given when ordering reinforcement. Copies of these schedules, lists and orders shall be submitted to the Engineer for approval. Steel bar supports shall be included in the bending schedules.

The approval of these bending and cutting schedules, lists and orders shall not release the contractor from his responsibility to ensure that reinforcement is provided and fixed in accordance with the drawings.

### **9.3 Lapping of Bars**

Lapping of Bars is permitted when necessary and approved by the Engineer provided that they are not placed at critical sections. No welding shall be carried out unless authorised by the Engineer.

Lapping lengths of bars shall be calculated in compliance with I.S. 2502 and I.S. 456. Laps shall be arranged in staggered locations. Lapping of adjacent sections of wire fabrics shall, generally, be carried out as follows:

- i. End to end by lapping the two pieces one full mesh (measured from the ends of the longitudinal wires in one piece to the ends of longitudinal wires in the other piece) and securing the two pieces together with wire ties placed at intervals of about 45 cm.
- ii. Side by side by placing the two selvage wires (the longitudinal wires at the edges of the fabric) one alongside and lapping the other and by securing the two pieces together with wire ties placed at intervals of approximately 90 cm.

### **9.4 Fixing of reinforcement**

Within the restrictions of I.S. 456, reinforcement bars may be placed in bundles of up to 3 bars. In each case the approval of Engineer must be obtained.

All reinforcing steel shall be accurately placed and retained in position during the placing of concrete. Correct positioning will be achieved with the use of steel bar supports, blocks, ties, hangers or other approved supports. Cover over reinforcement steel shall be as indicated on the Drawings.

Supports for holding the reinforcement from contact with the forms, or adjacent reinforcement, shall be made of approved plastic of approved shapes and dimensions. Alternatively, concrete blocks may be used subject to the approval of Engineer. Concrete blocks will only be approved if the blocks are made and cured with equipment which has the

approval of the Engineer and only if the Contractor can provide evidence that concrete blocks are of the same concrete grade, quality and density as the surrounding concrete.

## **10 GROUTING & WATER PROOFING - EXTERNAL WALLS:**

**GROUTING:** Providing & Grouting of dowel tubes / Shear keys / Joints of precast members with M-60 grade cementitious grout (Non Shrink) of approved make by suitable means (Free flowing / pump), curing etc. Complete as per directions of Engineer-in-charge. (The payment shall be made on the basis of actual weight of approved grout injected.) Stirrer mixed cementitious grout (non shrink) of approved make in dowel tubes / Shear keys / Joints of precast members.

**WATER PROOFING:** Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying : (a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/ sqm. This layer will be allowed to air cure for 4 hours. (b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.

## **11 SCAFFOLDING WORKS - EXTERNAL WALLS:**

Providing and fixing double scaffolding system (cup lock type) on the exterior side of building/structure, upto 25 metre height, above ground level, including additional rows of scaffolding in stepped manner as per requirement of site, made with 40mm dia M.S. tube, placed 1.5 metre centre to centre, horizontal & vertical tubes joint with cup & lock system with M.S. Tubes, M.S. tube chalis, M.S. clamps and staircase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for execution of work of cleaning and/ or pointing and/ or applying chemical and removing it thereafter. The scaffolding system shall be stiffened with bracings, runners, connecting with the building etc, wherever required, if feasible, for inspection of work at required locations with essential safety features for the workmen etc., complete as per directions and approval of Engineer-in-charge.

Note:- (1) The elevational area of the scaffolding shall be measured for payment purpose.

## **12 ANTI TERMITE TREATMENT WORKS:**

**12.1** Diluting and injecting chemical emulsion for POST-CONSTRUCTIONAL anti-termite treatment: Along external wall where the apron is not provided using Treatment at points of contact of wood work by chemical emulsion Chlorpyrifos/ Lindane (in oil or kerosene based solution) @ 0.5 litres per hole by drilling 6 mm dia holes at downward angle of 45 degree at 150 mm centre to centre

and sealing the same complete as per manufacturers specification. Approved manufacturers: PCI, Godrej, Pidilite or approved equivalent.

**12.2** Diluting and injecting chemical emulsion for POST-CONSTRUCTIONAL anti-termite treatment: Treatment of soil under existing floors using chemical emulsion @ one litre per hole, 300 mm apart including drilling 12 mm diameter holes and plugging with cement mortar 1 :2 (1 cement : 2 crushed stone aggregate) to match the existing floor with Chlorpyrifos/Lindane E.C. 20% with 1% concentration complete as per manufacturers specification. Approved manufacturers: PCI, Godrej, Pidilite or approved equivalent.

### **SPECIFICATIONS FOR INTERIOR WORKS – Part V**

The scope of work covers execution and completion of the work consisting of Interior furnishing and Minor Civil works for KPL in accordance with the drawings and specifications given along with the tender document:

#### **GENERAL**

This Specification is for work to be done, item to be supplied and materials to be used in the works as shown and defined on the drawings and described herein, all under supervision and to the satisfaction of the Port Engineer In charge/Architects.

**Bidders should adhere the basic cost of Item indicated in the respective BoQ items. To substantiate this, necessary tax invoice for the material brought to be submitted along with running bills.**

The workmanship is to be the best available and of a high standard, use must be made of a special trades man in all aspect of the work and allowance must be made in the rates for so doing.

The materials and items to be provided by the Contractor shall be approved by the KPL/Architects in accordance with any samples which will be submitted for approval by Contractor and generally in accordance with the Specifications. Also if products are specified in the Specification and/or bill of brand, trade name or catalogue reference, the Contractor will be required to obtain the approval of the Architects before using the materials. The Contractor shall produce all in voices, Vouchers or receipts for any material if called upon to do so by the KPL/Architects.

Samples of all materials are to be submitted to the Architects for approval before the Contractor orders or deliver the materials at site. Samples together with their packing are to be provided free of charge by the Contractor and should any materials be rejected, they will be removed from the site at the Contractor's expense. All samples will be retained by the KPL/Architects for comparison with materials which will be delivered at the site. Also, the Contractor will be required to submit specimen finishes of colours, fabrics etc. for the approval of the Architects before proceeding with the work.

The contractor shall be responsible for providing and maintaining and boxing or other temporary coverage's required for the protection of dresses or finished work if left unprotected. He is also to clean out all shelving, out ends and other waste from all pairs of the works before coverings or in-fillings are constructed.

Templates, boxes and moulds shall be accurately set out and rigidly constructed so as to remain accurate during the time they are in use.

All unexposed surface of timber e.g. false ceiling, backing fillets, backs of door frames cupboard framing, grounds, etc. are to be treated with two coats of approved timber preservative before fixing or converging.

Only first class workmanship will be accepted. Contractor shall maintain uniform quality and consistency in workmanship throughout.

If directed, materials shall be tested in any approved Testing Laboratory and the Test Certificate in original shall be submitted to the Architect and the entire charges of testing including charges for repeated tests if ordered shall be borne by the Contractor.

It shall be obligatory for the Contractor to furnish Certificate, if demanded by the KPL / Architects, from manufacturer or the material supplier that the work has been carried out by using their material and as per their recommendation.

All materials supplied by the KPL, if any/ other specialized firms shall be properly stored and the Contractor shall be responsible for its safe custody until they are required on the works and till the completion of work.

Unless otherwise shown on the drawings or mentioned in the Schedule of Quantities or Special Specifications the quality of materials, workmanship, dimensions, etc., shall be as specified here-in-under.

All Equipment and facilities for carrying out field tests on materials shall be provided without any extra cost

#### **14. FLOORING/SKIRTING/CLADDING:**

##### **14.1. Tile floors:**

- i) Foundation and cement floating under tiles :

Over the foundation as in (b) above 2 coats of cement plaster, 1 part of cement to 1 part of sand, prepared in a very liquid condition will be floated over it and allowed to set.

- ii) Laying:

After the tiles have been soaked in water for atleast two hours and the cement foundation sprinkled with water, laying work may commence and shall start from the centre of the room or area to be tiled, work being continued in both directions so that borders are laid last. Each tile will be laid in and drawn up in neat cement, care being taken to exclude air bubbles. Threads shall be stretched cross the surface, at intervals, parallel to the short sides of the area to be tiled to serve as guide lines.

- iii) Cleaning:

After a small area has been laid all superfluous cement will be wiped off the surface. Stains shall be removed by moistening with hydrochloric acid and rubbing with pumice stone and afterwards washing with warm water.

- vi) Fixing to walls:

In fixing tiles to walls the walls shall be rendered with cement plaster and the plaster scored diagonally and allowed to set. When laying the tiles work shall commence from the bottom, the back of each tile being smeared with neat cement of the consistency butter and the tile pressed into position.

**14.2.** For **Vitrified tiles** in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero-chipping diamond cutter only. Laying of tiles will be done with the notch trowel, plier, wedge,

clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily (Basic cost of Tile - Rs.800/Sq.m from Somany, Kajaria or Nitco Brand).

**14.3. For Anti-skid/Matt finish Ceramic floor tiles** of size 300x300 mm(thickness to be specified by the manufacturer), of 1st quality conforming to IS : 15622, of approved make, in all colours, shades, except White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick bed of cement mortar 1:4 (1 Cement : 4 Coarse sand), jointing with grey cement slurry @3.3kg/sqm including pointing the joints with white cement and matching pigments etc., complete. - Outdoor tiles for Swimming pool deck area. (Basic cost of Tile - Rs.600/Sq.m from Somany, Kajaria or Nitco Brand).

**14.4. For Ceramic glazed floor tiles** (thickness to be specified by the manufacturer) of Ist quality for wall dadoing conforming to IS :15622 of approved make in colours such as white, Ivory , Grey , Fume Red , Brown, laid on 20 mm thick Cement mortar 1:4 (1 cement: 4 coarse sand) including pointing the joints with white cement and matching pigment etc., complete where ever required and as directed by Engineer-In-Charge including all labour, materials ,tools etc., all complete (Basic cost of Tile - Rs.600/Sq.m from Somany, Kajaria or Nitco Brand).

**14.5. Providing and fixing ceramic glazed wall tiles** conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 crushed stone aggregate) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete. (Basic cost of Tile - Rs.550/Sq.m from Somany, Kajaria or Nitco Brand)

**14.6. For Kota stone Slabs /Eurocon tiles** 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete where ever required and as directed by Engineer-In-Charge including all labour,materials, tools etc., all complete. (Basic cost of Kota Stone - Rs.320/Sq.m).

**14.7. For flamed finish Granite stone flooring** in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge. (Basic cost of Granite - Rs.1600/Sq.m).

**14.8. For Polished Granite stone flooring** in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 Crushed stone aggregate) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing , curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge. - Polished Granite stone slab jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent. (Basic cost of Granite - Rs.1600/Sq.m)

**14.9. The GYM Flooring** is of 10mm thickness made of Recycled rubber granules and EPDM granules in roll forms as per the IS:3400, IS: 1237, ASTM D 792, 1709, 2240 Certifications. The rate should be inclusive of necessary adhesive used for fixing on floors and wastage etc. all complete as per the direction of the site Engineer and also the colour selection as per the



KPL Incharge. The laid area will be taken for measurements. (Basic cost of Floor - Rs. 1560/Sq.m from FOUR SQUARE, TOPFLEX)

#### **GYM FLOORING SPECIFICATIONS:**

|                       |                                                                                                                                                           |                                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>Raw Material</b>   | Recycled rubber granules and EPDM granules                                                                                                                |                                                                                                                                       |
| <b>Color</b>          | Rubber Rolls                                                                                                                                              | Base Color is Black with different color of EPDM granules like Yellow, White Green, Red, Blue & Multi. Coloured Rolls also available. |
|                       | Rubber Tiles                                                                                                                                              | Black, Grey, Terracotta, Green & Blue                                                                                                 |
| <b>Sizes</b>          | Rubber Rolls                                                                                                                                              | 1m X 10m                                                                                                                              |
|                       | Rubber Tiles                                                                                                                                              | 20" X 20"                                                                                                                             |
| <b>Certification</b>  | IS: 3400, IS: 1237, ASTM D 792, ASTM D 1709, ASTM D 2240, STRC/STP/BM02                                                                                   |                                                                                                                                       |
| <b>Advantages</b>     | Shock resistant, noise insulating, wear resistant, anti-slip, recyclable, long use life.                                                                  |                                                                                                                                       |
| <b>Application</b>    | Fitness center, Sports court, home gym, commercial area, exhibition halls, industrial flooring, kids play area, jogging tracks, indoor / outdoor gym etc. |                                                                                                                                       |
| <b>Site Condition</b> | Indoor / Outdoor                                                                                                                                          |                                                                                                                                       |

**14.10.** The **OUTDOOR SPORTS SYNTHETIC Flooring** of 8 layer Acrylic System (Pace court-ITF Approved). The floor should have 8 layer system of 5mm thickness consisting of 1 layer of Re-surface primer, 1 layer of resurface, 3 layers of rubber cushion, 2 layers of sand coat and a final layer of smooth coat of paint. The top layer should have a paint marking of boundaries required as per the sports. The synthetic paint court should be applied on the existing concrete surface free of dirt & dust all complete as per the direction of the site Engineer. The laid area will be taken for measurements. It should include the Line marking as per the sports standards & specifications. (Brand from PACE COURT, PFS POLAND)

**14.11.** The **INDOOR SPORTS PVC Flooring (Solid Colour)** is of 6.5mm thickness with 5.4 Kg/Sq.M in weight in roll forms. The floor should have shock absorption of 32% min and vertical deformation of lesser than 3.5mm and should be anti-bacterial. This flooring should be laid on the 6mm thk rubber Cushion which be pasted on the floor. The rate should be inclusive of fusion welding of roll joints & with necessary adhesive used for fixing and wastage etc. all complete as per the direction of the site Engineer. The layed area will be taken for measurements. (Basic cost of Floor - Rs. 1350/Sq.m from TOPFLEX, HERITAGE)

**14.12.** The **INDOOR SPORTS PVC Flooring (Wooden Colour)** is of 6.5mm thickness with 5.4 Kg/Sq.M in weight in roll forms. The floor should have shock absorption of 32% min and vertical deformation of lesser than 3.5mm and should be anti bacterial. This flooring should be laid on the 6mm thk rubber Cushion which be pasted on the floor. The rate should be inclusive of fusion welding of roll joints & with necessary adhesive used for fixing and wastage etc. all complete as per the direction of the site Engineer. The layed area will be taken for measurements. (Basic cost of Floor - Rs. 1450/Sq.m from TOPFLEX, HERITAGE)

**INDOOR SPORTS PVC FLOORING:**

| TECHNICAL DATA             | STANDARD      | PRIME 4.5            | PRIME 6.5            |
|----------------------------|---------------|----------------------|----------------------|
| <b>PRODUCT DESCRIPTION</b> |               |                      |                      |
| Total thickness            | EN 428        | 4.5mm                | 6.5mm                |
| Roll width                 | EN 426        | 1.8m                 | 1.8m                 |
| Roll length                | EN 426        | 20.0m                | 20.0m                |
| Weight                     | EN 430        | 4.2kg/m <sup>2</sup> | 5.4kg/m <sup>2</sup> |
| <b>PRODUCT DESCRIPTION</b> |               |                      |                      |
| Shock absorption           | EN 14808      | 23%                  | 32%                  |
| Sliding coefficient        | DIN 18032     | 0.4 - 0.6            | 0.4 - 0.6            |
| Energy return              | NF P 90 203   | ≥0.31                | ≥0.31                |
| Ball bounce                | EN 12235      | ≥90%                 | ≥90%                 |
| Vertical deformation       | EN 14809      | ≤3.5mm               | ≤3.5mm               |
| <b>PRODUCT DESCRIPTION</b> |               |                      |                      |
| Abrasion resistance        | EN ISO 5470-1 | ≤350mg               | ≤350mg               |
| Impact resistance          | EN 1517       | ≥8                   | ≥8                   |
| Residual impression        | EN 433        | ≤0.5mm               | ≤0.5mm               |
| Fire resistance            | EN 13501-1    | Cfl-s1               | Cfl-s1               |
| Light resistance           | EN 20 105-B02 | >6                   | >6                   |
| Chemical resistance        | EN 423        | excellent            | excellent            |
| Dimensional stability      | EN 434        | <0.1%                | <0.1%                |
| Anti-bacterial             | ---           | yes                  | yes                  |
| Sound isolation            | EN ISO 717/2  | 20dB                 | 22dB                 |

**Sports characteristics****Shock absorption**

Absorbs impacts from jumps and protects the joints and muscles involved, making exercise a more comfortable and enjoyable experience.

**Vertical deformation**

Excellent power return enables athletes to increase their on-court performance. Superior vertical stability eliminates "area" indentation.

**Superior ball bounce**

A good sports floor has identical ball bounce in all areas and all across the floor.

**Sliding properties**

Optimal slip coefficient offers natural grip avoiding falls and accidents, provides a safe playing surface.



**15.00 FALSE CEILING:****15.01 GYPBOARD FALSE CEILING:**

Gypboard false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm centre to centre, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound, jointing tapes, finishing with jointing compound in 3 layers covering upto 150 mm on both sides of joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in Charge but including the cost of painting with 12.5 mm thick tapered edge gypsum plain board conforming to IS: 2095- (Part I) :2011 (Board with BIS certification marks)

**15.02 GRID FALSE CEILING:**

All mineral fibre false ceiling tiles at all heights of size 595X595mm of approved texture, design and pattern. The tiles should have Humidity Resistance (RH) of 99%, Light Reflectance ? 85%, Thermal Conductivity  $k = 0.052 - 0.057 \text{ w/m K}$ , Fire Performance as per (BS 476 pt - 6 &7) in true horizontal level suspended on interlocking T-Grid of hot dipped all round galvanized iron section of 0.33 mm thick (galvanized @120 gsm) comprising of main T runners of 15x32 mm of length 3000 mm, cross T of size 15x32mm of length 1200 mm and secondary intermediate cross T of size 15x32 mm of length 600 mm to form grid module of size 600x600 mm suspended from ceiling using galvanized mild steel item (galvanised@80gsm) 50 mm long 8mm outer diameter M-6 dash fasteners, 6 mm diameter fully threaded hanger rod up to 1000 mm length and L-shape level adjuster of size 85x25x2 mm, spaced at 1200 mm centre to centre along main 'T'. The system should rest on periphery walls /partitions with the help of GI perimeter wall angle of size 24x24X3000 mm made of 0.40 mm thick sheet, to be fixed to the wall with help of plastic rawl plug at 450 mm centre to centre & 40 mm long dry wall S.S. screws. The exposed bottom portion of all T-sections used

in false ceiling support system shall be pre-painted with polyester baked paint, for all heights. The work shall be carried out as per specifications, drawings and as per directions of the engineer-in-charge with 16 mm thick beveled tegular mineral fibre false ceiling tile (NRC 0.55 to 0.6 sqm ) - Armstrong, Gyproc, Knauf, and Saint-Gobain

**15.03 CALCIUM SILICATE FALSE CEILING:**

All false ceiling at all heights with integral densified calcium silicate reinforced with fibre and natural filler false ceiling tiles of Size 595x595mm of approved texture, design and patterns as per CPWD Specification 2019, to be laid in true horizontal level suspended on inter-locking metal T-Grid of hot dipped galvanised iron section of 0.33mm thick (galvanized @ 120 grams per sqm including both sides) comprising of main-T runners of size 24x38 mm of length 3000 mm, cross - T of size 24x32 mm of length 1200 mm and secondary intermediate cross-T of size 24x32 mm of length 600mm to form grid module of size 600 x 600 mm, suspended from ceiling using galvanised mild steel items (galvanizing @ 80 grams per sqm) i.e. 12x50 mm long dash fasteners, 6 mm dia fully threaded hanger rod upto 1000 mm length and L-shape level adjuster of size 76x25x25x1.6 mm fixed with grid and Z cleat of size 25x37x25x1.6mm thick with pre-cut hole on both 25mm flange to pierce into 12x50mm or even bigger size dash fastener if required, fixed with Galvanised iron perimeter wall angle or size 24x24x0.40 mm of length 3000 mm to be fixed on periphery wall / partition with the help of plastic rawl plugs at 450mm center to center and 40 mm long dry wall S.S screws. The work shall be carried out as per drawing and as per directions of the Engineer-in-Charge with 15 mm thick tegular/butt edged without perforation plain/designer light weight calcium silicate Anti-Microbial Bio-Safe coated false ceiling tiles Confirming to JIS-Z2801 and ASTM G-21

#### **15.04 VENEER PLY CEILING:**

The ceiling Paneling with the following specification fixing horizontally and vertically in position of wall. Fixing the water proof ply wood 9mm thick board over the country wood planks support from the ceiling. Over the ply wood OST sheet of 4mm thick will be fixed with necessary screws and fevicol giving neat finish. The top will be finished with two coats of sanding polishing. The surface will be finished with necessary design as directed by the Departmental Officers. The rate inclusive of all materials, labor power and conveyance of materials to the work site, loading & unloading etc., and as per drawing and design by the Departmental Officers. The water proof ply wood and OST sheet and other materials to be used shall be got approved by the Executive Engineer concerned before use on work, etc., complete as per standard specification - - (Basic Cost of Veneer - Rs.650/ Sq.M)

#### **15.05 PVC CEILING:**

The PVC ceiling panel is a Factory-made PVC ceiling system in Wooden finish colour & grains. The PVC ceiling is fixed with click on system fixing between the panels with necessary Connector profile & 'J' Profile of same colour. The PVC panels are fixed with necessary G.I. framework & Support from the ceiling all complete as per the direction of the site incharge. The measurement will be taken for the laid portion and the wastage will not be covered in the rate.- (Basic Cost of PVC Panel - Rs.2150/ Sq.M from PARE, SOULWOOD)

### **16.0 DOORS:**

#### **12.01. FACTORY MADE DOOR SHUTTER:**

Providing Supplying & fitting 35mm thick compressed ready to fit wood door shutter conforming to IS : 15380 - 2003, primed, shutter comprising of High Density Fiberboard skins (HDF) of 3.5mm (hardened finely processed natural wood fiber) with panel design compressed on both faces, sandwiching termite and borer resistant chemical treated and kiln seasoned wooden stiles and rails of 50 mm - 60 mm width, lock block and high density flax board core / chemical treated and kiln seasoned timber core infill.

Shutter should be bonded with Phenol Formaldehyde or adhesive/s conforming to BWP grade of IS 848. Shutter should have trim ability option of 12.5 mm from all sides. The

Door should have flexibility for painting or polishing to match any interiors & fixed to the pressed steel door frames, bolts etc. as specified and directed at all levels. All items shall be carried out as per drawings.

***(The supplier should possess TUV certification for ISO 9001:2000, ISO 14001:2004 and OHSAS 18001:1999 as confirmation of adherence to integrated Quality Management and Environmental Management practices.)***

## **12.02 FLUSH DOORS:**

All flush doors shall be solid core unless otherwise specified. It shall conform to the relevant specifications of I.S.2202 and shall be obtained from approved manufacturers. The finished thickness of the shutter shall be as mentioned in the item. Face veneers shall be of the pattern and colour approved by the EIC / Architects and an approved sample shall be deposited with the EIC / Architects for reference.

The solid core shall be of Wood Laminate prepared from battens of well-seasoned and treated good quality wood having straight grains. The battens shall be of uniform size of about 2.5 cm width. These shall be properly glued and machine pressed together with grains of each piece reversed from that of adjoining one. The longitudinal joints of the battens shall be staggered and no piece shall be less than 50 cm in length. Alternatively, the core shall be of solid teak particle board. Edges of the core shall be lipped with first class teakwood battens of 4 cm. ( 1 ½”) minimum depth, glued and machine pressed along the core.

The core surface shall then have two or three veneers firmly glued on each face. The first veneer (called cross Bond) shall be laid with its grains at right angles to those of the core and the second the third veneer with their grains parallel to these of the core. The under veneers shall be of good quality, durable and well-seasoned wood. The face veneer shall be of minimum one mm thickness and of well-matched and seasoned first class teak, laid along with grains of the core battens. The combined thickness of all the veneers on each face shall not be less than 4 mm. Thermo setting synthetic resin conforming to IS 303 for moisture proof plywood grade M.P.F.I. shall be used in manufacture. In addition all doors shall have external lipping all round 8 mm thick.

## **DELIVERY, STORAGE AND HANDLINGS**

Fabricated products shall be handed over and transported to site with precautions not to damage, bend, dent, sag etc.

Fabricated finished product shall be received with self-adhesive protective coating prior to being transported to site. Store all material in dry, lockable ventilated place. Material shall be placed on runners/packing and they are off the ground minimum 150mm. Inspect material received for dimension, quality and finish. Replace all damaged materials immediately. All acceptable material shall be repacked and stored. Special care shall be taken to store glass.

### **1.01 WOODEN ACOUSTIC DOOR:**

Providing and fixing of WOODEN ACOUSTIC DOOR: – 55mm to 76mm thick sandwich type composite sound reducing flush door shutters. The combined assembly set of door frame and door shutters to be as per following details:

- (a) Door frame shall be of teak / hard wood of size – 150 mm X 100 mm, including making necessary grooves in the frame for fixing of hollow bulb type EDPM gaskets on rebates to block noise leakage from gap in between door frame and shutter.
- (b) The frame of shutter shall be made from 40 mm thick teak / hard wood stiles and top & bottom rails of size 94 mm and core made of lock rail 100 mm wide and 40 mm thick and three additional strips 50 mm wide and 25 mm thick (minimum)
- (c) The core of door shutter shall be filled with acoustic insulation material, sound absorbing and damping material.
- (d) Face panels shall be of 12 mm thick Marine ply boards of approved make conforming to relevant IS codes / International Standards on both sides of the core of the shutter with required primer at the unexposed surface. One side of ply board shall be fixed to the core of the shutter along with a 5 mm thick Neoprene rubber sheet on its inner face.
- (e) 01 mm mica OR 04 mm thick Teak Veneer of approved make shall be bonded with 12 mm thick marine plyboard on both face of shutter by using high strength cross linked PVAC based adhesive.
- (f) Dropdown Seal: – Excellent quality range of Internal Automatic Dropdown Seal, which are manufactured from high grade quality raw materials. These Internal Automatic Dropdown Seal can be customized as per our precious customers specifications. These Internal Automatic Dropdown Seal are widely known for its durability and quality. Internal Automatic Dropdown Seal can be availed at industrial leading price. Resists sound upto 37db, air, insects, cold smoke, light. Designed for timber (wooden) doors.
- (g) Hardware- The door assembly shall be fixed to the door frame with heavy-duty stainless-steel hardware i.e. Door Lock, SS Bal bearing Hinges, SS door handle 'D' type back to back, SS Tower bolt.

#### 1.02 **ABS DOOR:**

These shall be of 35mm thick factory made pre-laminated ABS (Acrolonitrile Butadiene Styrene) Door Shutter moulded in different designs, consisting of all round frame made out of water proof solid foam PVC bar of size 20 x 32mm, reinforced by 32 x 32mm - 2 Nos., for vertical made out of LVL (Laminated Veneer Lumber), core material of 32mm thick high density craft paper honey comb board, sandwiched on both sides with pre-laminated ABS sheet thickness of 1.5mm. PVC edge banding of size 0.45mm on the vertical sides. Hardware made out of steel coated butterfly hinges - 3 Nos., for each shutter and ISI make SS round lock complete for finished item of work, complete complying with the standard specification. The door shutter and frame should be got approved from the Executive Engineer before use on work.

#### 12.03 **BUTT HINGES:**

These shall be of stainless steel (14 gauges) of sizes specified in the schedule of quantities / drawing of approved make.

#### 12.04 **DOOR CLOSER:**

These shall be of approved quality aluminium die cast body tubular type universal hydraulic door closer (having brand logo with ISI,

IS : 3564, embossed on the body, door weight upto 35 kg and door width upto 700 mm), with necessary accessories and screws etc. complete as specified in the schedule of quantities.

#### **TOUGHNED GLASS DOOR:**

These shall be of 12 mm thick frameless toughened clear glass door shutter with all hardware of approved brand and manufacture (Ozone or Dorma XLC), including providing and fixing of top & bottom pivot & spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer-in-charge.

#### **HYDRALIC FLOOR SPRING:**

These shall be of approved quality double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logo embossed on the body / plate with double spring mechanism and door weight upto 125 kg., for doors, including cost of cutting floors ,embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge. With stainless steel cover plate minimum 1.25 mm thickness.

#### **10.00. WALL PUTTY:**

Surface preparation for plastered wall, ceiling etc. to be done by providing average 1.50mm thick polymer based wall putty punning including clearing, rubbing with sand paper, filling gaps/depression etc, to make the surface even and smooth.

#### **11.0 PAINTING:**

All material required for the works like Lime for lime wash, dry distemper, oil bound distemper, cement, primer, oil paint, enamel paint, flat oil paint, plastic emulsion paint, anti-corrosive primer, red lead, water proof cement paint shall be of specified and approved manufacturer , delivered to the site in the manufacturer's containers with the seals etc., unbroken and clearly marked with the manufacturer's name or trade mark with a description of the contents and colour shall conform to the latest Indian Standards for various paints . All materials are to be stored on the site of the work.

##### **11.01Acrylic Emulsion Paint:**

The surface shall be prepared by cleaning the surfaces of the structure and making free from all dust and dirt. Interior surfaces are to be provided with 1.5mm thick wall putty punning. A primer coat either of cement primer or of an approved distemper shall be applied. After the priming coat has dried the surface shall be lightly sand papered and dusted to make it smooth to receive distemper.

Distemper shall be prepared as per the directions of the manufacturers and conforming to the shade approved. It shall be applied in specified coats taking care to allow for drying of each coat before subsequent coats are applied.

##### **11.02 Wall texture paint:**



These shall be of Concrete Wall texture paint and the process consists of :

a) Base Preparation - Cleaning: Sand the surface with emery paper 180. Wipe clean. Primer: Apply a coat of Asian Paints wall primer (DCP WT). Allow drying for 3-4 hrs. Acrylic Putty: Smoothen the Surface with Asian Paints Acrylic Putty. Apply two to three coats to make the wall smooth. Allow proper drying in between two coats. Primer: Sand with emery paper 180 & wipe clean. Apply a coat of Asian Paints Wall primer (DCP WT). Allow drying for 3-4 hrs.

b) Apply 1st coat of Archi Concrete paste form on the primed surface using a steel trowel. Allow it to dry for 45 mins to an hour. Apply 2nd coat of Archi Concrete paste when the 1st coat is in semi-dry condition. Make the desired pattern using requisite tools. Allow it to dry for 5-10 mins. Buff the surface using a Steel Trowel. Excess buffing will flatten the surface & pattern will not visible. Buff the surface gently. c) After 6 to 8 hrs of complete drying, apply the 1st coat of Royale Play Protective Coat (untinted and diluted by 200% water). After 3 to 4 hrs of drying apply tinted 2nd coat (diluted by 200% water) using Sponge Roller & CW sponge in the direction of the pattern (Vertical & Horizontal). Clean excess material using wet CW Sponge. In hot & dry climatic conditions, wet the surface with water before applying 2nd top coat to avoid section lines.

#### **11.03 Painting over wood work:**

a) The surface to be painted shall be thoroughly dry. All projections such as glue, all tool marks and other irregularities shall be carefully removed by means of a stopping knife and smoothened over and all head of nails or screws set 6mm below the surface.

b) Knotting shall be carried out for all resinous woods such as pitch or red pine, an application of hot lime shall be applied to the portion to be stopped and allowed to remain for 24 hours after which it will be scraped off and the stopping completed.

c) After the surface has been prepared as described above the primary coat shall be applied. When the primary coat has dried all nails and screw holes and all cracks shall be stopped and all irregularities shall be smoothened out with sand paper or pumice stone. Water proof sand paper is to be used.

d) After the primary coat has dried out the subsequent coats shall be applied to the number specified. Each coat being allowed to dry thoroughly before the next coat is applied. Each coat when dry except the finishing coat should be lightly rubbed down with sand paper and washed before the next coat is applied. The paint shall be applied evenly and properly by means of crossing and lying off the latter in the direction of the grain of the wood work.

#### **11.04 Purchase of paint, varnish or oil:**

Only the best brands obtainable will be used and should the contract permit the contractor to supply any paint, oil or varnish he shall purchase only such brands as the EIC shall approve of in writing. All purchases must be made direct from the manufacturers or through an agent approved of in writing by the EIC. Should the EIC so direct copies of all indents and receipts for purchase must be submitted for inspection.

#### **11.05 Paint etc. to be purchased in sealed containers:**

All paints, oil or varnishes supplied by the contractor must be produced for the inspection of the Engineer in charge of the work in the manufacturers sealed and unopened containers. All containers from which the contents have been removed and are not required on the work must be destroyed and no extra payment will be granted for such destruction.

#### **11.06 Only ready mixed paint to be used:**

Only ready mixed or varnished of the make or brand specified will be permitted to be used exactly as received from the manufacturer without any admixture what so ever unless previously authorized, in writing, by the EIC.

#### **11.07 Melamine Polish:**

Polishing in high gloss/matt finish melamine clear polish on wood work in required color/wooden shade texture with following process in the sequence as detailed below:

1. The surface to be polished is rubbed with sand paper 80/120 no. and then with sand paper of 160/180 nos.
2. Applying two coats of sealer with spray gun and allowing sufficient drying time for 1st coat and 2nd coat is allowed to dry for 8 to 12 hrs.
3. On drying of sealer coat, wet rubbing with emery cloth of finer grading with ample water to remove excess sealer layer and make the surface further smooth after this wet rubbing, then surface is applied with special grade melamine fillers to fill all the small and big holes/grooves etc. Filler coat to be allowed to dry for 4 to 6 hrs on which again a light wet rubbing is done this surface is further allowed to dry for 12 hrs.
4. On this, 1st coat of melamine polish is applied with spray gun using melamine clear polish and melamine thinner in required proportion. This 1st coat is allowed to dry for 24 hrs then this dry surface again fine wet rubbed smooth, which is further allowed to dry for 12 hrs. The final melamine polish is applied with compressor pressure spray gun using melamine clear polish and melamine thinner mixed in required proportion complete as per direction of Engineer-in-Charge.

## **2.0 PANELLING:**

### **2.1. VENEER WALL PANELLING:**

These shall be of Wall Panelling with the following specification fixing horizontally and vertically in position of wall. Fixing the water proof ply wood 9mm thick board over the country wood planks. Over the ply wood OST sheet of 4mm thick will be fixed with necessary screws and fevicol giving neat finish. The top will be finished with two coats of sanding polishing. The surface will be finished with necessary design as directed by the Departmental Officers. The rate inclusive of all materials, labour power and conveyance of materials to the work site, loading & unloading etc., and as per drawing and design by the Departmental Officers. The water proof ply wood and OST sheet and other materials to be used shall be got approved by the Executive Engineer concerned before use on work, etc., complete as per standard specification.

### **2.1. CURVED VENEER WALL PANELLING:**



These shall be of curved Wall Panelling with the following specification fixing horizontally and vertically in position of wall. Fixing the water proof ply wood 9mm thick flexi board over the country wood planks framework in curves as per the drawing. Over the ply wood OST sheet of 4mm thick will be fixed with necessary screws and fevicol giving neat finish. The top will be finished with two coats of sanding polishing. The surface will be finished with necessary design as directed by the Departmental Officers. The rate inclusive of all materials, labour power and conveyance of materials to the work site, loading & unloading etc., and as per drawing and design by the Departmental Officers. The water proof ply wood and OST sheet and other materials to be used shall be got approved by the Executive Engineer concerned before use on work, etc., complete as per standard

## **2.2. ACOUSTICAL PANELLING- WOODEN SLATS:**

These shall be of Acoustic Wooden Wall Panelling with fire retardant grade pine wood fibre slats of size 2430 x 128 x 16mm with lineal perforation of 2mm back lined with soundtex black acoustical fleece 0.27mm thick, 63 g / m<sup>2</sup>, tongue-groove edge for a seamless look, 5 test fire retardant grade with noise reduction coefficient not less than 0.75 NRC to absorb low and mid range frequencies from 125Hz to 4000Hz. GI strut CC50 frame work not more than 60 cm centre to centre using GI channels are fixed on the wall, over which an acoustic filling polywool material sound synth of 500 gsm density of 50mm thick has fixed and finally the panels are fixed and finished, so as to have an neat appearance as directed by the departmental offices.

The panels should be fixed as per the groove/size shown in the detailed drawing. The cost includes cost of material, cost of Labours, scaffolding, transportation, conveyance, etc., complete complying to standard specification. – BRANDS: Anutone / Topakustiks / Idea Tec / Wood Fit / Equivalent Brand

## **2.2. ACOUSTICAL PANELLING- POLYFIBRE PANEL:**

These shall be of Acoustical Slim Wall Panelling of synth slim, polyfibre panels, core-pigmented, high-density, Synth PF rigid panels of size 1200 x 2400 x 9mm thick, volume density 210 - 230 kg / m<sup>3</sup>, weight 1.9-2.1 kg/m<sup>2</sup> installed by using GI strut frame work system. The GI strut frame work systems includes GI strut CC 50 cross channel having thickness 0.7mm, length 3600mm, knurled web 50, depth 25mm and equal flanges 15mm is fastened to wall positioned horizontally in a regular manner at 600mm centre to centre. Anutone (or) Equivalent Brand of strand, square edge, magnesite bonded pine wood fibre core tiles of size 600 x 2400 x 10mm, density 400 kgs / m<sup>3</sup>, weight 8 kg / m<sup>2</sup> are fastened to strut CC 50 cross channel with suitable fasteners. Longer edges of the panel should be perpendicular to strut CC 50 cross channel. Synth slim panels are then adhered to strand behind with stick S7 adhesive. The system is backlined with the acoustical infill SynthPF 500 gsm 50 thick. The systems to achieve noise reduction coefficient not less than 0.85 NRC, so as to have an neat appearance as directed by the department offices. The panels should be fixed as per the groove/size shown in the detailed drawing. The cost includes, cost of material, cost of labour, scaffolding, transportation, conveyance, etc., complying to standard specification. - BRAND : Anutone / Tectum / Heradesign / Equivalent Brand

**VENEER PARTITION:**

Providing and fixing 75mm thk Full Height Veneer finished PLY wood Partitions using shall be made out of Aluminum sections of 50 x 50/63 mm x 38mm, 25 mm, the thickness of the extruded section shall be 1.5mm thickness and shall conform to IS: 733@ 600 c/c bothways with horizontal noggings at floor and soffit, both side skinning with 12mm thick PLYwood finished with 4mm thk veneer. All electrical/network switch boxes, niches to be boxed/packed with adequate reinforcement using PLYwood. The aluminium channel to be provided at intersection of two materials. The partition may have 6mm thk glass panels at specified areas as per the drawing fixed with veneer finished PLY Jamb lining all around. The aluminum framework to be anchored to actual ceiling. The design pattern, water proof plywood, OST sheet and other materials to be used shall be got approved by the Executive Engineer concerned before use on work etc., complete. The veneer should be of teak or equivalent. – (Basic cost of Veneer – Rs.650/ Sq.M)

**CHARCOAL RAFTER PANELLING:**

These shall be of 8mm thk readymade Charcoal Rafter panel in wooden finish as per the approved design and selection over 12mm thk Ply wood panelling in line with the surface. The rafter should be fixed in the tounge & groove joint with necessary adhesive over ply board surface all complete as per the direction of engineer in charge. (Basic cost of Rafter - Rs.3500 Sq.m from Euro or Equivalent)

**5.0 STORAGE:****5.1. VENEER STORAGE:**

These shall be of **STORAGE** UNIT using 19mm BWP PLY finished with 4mm thk Veneer/ OST Sheet outside and 0.8mm thk laminate inside. The intermediate shelves & Drawers unit to be of 19mm BWP ply finished with 0.8mm laminate. The shutters shall be finished with 4mm thk Veneer/ OST Sheet outside and .8mm thk laminate inside & the edges to be finished with 1st quality teak wood beading all around with necessary polish. The handle for the shutters should be of Stainless steel or white metal handle in Brushed SS Finish of minimum 200mm high. All Hardware like hinges, lock & drawer channels should be from "EBCO/CNR/Hettich" or approved. The Hinges & Telescopic channels should be of Soft close system. All others to be completed as per the drawing.

**5.1. VENEER COUNTER:**

These shall be of 675mm deep, 2 level Bar counter storage with working table @ 3'0" high and 300mm deep ledge @ 4' 0" level using 19mm thk BWP PLY with 4mm thk OST Sheet & charcoal rafters on exposed side and 0.8mm thk laminate on other side as per the drawing. The storage shall be with intermediate shelves with openable shutters. The edges to be finished with 1st quality teak wood beading all around with necessary polish. The openable shutters should be fixed with Hinges and multipurpose lock and handle for the shutters should be of Stainless steel or white metal handle in Brushed SS Finish of minimum 200mm high. The intermediate shelves should be placed as per the drawing as removable. All Hardware like hinges, lock & drawer channels should be from

"EBCO/CNR/Hettich" or approved. The Hinges & Telescopic channels should be of Soft close system. All others to be completed as per the drawing.

### **5.1. GLAZING:**

Glass used for glazing shall be float glass of best approved quality free from flaw, specks, bubbles and shall be of thickness specified in the Schedule of Quantities.

All glass to be of approved manufacturer complying with I.S. 3548-1966 as per approved quality and sample to be of the selective qualities specified and free from bubbles, smoke, air holes and other defects. Polished plate glass shall be "glazing glass" (G.G.) conforming to IS 3438-1965 or as per approved sample and quality.

The compound for glazing to metal is to be a special non-hardening compound manufactured for the purpose and of a brand and quality approved by the KPL/Architects.

While cutting glass, proper allowance be made for expansion. Each square of glazing to be in one whole sheet. On completion of work clean all glass inside and out, replace all cracked scratched and broken panes and leave in good condition.

### **3.0 FROSTED DECORATIVE FILM ON GLASS**

Providing and fixing on vertical mount Glass substrate approved frosted decorative film avg. 50 micron thick of approved make pasted on one side only with standard installation practice as approved, as per detailed design drawing. The process of mechanically cutting a film using a Plotting machine. The designs that are made on a computer are transferred to the plotter that cuts the film as per the design. The software used to make these designs are Corel Draw, Adobe Illustrator and such like.

The process of removing excess film that does not form a part of the design. This can be done before or after applying the film on the glass.

### **3.0 SUN CONTROL FILM ON GLASS:**

These shall be of Sun Control Film from 3M Sun control film Night vision 15 with 75% solar energy reduction of approved quality having size 3.8-micron thickness and fixing over plain glass panel including cost of labor, material, equipment's, machinery, transportation, loading and unloading, etc., complete as per material specification mentioned in the Technical Bid and direction of Engineer-in-charge.  
- 3M, GARWARE or Equivalent Make

### **1.3 MOSQUITO SCREEN WITH ALUMINIUM FRAMES:**

These shall be of Aluminum extruded from first melting, 6063 alloy with Powder Coatings of approved colour with Plastics components of nylon 6.

Below are the specifications:

Weather-stripping: 100% Polypropylene

Screen Material: Stainless steel 304-grade Colour: Black PVC Coated.

Sliding Profile - 50x18mm, Midbar Profile - 35x18mm, Bottom Track

Profile - 62x31mm & Side & Top Profile - 62x31mm.

### **4.0 ROLLER/ROMAN SHADES BLINDS**

The DRIVEUNIT shall be of moulded plastic with steel spring support and inserted into the tube end. It shall be driven by a ball chain pulley with ball chain and can be positioned at right side or left hand side of the Shade. The Shade when lowering or raising, shall be automatically locked in position upon release of the ball chain by means of a built in friction lock.

The ENDPLUG shall be moulded of plastic with a steel location pin. The plug shall be inserted into the tube end (Opposite to the DriveUnit).

The SUPPORT BRACKETS shall be of coated steel & provided with covers and used in right hand or left hand positions differentiated by the acceptance of the of the rectangular driveunit support or the round idler plug pin.

The ROLLERTUBE shall be of extruded aluminum with 38mm internal diameter & skin thickness of 1mm and shall incorporate a key way integral with the tube to accommodate the spline. The outside diameter of the rollertube shall be 40mm.

The BOTTOMRAIL shall be a stiffening element inserted into a bottom rod pocket. The material may be timber, PVC covered steel tube or VB Bottom rail. The BALLCHAIN shall be 2mm diameter cord with 4.5mm diameter acetal balls moulded co-axially to it on 6mm pitch of or man endless ball chain. It issued for raising or lowering action of the shades.

The MEASUREMENT - Length and breadth shall be measured correct to a cm and its area shall be calculated in square meter correct to two places of decimal.

The Shades of the fabric should have options of Black-out, translucent and will be selected by the KPL Site engineer/ In charge.

#### **ROLLER BLINDS:**

These shall be made of 38mmx38mm aluminium extruded top rail with powder coated finished enabled with control Mechanism to be louvolite and chain must be metal. Stops to be fitted top & bottom to eliminate over-run and it should have straight edge finish. The blinds should be of approved manufactures and complete as per the approved shade and texture. (Basic cost of blinds Rs 200/-)

#### **ROMAN BLINDS:**

These shall be made of approved Fabric cloth (Blackout or Transculent) with required lining cloth stitched with desired height of stacking of cloth when raised on heavy duty chain control sytem of 50mm x 20mm Alumnum head rail with side control, rear only inlcuding all accessories like Base rail etc. all complete as per the direction of Site engineer at site. (Basic cost of Basic of Fabric - Rs.650 R/m.)

#### **CURTAINS:**

The CURTAINS shall be made of approved Fabric cloth (Blackout or Transculent) with required lining cloth stitched with pencil pleat curtain header inlcuding all accessories like Tie Backs, Curtain rods, end caps, SS. Rings, etc. The Curtain rods should be of SS finish or Decorative

finish with decorative end caps all complete as per the direction of Site engineer at site. (Basic cost of Basic of Fabric - Rs.650 R/m & Basic cost of End caps - Rs.1500/ Piece.)

#### **ARTEFACT:**

The Artefacts, Vases, Indoor Pots shall be of any readymade material/ shape/ size suitable for each space as per the selection of the KPL Incharge considering the basic cost of each piece or set mentioned in the tender.

#### **PORTRAITS:**

The Portraits shall be of any readymade medium/ shape/ size suitable for each space as per the selection of the KPL Incharge considering the basic cost of each piece or set mentioned in the tender.

#### **EXTERIOR WORKS:**

##### **MCM Cladding:**

PHOMI's products are modified soil made through a technology breakthrough with the base materials being constituted and bonded together by using only low heat temperature in its production process. Modified Clay Material (MCM) is an amalgamation of clay and sands through an unfired patent manufacturing technology, making it to the closest pure form with the nature. The Products come with a base thickness of only 2.5 mm making it extremely light weight and flexible, yet Suitable for both Exterior and Interior applications. Also, the natural characteristics of the soil offer benefits of fire retardant, insulation, breathability, non-toxic, durability and recyclability features.

#### **TECHNICAL DATA**

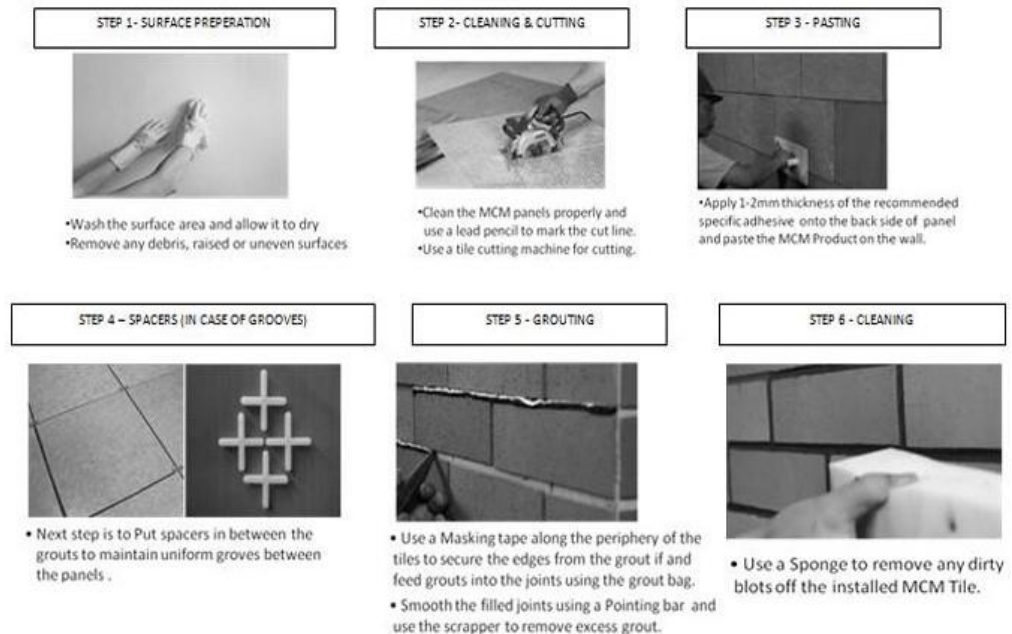
|                                  |                                |
|----------------------------------|--------------------------------|
| Components                       | Clay, Sand & Polymers          |
| Form                             | Sheet/ Panel, Bulk             |
| Color                            | Depends on Clay Color          |
| Odor                             | Odorless                       |
| Percentage of Recycled Materials | About 30%                      |
| Thermal Conductivity             | 0.0590 W/M.K - EN 12667 (2001) |
| Thermal Resistance               | 0.0568 M K/W- EN 12667 (2001)  |
| Water Absorption Value           | 3.6%                           |
| Solubility in water              | Insoluble                      |

#### **Fire Resistance Properties**

|                 |                      |
|-----------------|----------------------|
| Fire Insulation | Class A— ASTM E84-15 |
| Flammability    | Non Flammable        |

The Modified Clay Material (MCM- Product Code -Travertine yellow finish & brick finish) to be fixed on the plastered wall with MCM 2C Adhesive. The spacers of the tile should be filled with necessary grouting with matching colour including scaffolding, labour, material, transportation, tools etc., etc complete as directed by Engineer In Charge

The product should be Green Product with IGBC Certification



## **INSTALLATION:**

### **HPL CLADDING:**

HPL Cladding is known as High-Pressure Laminate (HPL) cladding for enhancing the exterior surfaces of buildings. The HPL Sheet should be of UV & Weather Resistant one. The thickness of the HPL Sheet should be of 6mm thk for the exterior cladding with necessary aluminum supports as below for HPL cladding installation:

- a.** Mid-Joining Cladding Detail: An aluminium box section of 38 mm x 75 mm should be placed between the cladding and the ceiling surface. It is advisable to use rivets on the exterior surface of the laminate wall cladding.
- b.** Corner Detail: For this application, the sectional area of the aluminium box should be 38 mm x 38 mm with just a single rivet on the exterior surface of the cladding.
- c.** The HPL Panels to be fixed to be framework by rivet system at regular intervals with matching colour panel including cost of all labour & material etc., complete.

### **SS RAILING:**

The Stainless Steel Hand rails for staircase or other areas using 50 mm dia 304L Grade Stainless Steel pipe of 1.60 mm thick will be provided with tubular supports made of 304L Grade Stainless Steel pipe of 25 mm dia of 1.60mm thick welded to the railing. The supports will be grouted into the wall and provided with 93.00mm thick Stainless Steel circular base plate of 304 Grade. The rate shall include for grouting into concrete with necessary



supporting arrangements the hand rail in floor polishing buffing, bonding, cutting, grinding, conveyance, welding charges, electrical charges, etc. complete.

**GLASS RAILING WITH SS SUPPORT:**

These shall be of SS 304 grade, 1000mm high railing made of SS304 grade handrail pipe of 50mm outer diameter and 1.6 mm thickness polish with automatic round polishing machine to get a uniform hairline finish. Vertical pipe of K24 mounted with help of adjustable solid neck connector support on balustrade of approved design at 900mm to 1200mm centre to centre, (or actual division as per site conditions), fitted with four Nos of solid glass SS connectors for holding the infill glass of 12mm thick toughened glass connector to be fitted with balustrade with the help of SS screw over all mounted on SS 304 grade solid base plate 100mm x 8mm with the help of dash fasteners (HILTI/FISCHER make) - Mobil make or equivalent,

**ALUMINIUM BOX SECTION FOR PERGOLA:**

These shall be of 50mm X 100mm wide Aluminum box section powder coated with wooden grain finish. The ceiling cut out are framed with aluminum box sections on all sides with necessary Aluminum 'L' sections at the corners and junctions with necessary screws. Then the aluminum box section is placed on one direction with 225mm gap distance fixed by Aluminum 'L' sections. This includes all materials, labors, fixing accessories and scaffolding etc., complete.

**LAMINATED TOUGHENED GLASS FOR PERGOLA:**

These shall be of sandwiched glass of 13.65mm thk (6mm toughened glass+1.65mm PVB lamination+6mm toughened glass). The 2Nos. of 6mm thk glass is of toughened glass and sandwiched in between with 1.65mm thk polyvinyl butyral (PVB) Lamination to achieve desired safety and performance. This sandwiched glass has to be placed over the Aluminum framed pergola all complete including transport, shifting, handling of glass as per detailed drawings and direction by Engineer-in-Charge.

**SIGNAGE- BACKLIT:**

These SIGNAGE shall be of 4mm thk ACP cladded box on sides & rear to the required size and shape of KPL Logo with the approved measurements. The Front of the Signage will be of 4mm thk Acrylic with LED lights inside for back lighting with the specified exterior grade Sticker. The entire box will be supported from rear with necessary MS support inclusive of all labour, materials, tool, scaffolding etc. as per the direction of Engineer-in-charge. The Logo & Letters of KPL should be shown in Autocad/ PDF/Coreldraw format as per the colour, size & shape for approval before manufacturing.

**SIGNAGE - CUT LETTERS:**

These SIGNAGE of KPL Logo shall be of Aluminum cut letters & logo to the required size and shape of KPL Logo with the approved measurements. These Aluminium cut letters and logo to be powder coated as per the approved KPL logo design. The individual Letter should have a necessary support to be fixed on the wall inclusive of all labour, materials, tool, scaffolding etc. as per the direction of Engineer-in-charge. The Logo & Letters of KPL should be shown in Autocad/ PDF/Coreldraw format as per the colour, size & shape for approval before manufacturing.



**SHOWER CUBICLES:**

These shall be of wall-to-wall shower enclosure with sliding door made up of 8mm thick toughened glass with necessary profile. The shower partition enclosure will be in two parts – 1 fixed glass & 1 glass door. The profile used in the enclosure should be of chrome plated Aluminum and mirror finished knobs for handles. The roller should be of encapsulated roller for smooth & silent operations with concealed & encapsulated screws. The door should be of magnetic door closing for water tight solutions. The measurements of the shower enclosure has to taken at site after the completion of tile works. – Make – Jaquar.

### Jaquar Shower Enclosure – Sliding Range



#### Optima



- Description – Wall to Wall Enclosure with sliding door.
- Glass Thickness – 8mm
- 2 Parts Enclosure – 1 Fixed Glass + 1 Doors
- Profiles – Chrome Plated Aluminum
- Handles - Mirror finished Knob
- Rollers – Encapsulated rollers with smooth and silent operations
- Screws – Concealed and encapsulated Screws
- Magnetics Door Closing for Water tight solutions

Sizes –  
Width 1200mm to 2000mm; Height 2000mm



COMPLETE BATHROOM SOLUTIONS

**JAQUAR FIXTURES:**

The plumbing sanitary fixtures & CP Fittings has to be done as the specifications and model no provided in the tender from 'JAQUAR' Brand in all aspects.

The Maintenance support for 12 months should be included within the contract. If the Maintenance support is not provided properly by the contractor, the job will be assigned and to the efficient professionals by the KPL Incharge and the recurring cost will be detected from the defect liability cost from the contractor.

**SWIMMING POOL:**

Construction of Swimming Pool at the specified location as per the direction of KPL incharge including all civil works like Excavation work, PCC work, Panel assembly and laying work,

RCC concrete work of M20 Grade combined with Sturdy polypropylene, smooth plastering inclusive of all material & labour following the necessary standards.

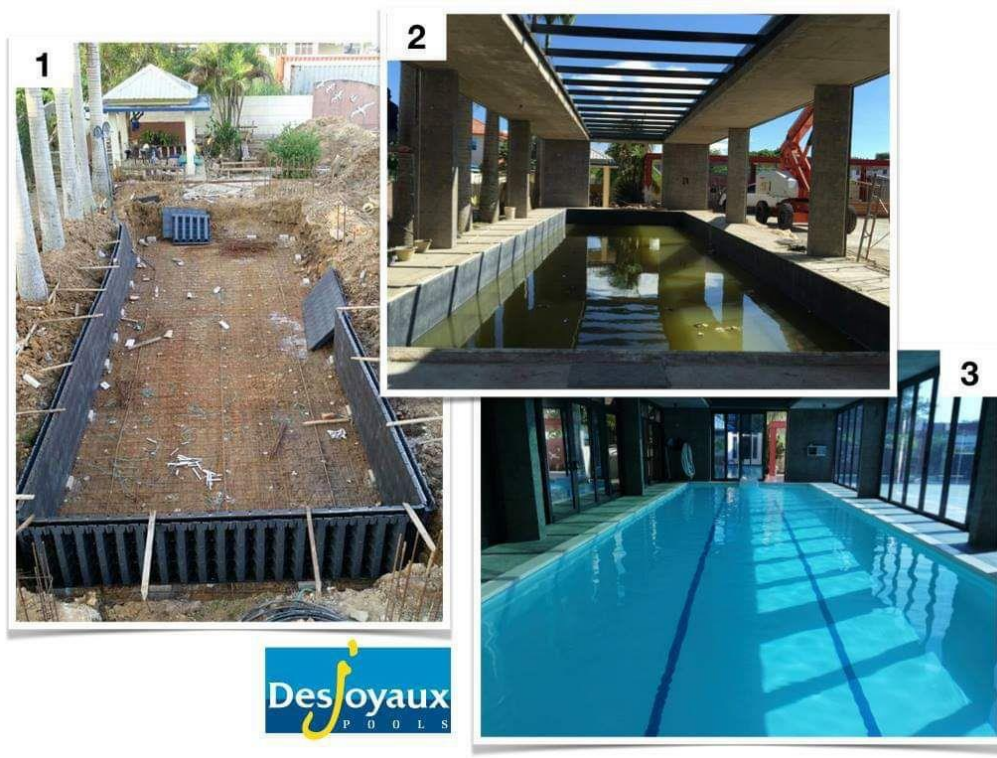


The pool should be of size: 16.00 M (Length) x 11.61 M (Width) X 1.35M (Depth) with a raised kids pool of 3 M (Length) X 4 M (Width) x 0.75 (Depth) within the same as per the approved drawing.

### The Surface-mounted Filtration

### Desjoyaux's Filtration System

### Ordinary Filtration System



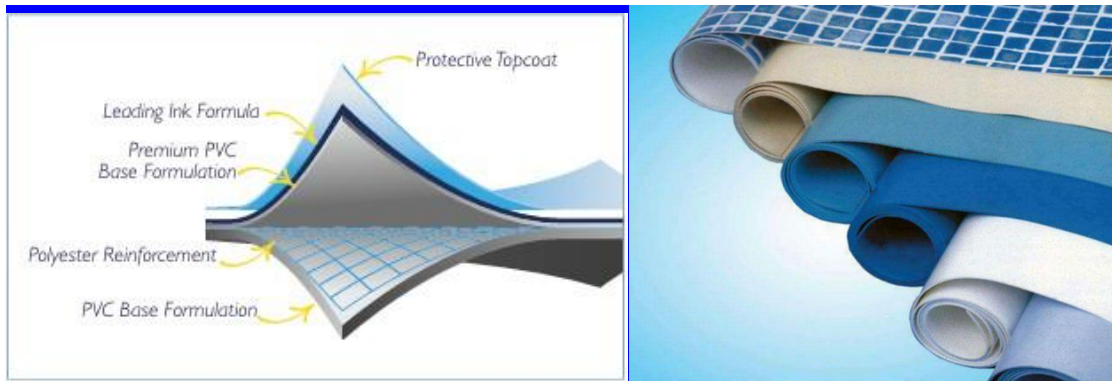
The edge of the pool should be fixed with Coping stone all around with grinding & polishing etc all complete as per the drawings.



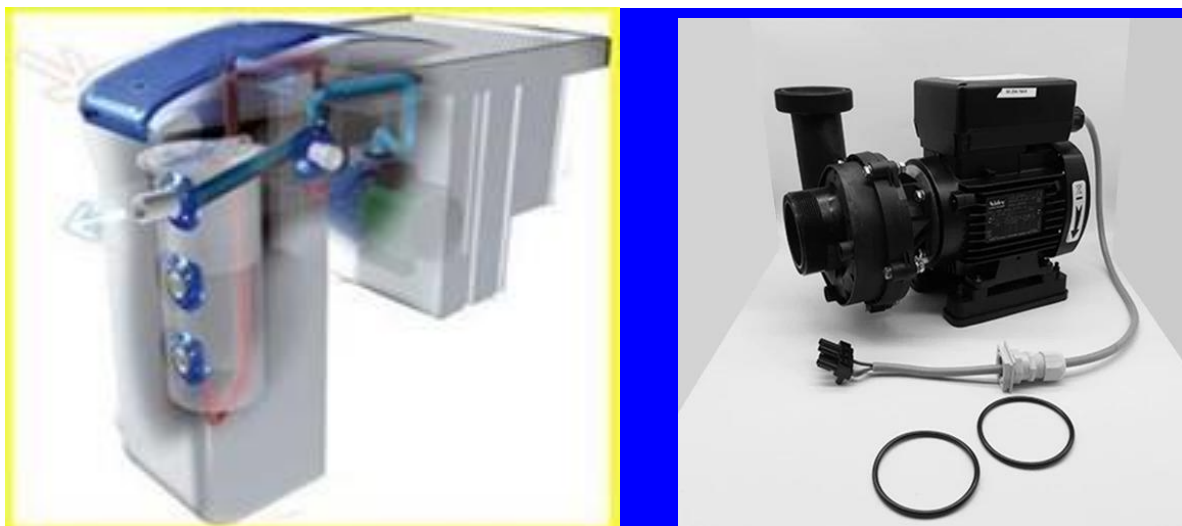
The Pool should have a Vinyl Liner which is a membrane collection made of 2 layers of premium PVC film reinforced with a woven polyester mesh. The Vinyl Pool liner should have



a Anti- slip, Anti- Fungal properties and also a protective coating from Stain & UV. The joints should be of fusion welded joints.



- The Pool should have 2nos. of Filtration pumps of 1/5 hp capacity for each motor and should have attached powerful lights of 200 watts. The pump should have a Electrical control Panel. The pump should filter 15 to 6 Microns.



The package should have a Starter kit (H<sub>2</sub>O test kit, Broom Head, Extendable broom Handle, Broom hose of 15 Mtrs, Wall Brush, Floor Net, Lotus Thermometer & Vacuum Head with Wheel) and Chemicals like Shock & Slow chlorine.



- Extras Accessories like 3 step ladder with Hand rails & kids pool railing etc should be included.



- Any Coordinated work with the Electrical & plumbing contractor should be done for the smooth progress of work at site.
- The Maintenance support for 12 months with 6 visits should be included within the contract. - Make: Desjoyaux's Pools.

If the Maintenance support is not provided properly by the contractor, the job will be assigned to the efficient professionals by the KPL Incharge and the recurring cost will be detected from the defect liability cost from the contractor.

## **16.00. STRUCTURAL GLAZING ALUMINIUM COMPOSITE PANEL**

**16.01** The Aluminum shall be of machine moulded aluminium covering of approved pattern & design, made out of machine cut aluminium sheet and machine holed for receiving dash fastener, over expansion joints on vertical surfaces/ceiling floors, the fixing on plate in one row on one side of joint only shall be done with stainless steel dash fasteners of 8 mm dia and 75 mm long bolt including providing aluminum washers 2 mm thick & 15 mm dia , at a staggered pitch of 200mm centre to centre including drilling holes

in the receiving surface and providing expandable plastic sleeves in holes etc. complete as per direction of Engineer-in-charge

**ANODISING OF ALUMINIUM:** Anodized aluminum sheet 2.5mm thick (anodized transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15) kg 603.30 21.7.2 Powder coated aluminum sheet 2.5mm thick (minimum thickness of powder coating 50 micron) kg 635.60

**SEALANT:** Filling the gap in between aluminum frame & adjacent RCC/ Brick/ Stone work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete

The aluminium extruded tubular and other aluminium sections as per the architectural drawings and approved shop drawings, the aluminium quality as per grade 6063 T5 or T6 as per BS 1474, including super durable powder coating of 60-80 microns conforming to AAMA 2604 of required colour and shade as approved by the Engineer-in-Charge. (The item includes cost of material such as cleats, sleeves, screws etc. necessary for fabrication of extruded aluminium frame work. Nothing extra shall be paid on this account). The weight of aluminium extruded section shall be taken for purpose of payment.

## **16.02 STRUCTURAL GLAZING:**

Fabricating, testing, protection, installing and fixing in position semi (grid) unitized system of structural glazing (with open joints) for linear as well as curvilinear portions of the building for all heights and all levels, including:

a) Fabricating and supplying serrated M.S. hot dip galvanised / Aluminium alloy of 6005 T5 brackets of required sizes, sections and profiles etc. to accommodate 3 Dimensional movement for achieving perfect verticality and fixing structural glazing system rigidly to the RCC/ masonry/ structural steel framework of building structure using stainless steel anchor fasteners/ bolts, nylon separator to prevent bimetallic contacts with nuts and washers etc. of stainless steel grade 316, of the required capacity and in required numbers.

(c) Providing and filling, two part pump filled, structural silicone sealant and one part weather silicone sealant compatible with the structural silicone sealant of required bite size in a clean and controlled factory / work shop environment, including double sided spacer tape, setting blocks and backer rod, all of approved grade, brand and manufacture, as per the approved sealant design, within and all around the perimeter for holding glass.

(d) Providing and fixing in position flashings of solid aluminium sheet 1 mm thick and of sizes, shapes and profiles, as required as per the site conditions, to seal the gap between the building structure and all its interfaces with curtain glazing to make it watertight.

(e) Making provision for drainage of moisture/ water that enters the curtain glazing system to make it watertight, by incorporating principles of pressure equalization, providing suitable gutter profiles at bottom (if required), making necessary holes of required sizes and of required numbers etc. complete. This item includes cost of all inputs of designing, labour for fabricating and installation of aluminium grid, installation of glazed units, T&P, scaffolding and other incidental charges including wastages etc., enabling temporary structures and services, cranes or cradles etc. as described above and as specified.

The item also includes the cost of all mock ups at site, cost of all samples of the individual components for testing in an approved laboratory, field tests on the assembled working structural glazing as specified, cleaning and protection till the handing over of the building



for occupation. In the end, the Contractor shall provide a water tight structural glazing having all the performance characteristics etc. all complete as required, as per the Architectural drawings, as per item description, as specified, as per the approved shop drawings and as directed by the Engineer- in-Charge.

Note:- 1. The cost of providing extruded aluminium frames, shadow boxes, extruded aluminium section capping for fixing in the grooves of the curtain glazing and vermin proof stainless steel wire mesh shall be paid for separately under relevant items under this sub-head. However, for the purpose of payment, only the actual area of structural glazing (including width of grooves) on the external face shall be measured in sqm. up to two decimal places.

Note:-2. The following performance test are to be conducted on structural glazing system if area of structural glazing exceeds 2500 Sqm from the certified laboratories accredited by NABL(National Accreditation Board for Testing and Calibration Laboratories), Department of Science & Technologies, India. Cost of testing is payable separately.

The NIT approving authority will decide the necessity of testing on the basis of cost of the work, cost of the test and importance of the work. Performance Testing of Structural glazing system Tests to be conducted in the NABL accredited lab or any other accreditation body which operates in accordance with ISO/IEC 17011 and accredits labs as per ISO/IEC 17025

1. Performance Laboratory Test for Air Leakage Test (-50pa to - 300pa) & (+50pa to +300pa) as per ASTM E-283-04 testing method for a range of testing limit 1 to 200 mVhr
2. Static Water Penetration Test. (50pa to 1500pa) as per ASTM E- 331-09 testing method for a range up to 2000 ml.
3. Dynamic Water Penetration (50pa to 1500pa) as per AAMA 501.01- 05 testing method for a range upto 2000 ml
4. Structural Performance Deflection and deformation by static air pressure test (1.5 times design wind pressure without any failure) as per ASTM E-330-10 testing method for a range upto 50 mm
5. Seismic Movement Test (upto 30 mm) as per AAMA 501.4-09 testing method for Qualitative test, Tests to be conducted on site.
6. Onsite Test for Water Leakage for a pressure range 50 kpa to 240 kpa (35psi) upto 2000 ml

### **16.03 DOUBLE GLAZED VISION PANEL:**

These shall be of vision glass panels (IGUs) comprising of hermetically-sealed 6-12- 6 mm insulated glass (double glazed) vision panel units of size and shape as required and specified, comprising of an outer heat strengthened float glass 6 mm thick, of approved colour and shade with reflective soft coating on surface # 2 of approved colour and shade, an inner Heat strengthened clear float glass 6 mm thick, spacer tube 12 mm wide, dessicants, including primary seal and secondary seal (structural silicone sealant) etc. all complete for the required performances, as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer in-Charge. The IGUs shall be assembled in the factory/ workshop of the glass processor. (Payment for fixing of IGU Panels in the curtain glazing is included in cost of item No.25.2) For payment, only the actual area of glass on face # 1 of the glass panels (excluding the areas of the grooves and weather silicone sealant)

provided and fixed in position, shall be measured in sqm. (i) Coloured tinted float glass 6 mm thick substrate with reflective soft coating on face # 2, + 12 mm Airgap + 6 mm Heat Strengthened clear Glass of approved make having properties as visible Light transmittance (VLT) of 25 to 35 %, Light reflection internal 10 to 15%, light reflection external 10 to 20 %, shading coefficient (0.25- 0.28) and U value of 3.0 to 3.3 W/m<sup>2</sup> degree K etc. The properties of performance glass shall be decided by technical sanctioning authority as per the site requirement.

Extra charges shall be rendered for openable side / top hung vision glass panels (IGUs) including providing and supplying at site all accessories and hardware for the openable panels as specified and of the approved make such as heavy duty stainless steel friction hinges, min 4 -point cremone locking sets with stainless steel plates, handles, buffers etc. including necessary stainless steel screws/ fasteners, nuts, bolts, washers etc. all complete as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer- in-Charge.

#### **16.04 DOUBLE GLAZED VISION PANEL:**

Fabricating, testing, installing and fixing in position Curtain Wall with Aluminium Composite Panel Cladding, with open grooves for linear as well as curvilinear portions of the building, for all heights and all levels etc. including:

- (a) for pressure equalisation or rain screen principle as required, proper drainage of water to make it watertight including checking of all the structural and functional..
- (b) Providing, fabricating and supplying and fixing panels of aluminium composite panel cladding in pan shape in metallic colour of approved shades made out of 4 mm thick aluminium composite panel material consisting of 3 mm thick FR grade mineral core sandwiched between two Aluminium sheets (each 0.5 mm thick). The aluminium composite panel cladding sheet shall be coil coated, with Kynar 500 based PVDF / Lumiflon based fluoropolymer resin coating of approved colour and shade on face # 1 and polymer (Service) coating on face # 2 as specified using stainless steel screws, nuts, bolts, washers, cleats, weather silicone sealant, backer rods etc
- (c) The fastening brackets of Aluminium alloy 6005 T5 / MS with Hot Dip Galvanised with serrations and serrated washers to arrest the wind load movement, fasteners, SS 316 Pins and anchor bolts of approved make in SS 316, Nylon separators to prevent bi-metallic contacts all complete required to perform as per specification and drawing The item includes cost of all material & labour component, the cost of all mock ups at site, cost of all samples of the individual components for testing in an approved laboratory, field tests on the assembled working curtain wall with aluminium composite panel cladding, cleaning and protection of the curtain wall with aluminium composite panel cladding till the handing over of the building for occupation. Base frame work for ACP cladding is payable under the relevant aluminium items. The Contractor shall provide curtain wall with aluminium composite panel cladding, having all the performance characteristics all complete , as per the Architectural drawings, as per item description, as specified, as per the approved shop drawings and as directed by the Engineer-in-Charge. However, for the purpose of payment, only the actual area on the external face of the curtain wall with Aluminum Composite Panel Cladding (including width of groove) shall be measured in sqm. up to two decimal places.

#### **17.00 KITCHEN EQUIPMENTS & EXHAUST VENTILATION SYSTEM:**

These shall include Supply, Installation, commissioning and handover including services of Defect liability period as per contract for all the below Kitchen equipments and Exhaust ventilation system as per the consultant drawings attached. These work should be completed in coordination with necessary required electrical & plumbing works. The counter should be made of SS 304 Grade and of sheet thickness in Standard wire gauge as mentioned in the specifications.

The bidder should attach Technical Compliance item wise with respect to the above technical specifications and turnkey work along with Printed catalogues and Manufacturer's Authorization in the techno-commercial bid.

Bidder should provide complete parts manual/Service manuals for all systems and subsystems. –

Final electrical safety test, system test and calibration should be done by authorized person with test instruments.

Construction/laying of Draining/Sewer system from all the equipments/Sinks to the main drain (outside the Kitchen) with grating, proper trap and flow system and tapping.

All electrical accessories like cable wire, electrical outlets, switches etc, should be fire proof of reputed make, certified for electrical safety. –

Wherever makes have not been specified for certain items, the same shall be as per BIS and as per approval of HSCC.

The contractor should provide test certificate for all materials and equipments used for Kitchen.

The Maintenance support for 12 months should be included within the contract.

If the Maintenance support is not provided properly by the contractor, the job will be assigned to the efficient professionals by the KPL Incharge and the recurring cost will be detected from the defect liability cost from the contractor.

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## **PART -VI – SPECIFICATION FOR ELECTRICAL WORKS**

**1.0 All Electrical works shall be carried out as approved by KPL**

**2.0 The Electrical works should be carried out by Safety Standards and Rules of KPL**

### **3.1 SCOPE:**

This Specification covers general principles to be followed for the selection of electrical equipment and accessories and their installation, testing and commissioning. The term selection of electrical equipment means, the electrical equipment and accessories as well as materials. This also covers installation procedure of electrical equipment as well as materials.

The selection of electrical equipment and their installation work as well as during testing and commissioning, safety of equipment and operating personnel, ease of operation and maintenance shall be given the prime considerations.

The electrical installation shall be complete in all respects and any item not included in the specifications but essential for proper installation and functioning of the electrical system shall be deemed to be included in the scope of the specification whether specifically mentioned in the Technical and General specifications or not.

All electrical equipment, installation materials and accessories shall be selected from the standardized types and ratings and shall be oriented towards maximizing the inter change ability and minimizing the maintenance.

In the interest of standardization the Employer reserves the right of selecting particular types and makes of installation materials and accessories and the Contractor shall provide materials and accessories of the particular makes if so required.

### **3.2 STANDARDS:**

The equipment and accessories covered by this specification shall be designed, manufactured and tested in accordance with Indian Standards and codes of practice published by the Indian Standards Institution wherever available, in order that specific aspects under Indian Conditions are taken care of.

In case where Indian Standards are not available, then equipment and accessories shall conform to the latest publications and codes of practice by any other recognized National Standards Institutions.

All electrical equipment and installation shall also conform to the latest Indian Electricity Rules as regard Safety, earthing and other essential provisions specified therein for installation and operation of electrical plants.

All the civil works shall be carried out as per relevant specifications and to the satisfaction of the Engineer. The specification of the material shall be as per relevant Indian Standard specification as applicable.

### **3.3 RELIABILITY AND SAFETY:**

Continuity of Power supply is the first consideration and the installation shall be such as to provide facilities to simplify inspection, testing, maintenance, cleaning and general repairs at

Site.

Special care shall be taken to make the enclosed equipment proof against entry of creeping reptile which may create electrical short circuits inside the live equipment.

All ventilating and forced-draft opening shall have suitable screen protection. When screens are provided on top of the equipment, means shall be provided to protect them from falling objects.

### **3.4 SYSTEM VOLTAGE:**

Electric power will be available at 415 V, 3 phases, 3 wires, 50 Hz. The system will be earthen solidly at transformer neutral.

All Alternating Current Equipments shall be designed to suit supply with a voltage variation not exceeding +15% and frequency variation not exceeding +3%.

### **3.5 VOLTAGE DROP IN CABLES:**

The total allowable voltage drop in the power circuits from the load centers to any motor or other consumers shall not exceed 5%. The distribution of this voltage drop in different parts of the System shall depend on the layout of the installation. General the voltage drops in main feeders from the load centres to the PANELS or DBs shall not exceed 2% and in the sub-feeders from the PANELS or DB to individual equipments or other consumers shall not exceed 3%.

#### **POWER CABLES**

##### **a) SCOPE**

This specification covers the supply, laying, testing and commissioning of Cables as mentioned in the SOQ.

#### **STANDARDS**

The cables covered by this specification shall, unless otherwise stated, be designed manufactured and tested in accordance with the latest revisions of relevant Indian standards.

IS-694: PVC insulated cables

for working voltages up to and including 1100 volts.

IS-1554 : PVC insulated heavy duty cables for working voltages up to and including 1100 volts.

IS-3961 : Recommended current ratings for PVC insulating and PVC sheathed heavy-duty cables.

IS-8130 : Conductors for insulated electric cables and flexible cords.

IS-5831 : PVC insulation and sheath of Electric cables.

IS-3975 : Mild steel wires, strips and tapes for armouring of cables.

IS-6130 : Conductors for insulated electric cables and flexible cords  
shall be Aluminium / Copper as specified in the Schedule of Quantities. It shall be smooth, uniform in quality and free from scale and other defects. The stranded conductor shall be clean and reasonably uniform in size and shape. The conductor shall be either circular or shaped.

- **CABLE DRUMS**

- Cables shall be supplied in non-returnable drums of sturdy construction. All ferrous and other metal parts of drum shall be treated with a suitable rust preventive finish or coating to avoid rusting during transit or storage. Type of dust preventive finish and coating adopted may be mentioned.

- TESTS
- h) Routine Tests
- All tests as per relevant IS shall be conducted at factory and the test certificate shall be furnished along with delivery of Cables.
- PVC ARMOURED CABLE
- All codes and standards mean the latest. Where not specified otherwise the installation shall generally follow the Indian Standard codes of practice or the British Standard Codes of practice where Indian standards are not available.
- Cables
- All cables shall be 1100 Volt grade PVC insulated, sheathed with or without steel armouring as specified and with an outer PVC protective sheath. Cables shall have high conductivity stranded aluminium or copper conductors and cores shall be colour coded to the Indian Standards.

#### **Lamp**

High efficiency long life LED chip in modules with colour rendering index (Ra) >70 and lumen efficacy of  $\geq 100$  lumen/watt with suitable lens to ensure better uniformity of light distribution. The LED shall have a colour temperature of 5700 - 6500K. The tolerance shall be as per ANSI standard. The total lumens output shall be minimum 20000

The luminary shall have the following features and specifications.

- Ensures zero maintenance
- No UV & IR radiations
- Operating Temp. range :  $-10^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$
- Storage Temp. range :  $-10^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$
- Power Factor shall be greater than 0.95(>0.95)
- LED will have a working life of minimum 50000 burning hours.
- Operating voltage shall be 140V-270V A.C.
- The power consumption shall be lower.
- The luminary shall meet the latest IS and IEC code.
- Type : White colour
- Efficiency of the Luminary is > 80%

#### **Optics**

The optics shall be high quality to enhance the performance of the luminaries and to match the required photometry.

**Note: LM 80 test report from the manufacturer to be submitted along with the supply of materials.**



**3.6.1.2      150Watts LED High Bay Industrial Luminary**

LEDs and high purity anodized 120° aluminum reflector for superior performance. It ensures wide and uniform light distribution throughout the facility. LED Industrial Lighting must be reliable, and range of luminaires are designed with extruded aluminum heat sink, resulting in effective thermal management and longer life.

Lighting color: Cool white

Wattage : 150W

Beam angle : 120 degree

Luminaire : Aluminium

Colour Temperature : 2700K – 6500K

Body Material : Aluminium, IP65

Mounting Options : Eye – bolt

LED : SMD covered by optical lens for enhanced illumination

**Lamp**

High efficiency long life LED chip in modules with colour reading index (Ra) >70 and lumen efficacy of  $\geq 100$  lumen/watt with suitable lens to ensure better uniformity of light distribution. The total lumens output shall be minimum 15000

The luminary shall have the following features and specifications.

- Ensures zero maintenance
- No UV & IR radiations
- Operating Temp. range :  $-10^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$
- Storage Temp. range :  $-10^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$
- Power Factor shall be greater than 0.95(>0.95)
- LED will have a working life of minimum 50000 burning hours.
- Operating voltage shall be 140V-270V A.C.
- The power consumption shall be lower.
- The luminary shall meet the latest IS and IEC code.
- Type : White colour
- Efficiency of the Luminary is > 80%

## Optics

The optics shall be high quality to enhance the performance of the luminaries and to match the required photometry.

**Note: LM 80 test report from the manufacturer to be submitted along with the supply of materials.**

### **3.6.1.3 GI Junction Box**

- GI Junction Box suitable for metal or aluminium, Epoxy coated trap lid to prevent rust accumulation on the exposed parts, Smooth curves on all four sides. Screws on all 4 sides to match

### **3.7.3 Outdoor Power Distribution Box**

- 1 no. of 63 Amps 4Pole MCCB, 16KA as incomer with built in thermal over load and magnetic short circuit releases.
- 2nos.of 32amps, 4 pole MCB, 10KAand1no. of 16amps, 4pole MCB, 6KA as Outgoing
- 03 nos. LED type RYB indication lamps.

### **3.7.4 Outdoor Lighting Distribution Box**

- 1 no. of 63 Amps 4Pole MCB, 10KA as incomer with built in thermal over load and magnetic short circuit releases.
- 3no. of 32A , 2pole, 10KA MCB – 3nos, and 12nos. of 10Amps, 6KA single pole MCB as Out going feeder thermal over load and magnetic short circuit releases.

### **3.12 CABLE ROUTE MARKER**

The cable route marker shall be made up of concrete. The minimum size shall be 600mm (L) \* 300mm(h) \* 50mm(Thick). It shall be at least embedded in ground up to 500mm depth with engraved black letters written on yellow painted background and at the regular interval of 100 mtrs., it shall be provided with suitable concrete as directed in the site and wherever the turn is there, the interval shall not be maintained.

### **3.13 Flame Proof Switch Socket with Plug**

This socket is widely used to connect to a power source onto which another device can be plugged in.

1. 32amps, 5Pin socket with shutter and plug top
2. High Pressure Die cast Aluminum Alloy
3. Epoxy powder coating painting
4. Earthing: External and Internal
5. Protection : IP 65

6. Zone 1 &amp; Zone 2

**3.14 CABLE TRAYS**

Cable trays and the associated accessories including tray covers shall be Pre-fabricated type Galvanized steel sheets. The nominal width of cable trays selected is 75, 150, and 300 mm. The cable trays shall be supplied in standard lengths of 2500 mm. Types of trays used are Perforated type. The thickness for cable trays shall be considered 2 mm and the thickness for cable tray cover shall be considered 1.6 mm. Cable tray covers shall be provided for Perforated trays. The cable tray accessories are Vertical Elbows, Horizontal Bends, Adjustable Bends, Crosses, Tees and Reducers, etc,. All finished cable trays and accessories shall be free from sharp edges, corners, burrs and un evenness. Galvanizing: All cable trays, tray accessories, tray covers & tray supports including washers, etc. shall be hot dip galvanized. Grounding conductors for Cable Trays 25 x 3 GI flat conductor shall run along the trays & interconnecting the trays at every 2.5 m. The cable tray supporting structures shall be of steel and galvanized. This supporting structure shall comprise of two parts, which shall be Vertical support channels & Horizontal supporting arms.

**3.15 GI Flat;**

The flat shall first be fastened on one side of the panel leaving adequate length of flat, which shall be taken over to the other side i.e. to the earth busbar, switch-board, continuous earth flat for cable tray and Electrical panels as per the details of IS:3043 1987. No joint on the earth lead conductor is permitted. Every care shall be taken to ensure that the ends of the flats have been securely clamped by the bolt on cleaned surface of the plate and establish a good electrical contact.

**3.16 Bolt and Nuts:**

Bolts and nuts made up of Stainless steel only shall be used in the entire works except foundation bolts and nuts. The foundation bolts and nuts shall be made up of G.I.

**LIST OF APPROVED MAKES**

MCCB / MCB      L&amp;T / Siemens / Schneider / Havells / ABB

LED Light fittings    Crompton / Bajaj / Philips / Havells/ Wipro

Multifunction meter Schneider / secure/socomec/cadel

LT PANELS / BUILDERS    CPRI CERTIFIED UNITS

Earth electrode      JEF ECO Safe/Pentagon/Spark/Excel

Indication Lamps    Techniq/L&amp;T/Siemens

SELECTOR SWITCH      SALZER / KAYCEE

PVC INSULATED COPPER CONDUCTOR WIRES

UPTO 6 SQ.MM.(FRLS)    FINOLEX / RR KABEL / ASMON / POLYCAB

Cable Tray : ISO 9001:200

Note: For all other items, not listed above, prior approval is to be taken from KPL before procurement.

SELECTOR SWITCH            SALZER / KAYCEE

PVC INSULATED COPPER CONDUCTOR WIRES

UPTO 6 SQ.MM.(FRLS)      FINOLEX / RR KABEL / ASMON / POLYCAB

**Note: For all other items, not listed above, prior approval is to be taken from KPL before procurement.**

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**ANNEXURE-1****LIST OF MATERIAL OF APPROVED BRAND OR MAKE**

NOTE : The contractor shall quote for the best of the materials as specified below. The contractor shall obtain prior approval from the KPL Engineer-in-Charge before placing order for the specific materials/agencies. In case of non availability of any of the approved/specified material/agency, during the execution of the work, the KPL Engineer-in-Charge may approve suitable equivalent brand/agency and his decision shall be final and binding on the Contractor and the price variations, if any, shall be adjusted accordingly.

- |     |                                                                                                          |   |                                                                                                                     |
|-----|----------------------------------------------------------------------------------------------------------|---|---------------------------------------------------------------------------------------------------------------------|
| 2.  | White/Coloured galzed tiles                                                                              | : | Tiles of Hindustan, Pilkington, Kajaria, Somany, Johnson or equivalent.                                             |
| 3.  | Ceramic tiles (non glazed)                                                                               | : | Naveen, Kajaria, Johnson or equivalent.                                                                             |
| 4.  | Flush doors                                                                                              | : | Swastik, Sitapur, National, Anchor, "Mysore board" or equivalent with I.S.I. mark.                                  |
| 5.  | Teak particle board                                                                                      | : | Swastik, National, Anchor or equivalent with I.S.I. mark.                                                           |
| 6.  | Paneled doors                                                                                            | : | RAJSHRI, National, Swastik, Kitply, "Kutty" or equivalent with I.S.I. mark.                                         |
| 7.  | P.V.C. doors                                                                                             | : | RAJSHRI, Sintex, Mihir, Fixopan or equivalent with I.S.I. mark.                                                     |
| 8.  | Rolling shutters & Grilles                                                                               | : | Diana, Swastik, generally as grilles as per I.S. or equivalent or locally made of equivalent quality.               |
| 9.  | Aluminum doors, windows, partitions etc.                                                                 | : | Ajit India, Jindal or equivalent.                                                                                   |
| 10. | Waterproofing compound                                                                                   | : | Algiproof, Impermo or equivalent.                                                                                   |
| 11. | Hardeners                                                                                                | : | "Ironite" or equivalent.                                                                                            |
| 12. | Paint and Distemper                                                                                      | : | ICI, British, Asian, or equivalent                                                                                  |
| 13. | Red Oxide                                                                                                | : | "Asian" or equivalent                                                                                               |
| 14. | Waterproof cement paint                                                                                  | : | Super "Snowcem Plus" or equivalent                                                                                  |
| 15. | Glazing                                                                                                  | : | Hindustan, Modi guard, Pilkington, Triveni, Haryana or equivalent.                                                  |
| 16. | Hardware                                                                                                 | : | "Shalimar", "Everite" or equivalent.                                                                                |
| 17. | Door closers, floors springs                                                                             | : | Everite or equivalent ISI mark                                                                                      |
| 18. | Water seal (Epoxy-Stearate) compound                                                                     | : | Approved Make                                                                                                       |
| 19. | Medium density Fibre-board in lieu of particle board used in partitions, panelled doors and flush doors. | : | Nuwood, Mangalam.                                                                                                   |
| 20. | Cement                                                                                                   | : | Ordinary Portland Cement of Grade-53 confirming to IS 12269-1987 from reputed manufacturers of cement such as Ultra |

Tech Cements, Birla Cements, ACC, India Cements, Madras Cements, Chettinad Cements, Dalmia Cements as approved by the Engineer.

- |     |                         |   |                                                                                                            |
|-----|-------------------------|---|------------------------------------------------------------------------------------------------------------|
| 21. | Bricks                  | : | Class 5.0 Bricks.                                                                                          |
| 22. | Crushed Stone Aggregate | : | Crushed Stone Aggregate as Per IS:383                                                                      |
| 23. | Reinforcement Steel     | : | High yield deformed bars/ TMT FE-550D of reputed make of SAIL/ JSW/ RINL/ VIZAG/ TATA Steel should be used |
| 24. | Structural Steel        | : | reputed make of SAIL/ JSW/ RINL/ VIZAG/ TATA Steel should be used as per IS:1786                           |

Signature of the Contractor



**CIVIL/ INTERIOR MAKE OF MATERIALS ANNEXURE-2**

| S.No | ITEM                                                            | BRAND 1      | BRAND 2      | BRAND 3        |
|------|-----------------------------------------------------------------|--------------|--------------|----------------|
| 1    | CEMENT                                                          | COROMONDEL   | RAMCO        | L&T            |
| 2    | WATER PROOFING                                                  | DR.FIXIT     | ROFF         | PIDILITE       |
| 3    | FLOOR TILES                                                     | KAJARIA      | SOMANY       | NITCO          |
| 4    | GYM FLOOR                                                       | FOUR SQUARE  | TOPFLEX      |                |
| 5    | INDOOR SPORTS FLOOR                                             | HERITAGE     | TOPFLEX      |                |
| 6    | OUTDOOR SPORTS FLOOR                                            | PACE COURT   | PFS POLNAD   |                |
| 7    | GYPSUM BOARD/G.1 CHANNELS                                       | SAINT GOBAIN | INDIA GYPSUM |                |
| 8    | GRID CEILING                                                    | SAINT GOBAIN | INDIA GYPSUM |                |
| 9    | PVC SOFFIT CEILING (WOODEN FINISH)                              | PARE         | SOULWOOD     |                |
| 10   | ABS DOORS                                                       | KASSA        | XINDO        |                |
| 11   | FLUSH DOOR -BWP (Boiled water proof plywood)                    | GREENPLY     | SHARON       | CENTURY        |
| 12   | PLYWOOD-BWR/ BWP                                                | GREENPLY     | SHARON       | CENTURY        |
| 13   | VENEER                                                          | GREEN VENEER | URO VENEER   | CENTURY VENEER |
| 14   | LAMINATE                                                        | MERINO       | GREENLAM     | VIR            |
| 15   | GLASS PANEL                                                     | SAINT GOBAIN | ASAHI INDIA  | FUSO           |
| 16   | ACOUSTIC PANELS                                                 | ANUTONE      | KNAUF        | SAINT GOBIN    |
| 17   | CHARCOAL RAFTER PANELS                                          | EURO PRATIK  | ELEMENTS     |                |
| 18   | HARDWARES - HINGES /MULTIPURPOSE LOCK/DRAWER TELESCOPIC CHANELS | EBCO         | GODREJ       | CNR            |
| 19   | DOOR CLOSURE/ FLOOR SPRING/ DOOR MORTISE LOCK                   | DORMA XLC    | GODREJ       | HARDWYN        |
| 20   | FURNITURES/CHAIRS                                               | GODREJ       | MONARC       | FEATHER LITE   |

|    |                                       |             |          |           |
|----|---------------------------------------|-------------|----------|-----------|
| 21 | ROLLER/SILLHOUTTE BLINDS              | VISTA       | MARVEL   |           |
| 22 | ACP (ALUMINIUM COMPOSITE PANEL)       | EUROBOND    | VIVA     | ALUDECOR  |
| 23 | HPL (HIGH PRESSURE LAMINATE)          | DURIAN      | GREENLAM | MERINO    |
| 24 | ALUMINIUM SECTIONS                    | JINDAL      | NALCO    |           |
| 25 | MCM CLADDING (MODIFIED CLAY MATERIAL) | PHOMI - MCM |          |           |
| 26 | PUTTY                                 | JK          | BIRLA    | ASIAN     |
| 27 | PAINT                                 | ASIAN       | BERGER   | DULUX     |
| 28 | AIR CONDITIONING                      | VOLTAS      | LG       | BLUE STAR |
| 29 | STABILISERS FOR AC                    | PREMIER     | V-GUARD  | SAKTHI    |

Signature of the Contractor

**PLUMBING MAKE OF MATERIALS ANNEXURE-3**

| S.No | ITEM                                          | BRAND 1           | BRAND 2                 | BRAND 3         |
|------|-----------------------------------------------|-------------------|-------------------------|-----------------|
| 1    | CPVC PIPES                                    | ASTRAL            | PRINCE                  | SUPREME         |
| 2    | UPVC PIPES                                    | ASTRAL            | PRINCE                  | SUPREME         |
| 3    | GI PIPES                                      | TATA              | JINDAL - HISSAR         | JINDAL - STAR   |
| 4    | GI FITTINGS                                   | NVR               | HB                      | C BRAND         |
| 5    | PVC PIPES                                     | ASTRAL            | PRINCE                  | SUPREME         |
| 6    | SS GRATINGS FOR FLOOR TRAP                    | CHIILY            | NEER                    |                 |
| 7    | CI FRAMES & COVER                             | NECO              | BIC                     |                 |
| 8    | CI PIPES & TRAYS                              | NECO              | BIC                     |                 |
| 9    | FRP COVER                                     | AAGAM             | EVERLAST                | THERMODRAIN     |
| 10   | PLASTIC RUNGS PVC ENCAPULATED                 | OMP PLAST         | RAJVAIBHAV              |                 |
| 11   | BALL VALVE                                    | SANT              | NVR                     | ITAP            |
| 12   | BUTTERFLY VALVE                               | SANT              | NVR                     | ITAP            |
| 13   | NON-RETURN VALVE                              | SANT              | NVR                     | ZOLOTO          |
| 14   | Y' STAINER                                    | SANT              | NVR                     | ZOLOTO          |
| 15   | AIR RELEASE VALVE                             | SANT              | HONEYWELL               | ZOLOTO          |
| 16   | PRESSURE REDUCING VALVE                       | SANT              | HONEYWELL               | Hawk            |
| 17   | WATER METERS                                  | SANT              | CAPSTAN                 | KENT            |
| 18   | RCC HUME PIPES                                | INDIAN HUME PIPES | NANJUDESHARA HUME PIPES |                 |
| 19   | WATER HAMMER ARRESTOR                         | WATTS             | ASHIRVAD                |                 |
| 20   | GREASE SEPERATOR                              | ACO               | KESSEL                  |                 |
| 21   | AUTO LEVEL CONTOLLER & WATER LEVEL INDICATORS | ALFA LEVELS       | SRIDHAR INTERNATIONAL   | ATN INSTRUMENTS |
| 22   | STROM WATER DISPOSAL SUBMERSIBLE PUMP         | GRUNDFOS          | KSB                     | WILLO           |

|    |                       |           |            |            |
|----|-----------------------|-----------|------------|------------|
| 23 | VETRICAL INLINE PUMPS | GRUNDFOS  | KSB        | WILLO      |
| 24 | HYDRO PNEUMATIC PUMPS | GRUNDFOS  | KSB        | WILLO      |
| 25 | DWC PIPE              | ASHIRVAD  | SUPREME    | ASTRAL     |
| 26 | PLUMBING FIXTURES     | JAQUAR    | EQUIVALENT |            |
| 27 | SHOWER ENCLOSURES     | JAQUAR    | EQUIVALENT |            |
| 28 | HEAT PUMPS            | JAQUAR    | EQUIVALENT |            |
| 29 | RO PURIFIER           | AQUAGUARD | KENT       | EQUIVALENT |
| 30 | BIO TANK              | BIOMAN    | MAK        | EQUIVALENT |

Signature of the Contractor

**ELECTRICAL MAKE OF MATERIALS ANNEXURE -4**

| S.No | ITEM                            | BRAND 1                | BRAND 2    | BRAND 3      |
|------|---------------------------------|------------------------|------------|--------------|
| 1    | CABLES ISI MARK, 11000V (GRADE) | ANCHOR                 | POLYCAB    | SUNCAB       |
| 2    | WIRES: 660V GRADE ISI MARK      | ANCHOR                 | POLYCAB    | SUNCAB       |
| 3    | ERW M.S.CONDUITS ISI MARKS      | MOTI                   | GEMINI     | ISI MARK     |
| 4    | CASING CAPPING & ACCESSORIES    | MOTI                   | GEMINI     | ISI MARK     |
| 5    | TRUNKINGS & TRUNKLINKS          | MK                     | MOTI       | GEMINI       |
| 6    | PVC CONDUITS                    | MOTI, GEMINI, ISI MARK | GEMINI     | ISI MARK     |
| 7    | 5A /6A PLATE TYPE SWITCHES      | ANCHOR ROMA            | NORTH WEST | MK & SOCKETS |
| 8    | CEILING HOSES, HOLDERS          | ANCHOR                 |            |              |
| 9    | BUZZERS, BELLPUSH, BELLS        | MK                     | ANCHOR     |              |
| 10   | DISTRIBUTION BOARDS, MCB's      | LEGRAND                | SIEMENS    | HAGER        |
| 11   | ELCB/RCCB                       | LEGRAND                | SIEMENS    | HAGER        |
| 12   | LIGHT FITTINGS                  | PHILIPS                | WIPRO      | CROMPTON     |
| 13   | FANS AND EXHAUST FANS           | CROMPTONS              | GEC        |              |
| 14   | REWIRABLE SWITCH FUSE UNITS     | KEW                    | BOSMA      | STANLEY      |
| 15   | CUT-OUT'S                       | KEW                    | BOSMA      | STANLEY      |
| 16   | HRC SWITCH FUSES UNITS          | GEC ALSTHOM            | L&T        | SIEMENS.AB B |
| 18   | BUS-BAR CHAMBERS                | STANLEY                | KEW        |              |
| 19   | CABLE GLANDS & LUGS             | SIEMENS                | DOWELS     |              |
| 20   | INDUSTRIAL SOCKETS              | MK                     | CROMPTON   | MDS          |

|    |                           |                  |                |               |
|----|---------------------------|------------------|----------------|---------------|
| 21 | 15A SWITCH, SOCKETS       | MK               | ANCHOR<br>ROMA | NORTH<br>WEST |
| 22 | 16A DP SWITCHES WITH FUSE | ANCHOR.          | LEGRAND        |               |
| 23 | GEYSERSWATER HEATER       | HAVELLS          | RACOLD         | USHA          |
| 24 | TELEPHONE WIRES           | DELTON           | FINOLEX        |               |
| 25 | FLOURESCENT TUBES & BULBS | PHILIPS          | CROMPTON       | OSRAM         |
| 26 | G.I. B-CLASS PIPES (ISI)  | ITC              | PRAKASH        |               |
| 27 | ELECTRONIC REGULATORS     | MK               | ANCHOR         |               |
| 28 | CONTACTORS                | L&T              | SIEMENS        |               |
| 29 | MCCBs                     | L&T              | GE             | ABB           |
| 30 | MEASURING INSTRUMENTS     | A.E              | IMP            | MECCO         |
| 31 | C.T                       | A.E              | IMP            | MECCO         |
| 32 | CAPACITORS                | CROMPTON         | ASIAN          | L&T           |
| 33 | P.F. RELAY                | L&T              | CROMPTON       |               |
| 34 | TELEPHONE OUTLETS:        | ANCHOR ROMA      | NORTH WEST     | MK            |
| 35 | CEILING FANS              | CROMPTON GREAVES | ORIENT         | USHA          |
| 36 | EXHAUST FANS              | CROMPTON GREAVES | ALMONARD       |               |
| 37 | LAN SWITCHES / JACKS      | D – LINK         | AMP            | SYSCO         |
| 38 | DATA SOCKETS              | D – LINK         | AMP            | SYSCO         |
| 39 | NET WORKS RACK & SWITCH   | D – LINK         | AMP            | SYSCO         |
| 40 | SPEAKERS                  | AHUJA            | PHILIPS        |               |
| 41 | SMOKE DETECTOR            | APOLLO           | CAR - MEL      |               |
| 42 | HEAT DETECTOR             | APOLLO           | CAR - MEL      |               |
| 43 | HOOTER                    | APOLLO           | CAR - MEL      |               |
| 44 | FIRE ALARM PANEL          | APOLLO           | CAR - MEL      |               |



Signature of the Contractor

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**ANNEXURE-5**

## LIST OF MATERIAL TESTS IF REQUIRED

| Materials                         | Test                                                           | Test Procedure                      | Minimum Quantity                                                | Frequency                                                                                                                                                        |
|-----------------------------------|----------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1                                 | 2                                                              | 3                                   | 4                                                               | 5                                                                                                                                                                |
| Lime                              | Chemical and physical properties of lime                       | IS-6932                             | 15 Mt.                                                          | 10Mt. or part thereof                                                                                                                                            |
| Crushed Stone Aggregate           | a) Silt Content<br>b) Bulking<br>c) Particle size distribution | Field<br>Field<br>Field             | 40 Cum.<br>40 Cum.<br>80 Cum.                                   | 40 cum or part thereof<br>50 cum or part thereof<br>Every cum. required in R.C.C. work.                                                                          |
| Stone Aggregate                   | Particle size distribution                                     | -                                   | 135 Cum.                                                        | Every 135 cum. or part thereof for R.C.C. work. For rest of work as desired.                                                                                     |
| Cement                            | Setting time<br>strength soundness                             | I.S. 269 and other applicable I.S.I |                                                                 | Every batch of consignment and as directed wherever there is a change of source.                                                                                 |
| Cement Concrete or R.C.C.         | 1. Slump<br>2. Cube strength                                   | -<br>-                              | 2 Cum. in slab<br>beams & connected columns<br>5 cum in column. | Once a day or as desired.<br>Every 20 cum of a days concrete.<br><br>Every 5 cum. in column concrete.                                                            |
| Bricks                            | 1. Water absorption & Efflorescence<br>2. Compressive strength | -                                   | Designation-35<br><br>Designation-35                            | One test for each source of manufactures.<br>1,00,000 or part thereof,<br>Two test for 1st lot of 1,00,000 and one test later for every 2,00,000 & part thereof. |
| Timber                            | Moisture                                                       |                                     | 1 Cum.                                                          | Every Three Cum and part thereof.                                                                                                                                |
| Aluminum doors or windows fitting | Thickness of anodic coating                                    | IS-5523                             | Rs. 5000                                                        | Rs. 10000 or part thereof                                                                                                                                        |
| Mortice Locks                     | Testing of springs                                             | -                                   | 50 Nos.                                                         | 100 or part thereof                                                                                                                                              |

|                              |                        |                 |             |                                |
|------------------------------|------------------------|-----------------|-------------|--------------------------------|
| Steel                        | a) Tensile strength    | IS-1529         | 20 Tonne    | Every 20 tonne or part thereof |
|                              | b) Bend strength       |                 | -do-        | -do-                           |
| Water                        | Quality                | As per IS-10500 | 10 Litres   | After every 1 LacsLitres       |
| Marble Mosaic/ Terrazo Tiles | 1) Transverse strength | IS-1237         | 10000 tiles | 10000 tiles or part thereof    |
|                              | 2) Water absorption    | -do-            | -do-        | -do-                           |
|                              | 3) Abrasion Test       | -do-            | -do-        | -do-                           |
|                              |                        |                 |             |                                |
| White glazed tiles           | 1) Water absorption    | IS-777          | 10000 No.   | 10000 or part thereof          |
|                              | 2) Cracking            |                 | -do-        | -do-                           |
|                              | 3) Impact              |                 | -do-        | -do-                           |
|                              |                        |                 |             |                                |
| Flush door                   | 1) End Immersion       | -               | IS-2202     | Destructive tests No.          |
|                              | 2) Knife               | -               |             | No. of shutters                |
|                              | 3) Adhesion            | -               | 22-65       | 1                              |
|                              |                        |                 | 66-100      | 2                              |
|                              |                        |                 | 101-180     | 2                              |
|                              |                        |                 | 181-300     | 3                              |
|                              |                        |                 | 301-500     | 4                              |
|                              |                        |                 | 501 above   | 5                              |

1. Cost of testing and transport will be borne by Contractors.
2. Any other material will be tested by Contractors at his own cost as per the instructions of KPL Engineer-in-Charge from time to time.
3. Frequency stated above is minimum and the Contractor may have to test materials with any frequency or as instructed by KPL Engineer-in-Charge without any cost.

Signature of the Contractor

# **SECTION 6**

# **FORMS**

**FORM 1**

**FORMAT OF BID SUBMISSION LETTER**

**(On letter head of the bidding firm)**

**Reference No.**

**Date:**

From:

.....  
.....

To:

**The Deputy General Manager (Civil),**  
Kamarajar Port Limited,  
Vallur Post,  
Chennai – 600120.  
**Tamil Nadu**

Dear Sir,

**Subject: Submission of tender for “Providing Interior Works and Other Allied Works to Sea Farers Club House inside Kamarajar Port on Item Rate Basis.”**

**Reference: Tender No: 2025105093**

\*\*\*

- 1) Having examined the completeness of bid documents including Invitation of Bid, Instruction to bidders, Conditions of contract, Technical specifications, Bill of Quantities, Drawings, Forms and Annexures for the execution of the above named works, we, the undersigned offer to execute and complete such works and remedy any defects therein in conformity with the said Bid document being awarded to us.
- 2) I/We undertake, if our bid is accepted, to:
  - i) Furnish Performance Guarantee within 21 (Twenty-one) days from issue of Letter of Acceptance/Work order.
  - ii) Enter into Contract Agreement within 21 (Twenty-one) days from issue of the Letter of Acceptance/Work order. Form of contract agreement is in Section 5 (Form 13).
- 3) Unless and until a formal agreement is prepared and executed, this bid together with your written acceptance thereof shall constitute a binding contract between us, but without prejudice to your right to withdraw such acceptance under the provisions of the conditions of contract.
- 4) I .....(Name of the Bidding Firm)..... submit herewith our bid through e-procurement portal for selection of our firm/organization as contractor for the above mentioned contract. The submission comprises, separately **of:**

- i) Technical Bid &
  - ii) Financial Bid
- 5) I undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of Corruption Act 1988".
- 6) I certify that in preparation and submission of Technical and Financial information, we have not taken any action which is or which constitutes a corrupt or fraudulent practice as defined in the tender documents.
- 7) Our Bid is valid for the period of Ninety (90) days from the date of submission deadline fixed for the tender and will be binding on us.
- 8) I have not made any tampering or changes in the bid documents on which the bid is being submitted and if any tampering or changes are detected at any stage, we understand the bid will invite summary rejection and forfeiture of bid security/ the contract will be liable to be terminated along with forfeiture of contract performance security, even if LOA has been issued.
- 9) I understand that, the Kamarajar Port Limited is not bound to accept any bid that the Kamarajar Port Limited may receive.

Yours faithfully,

.....

Signature of authorized signatory of firm/Lead member (Seal)

Address: .....

.....

.....

Enclosures: **Forms 2 to 15 (whichever applicable)**

**FORM 2****FORMAT FOR POWER OF ATTORNEY FOR AUTHORISED SIGNATORY OF THE FIRM****POWER OF ATTORNEY\***

*(To be executed on non-judicial stamp paper of the appropriate value in accordance with relevant stamp Act. The stamp paper to be in the name of the company who is issuing the power of Attorney)*

Know all men by these presents, we ..... (Name of firm with address of the registered office) ..... do hereby constitute, appoint and authorize Mr./Ms. ....(name and residential address ..... who is presently employed with us and holding the position of ..... as our attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to **“Providing Interior Works and Other Allied Works to Sea Farers Club House inside Kamarajar Port on Item Rate Basis-including** signing and submission of all documents and providing information/responses to Deputy General Manager (Civil), KPL, Chennai, representing us in all matters, dealing with KPL in all matters in connection with our bid for the said project.

We hereby agree to ratify all acts, deeds and things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

Dated this the ..... day of ..... 2025.

(Signature of authorized Signatory)

.....

(Signature and Name in Block letters of Signatory)

Seal of Company

Witness

Witness 1:

Name:

Address:

Occupation:

Witness 2:

Name:

Address:

Occupation:

*\*Notes:*

- i. *The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant (s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.*

\*\*\*\*\*

**FORM 3****Firm's Audited Financial Data: Turnover of the firm**

Amounts in Rupees

| <b>Sl. No.</b> | <b>Particulars</b> | <b>Turnover in Rupees</b> |
|----------------|--------------------|---------------------------|
| 1              | FY 2021- 2022      |                           |
| 2              | FY 2022- 2023      |                           |
| 3              | FY 2023 - 2024     |                           |
|                | Average of 3 years |                           |

**Note:**

- i. Bidder shall submit the copy of the Audited Balance Sheets/Profit & Loss Accounts of their firm/s for the last three- year as required in eligibility criteria **Clause 5.3 (i) of Section 1**. The copy of document should be duly notarized, subject to production of the originals when demanded.

DATE:

BIDDER'S SIGNATURE WITH STAMP



**FORM 4****SIMILAR WORKS EXECUTED DURING LAST SEVEN (7) YEARS**

Please provide information only for the similar projects for which the Employer as a corporate entity legally contracted your firm, or where your firm participated as one of the major companies within a consortium/JV.

**Contractor's Experience in similar projects only:**

| Sl. No | Project Name | Project Value | Contract Period      |                           |                              |
|--------|--------------|---------------|----------------------|---------------------------|------------------------------|
|        |              |               | Date of commencement | Date of Actual completion | Date of scheduled completion |
| 1.     |              |               |                      |                           |                              |
| 2.     |              |               |                      |                           |                              |
| 3.     |              |               |                      |                           |                              |
| 4.     |              |               |                      |                           |                              |
| 5.     |              |               |                      |                           |                              |
| 6.     |              |               |                      |                           |                              |
| 7.     |              |               |                      |                           |                              |

Note:

- i. Copy of the document proof for the completed works (the best illustrated above) issued by the employer/competent authority to the bidder along with **Bill of Quantities** should be enclosed as required in eligibility criteria **clause 5.3 (ii) of Section 1**. The copy of document should be duly notarized, subject to production of the originals when demanded.
- ii. Separate sheet for each completed works should be attached by the bidder.

DATE:

BIDDER'S SIGNATURE WITH STAMP

**FORM 5****SUMMARY OF CURRENT CONTRACT**  
**COMMITMENTS / WORKS IN PROGRESS**

| Name of Contract and client | Value of work | Value of pending work | Completion Date |           |
|-----------------------------|---------------|-----------------------|-----------------|-----------|
|                             |               |                       | Scheduled       | Estimated |
|                             |               |                       |                 |           |
|                             |               |                       |                 |           |
|                             |               |                       |                 |           |
|                             |               |                       |                 |           |
|                             |               |                       |                 |           |
|                             |               |                       |                 |           |

**NOTE:**

Bidder shall provide information on their current commitment on all contracts that have been awarded or for which a letter of intent or acceptance has been received or for contracts approaching completion but for which, full completion certificate has yet to be issued.

DATE:

BIDDER'S SIGNATURE WITH STAMP

**FORM 6****LIST OF EQUIPMENTS PROPOSED FOR THE WORK**

The bidder will provide adequate information to demonstrate clearly that they have the capability to meet the requirements for each and all items of equipment listed below.

**A. Armour units placing/removing equipment**

| <b>List of equipment</b> | <b>Nos. proposed for this work</b> | <b>Owned</b> | <b>Proposed to be hired</b> |
|--------------------------|------------------------------------|--------------|-----------------------------|
|                          |                                    |              |                             |
|                          |                                    |              |                             |
|                          |                                    |              |                             |
|                          |                                    |              |                             |

**B. Concreting equipment**

| <b>List of equipment</b> | <b>Nos. proposed for this work</b> | <b>Owned</b> | <b>Proposed to be hired</b> |
|--------------------------|------------------------------------|--------------|-----------------------------|
| (i) Batching plant       |                                    |              |                             |
| (ii) Mixers              |                                    |              |                             |
| (iii) Concrete pumps     |                                    |              |                             |
| (iv) Transit mixers      |                                    |              |                             |
| (v) Others specify       |                                    |              |                             |

**C. Miscellaneous Equipment**

| <b>List of equipment</b> | <b>Nos. proposed for this work</b> | <b>Owned</b> | <b>Proposed to be hired</b> |
|--------------------------|------------------------------------|--------------|-----------------------------|
|                          |                                    |              |                             |
| (i) Waterproofing pumps  |                                    |              |                             |
| (ii) Total station       |                                    |              |                             |
| (iii) Others specify     |                                    |              |                             |

DATE:

BIDDER'S SIGNATURE WITH STAMP

**FORM 7**

**PERSONNEL / STAFF PROPOSED FOR THE PROJECT**

(Here specify the summary of the experienced Key Personnel proposed to be employed for the work)

| Sl. No | Position | Name | Qualification | Years of experience (general) | Years of experience in the proposed position |
|--------|----------|------|---------------|-------------------------------|----------------------------------------------|
|        |          |      |               |                               |                                              |
|        |          |      |               |                               |                                              |
|        |          |      |               |                               |                                              |
|        |          |      |               |                               |                                              |
|        |          |      |               |                               |                                              |
|        |          |      |               |                               |                                              |
|        |          |      |               |                               |                                              |

DATE:

BIDDER'S SIGNATURE WITH STAMP

**FORM-8****CLAIMS / ARBITRATION**

**(Here briefly state the details of client / Arbitration/suits/appeals/other legal proceedings)**

| <b>Sl.<br/>No</b> | <b>Name of the<br/>work</b> | <b>Value of claims</b> | <b>Whether award announced, if so<br/>in whose favour.</b> |
|-------------------|-----------------------------|------------------------|------------------------------------------------------------|
|                   |                             |                        |                                                            |
|                   |                             |                        |                                                            |
|                   |                             |                        |                                                            |
|                   |                             |                        |                                                            |
|                   |                             |                        |                                                            |

DATE:

BIDDER'S SIGNATURE WITH STAMP

**FORM 9**

**PROPOSED SITE ORGANISATION CHART**

(Here narrate Description of the Site Organisation with a Chart shall be provided)

DATE:

BIDDER'S SIGNATURE WITH STAMP



**FORM 10**

**METHODOLOGY PROPOSED FOR EXECUTION OF WORKS**

DATE:

BIDDER'S SIGNATURE WITH STAMP

**KAMARAJAR PORT LIMITED**

**FORM -11 – NOT APPLICABLE**

**Bid Securing Declaration Format**

**FORM 12**

**FORMAT FOR PERFORMANCE SECURITY**

**(BANK GUARANTEE)**

*(On non-judicial stamp paper of the appropriate value in accordance with stamp Act.  
The stamp paper to be in the name of Executing Bank. The executing bank shall be from a  
Nationalized / Scheduled Bank in India)*

From:

.....

.....Name and Address of the Bank.....

.....

To:

**The Deputy General Manager (Civil),**

Kamarajar Port Limited,

Vallur Post,

Chennai – 600120.

**Tamil Nadu**

This DEED OF GUARANTEE executed at .....by ..... (Name of the Bank)  
having its Head/Registered Office at ..... (hereinafter referred to as “the  
Guarantor” which expression shall unless it be repugnant to the subject or context thereof  
include its heirs, executors, administrators, successors and assigns;

**In favour of**

The Board of Directors of Kamarajar Port Limited (hereinafter called “the KPL”) having its office  
at Vallur Post, Chennai – 600 120 which expression shall unless it is repugnant to the subject  
or context thereof include its heirs, executors, administrators, successors and assigns;

WHEREAS, M/s .....(Name of Bidder/contractor, if  
individual)....., (hereinafter called “the Contractor” which expression shall  
unless it be repugnant to the subject or context of thereof include its executors,  
administrators, successors and assigns; has successfully bid and has been selected as  
Contractor in respect of the works contract “**Providing Interior Works and Other Allied  
Works to Sea Farers Club House inside Kamarajar Port on Item Rate Basis**”(hereinafter  
called to as “the Contract”) and the KPL has issued Letter of Acceptance for Award of Contract  
to the Successful bidder.

WHEREAS the KPL has sought an unconditional and irrevocable Bank Guarantee for an  
amount of Rs.....(Rupees .....only) by way of Security for  
execution of the Contract Agreement for the Contract within a period of .....days from the

date of issue of the letter of Acceptance for Award of Contract and for guaranteeing the contract and the Guarantor has agreed to provide a Guarantee being these presents;

NOW THIS DEED WITNESSETH that in consideration of the premises, we .....Bank hereby guarantees as follows:

The Successful bidder shall execute the Contract Agreement before .....(date) and shall perform the contract of **“Providing Interior Works and Other Allied Works to Sea Farers Club House inside Kamarajar Port on Item Rate Basis** in accordance with the bid documents.

- i. We, the Guarantor, shall without demur, pay to the KPL an amount not exceeding Rs.....(Rupees.....only) within three (3) days of receipt of a written demand thereof from the KPL stating that the Successful Bidder has failed to meet its performance obligations as stated in Clause (i) above.
- ii. The above payment shall be made by us without any reference to the Successful Bidder or any other person and irrespective of whether the claim of the Company is disputed by the Successful bidder or not.
- iii. This Guarantee shall be valid and shall remain in force for a period of Twelve (12) months Plus Defect Liability Period of twelve (12) months and a period of 60 days i.e., up to and inclusive of .....(date).
- iv. In order to give effect to this Guarantee, the KPL shall be entitled to treat the Guarantor as the principal debtor and the obligations of the Guarantor shall not be affected by any variations in the terms and conditions of the Contract or other documents by the KPL or by the extension of time of performance granted to the Successful Bidder or any postponement for any time of the power exercisable by the KPL against the Successful Bidder or forebear or enforce any of the terms and conditions of the Contract and we shall not be relieved from our obligations under this Guarantee on account of any such variation, extension, forbearance or omission on the part of the KPL or any indulgence by the KPL to the Successful Bidder to give such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.
- v. This Guarantee shall be irrevocable and shall remain in full force and effect until all our obligations under the guarantee are duly discharged.
- vi. The Guarantor has power to issue this guarantee and the undersigned is duly authorised to execute this Guarantee pursuant to the power granted under .....
- vii. It is also hereby agreed that the courts in Chennai would have exclusive jurisdiction in respect of claims, if any, under this guarantee.
- viii. Notwithstanding anything contained herein:
  - a) Our liability under this Bank Guarantee shall not exceed Rs.\_\_\_\_\_

- (Rupees\_\_\_\_\_ only);
- b) This Bank Guarantee shall be valid up to \_\_\_\_\_; and
- c) We are liable to pay the guarantee amount or any part thereof under this bank guarantee only and only if you serve upon us a written claim or demand on or before \_\_\_\_\_(date of expiry of guarantee).
- d) This Guarantee is **encashable**(Name of the Branch and address to be given).

IN WITNESS WHEREOF the Guarantor has set its hands hereunto on the day, month and year first herein above written.

.....  
Date..... (Signature of Authorized person of Bank)  
Place:.....  
.....  
(Name in Block letters)  
.....  
(Designation)  
..... (Address).....  
Bank's Seal  
Authorization No.....

- Witness:
1. Signature .  
Name & Address & Seal
2. Signature  
Name & address & Seal

**FORM 13**

**FORM OF AGREEMENT**

(Subject to modifications as required by the EMPLOYER)

**Contract Agreement No.....of 2025**

This CONTRACT AGREEMENT is made this \_\_\_\_\_ day of \_\_\_\_\_ **2025**

**BETWEEN**

1. The Kamarajar Port Limited, an Autonomous Body of the Ministry of Shipping of the Government of INDIA, incorporated under the Companies Act, 1956 as Amended thereafter, under the Laws of India and having its principal place of business at Vallur (Post), Chennai-120 (hereinafter called “the Port”)

**AND**

2. \_\_\_\_\_ [incorporated under] the laws of [country of contractor] and having its principal place of business at [address of contractor] (hereinafter called “the contractor”).

Whereas the Employer invited Tenders against Tender for “**Providing Interior Works and Other Allied Works to Sea Farers Club House inside Kamarajar Port on Item Rate Basis**” and has accepted a Tender by the Contractor in accordance with the contract schedule, in the sum of \_\_\_\_\_ [Contract Price in words and figures, expressed in the Contract currency(ies)] (hereinafter called “the Contract Price”)

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the conditions of contract referred to.
2. The following documents shall constitute the contract between the KAMARAJAR PORT LIMITED and the contractor, and each shall be read and construed as an integral part of the contract:
  - (a) This contract Agreement;
  - (b) Special Conditions of contract
  - (c) General conditions of contract;
  - (d) Technical Requirements (including schedule of Requirements and Technical Specifications, drawings);
  - (e) Notice inviting tender;
  - (f) Replies issued to the clarifications, addenda is any issued [Numbers and dates];
  - (g) The contractor’s Bid and original price;
  - (h) The Employer/Board’s Notification of Award;
  - (i) [Correspondence the Employer/Board had exchanged with the bidder till and after award of contract [specific letters and dates]
  - (j) And [add any other document(s)]

**AND WHEREAS**

KAMARAJAR PORT LIMITED accepted the Bid of CONTRACTOR for the provision and the execution of WORK at the CONTRACT PRICE as indicated in CONTRACT upon the terms and subject to the conditions of Contract. Now this CONTRACT AGREEMENT witnessed and it is hereby agreed and declared as follows:

3. In consideration of the payment to be made to CONTRACTOR for WORK to be executed by him. CONTRACTOR hereby Covenants with KAMARAJAR PORT LIMITED that CONTRACTOR shall and will duly provide, execute and complete work and things in CONTRACT, mentioned or described or which are to be implied there from or may be reasonably necessary for completion of work and at the times and in the manner and subject to the terms and conditions or stipulations mentioned in CONTRACT.
4. In consideration of the due provision, execution and completion of WORK by the CONTRACTOR in accordance with the terms of the CONTRACT, the KAMARAJAR PORT LIMITED does hereby agree with CONTRACTOR that KAMARAJAR PORT LIMITED will pay to contractor the respective amounts for the work actually done by him and approved by EMPLOYER as per payment Terms accepted in CONTRACT and payable to CONTRACTOR under provision of Contract at such time and at such manner as provided for in the CONTRACT.

**AND**

In consideration of the due provision, execution and completion of WORK, CONTRACTOR does hereby agree to pay such sums as may be due to KAMARAJAR PORT LIMITED towards loss, damage to the Site area / existing pipelines and other equipment, materials etc. and such payments to be made at such time and in such manner as is provided in the CONTRACT.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of [name of the contract governing law country] on the day, month and year indicated above.

| <b>For and on behalf of the Kamarajar Port Limited, Chennai</b> | <b>For and on behalf of the Contractor</b> |
|-----------------------------------------------------------------|--------------------------------------------|
| Signed:<br>Designation:                                         | Signed:<br>Designation:                    |
| In the presence of<br>Witness:<br>1.<br>2.                      | In the presence of<br>Witness:<br>1.<br>2. |



## FORM 14

### DRAFT INTEGRITY PACT

**(The Integrity Pact agreement shall be executed in Rs. 100/- non judicial stamp paper and shall be enclosed along with original bid security and reach Kamarajar Port Limited (KPL) corresponding address before opening Technical bid as per date and time given in the Tender.)**

This pre-bid pre-contract Agreement (herein after called the Integrity Pact)  
BETWEEN

**Kamarajar Port Limited**, represented by the **Managing Director, Kamarajar Port Limited, Chennai** hereinafter referred to as "THE PRINCIPAL" / "EMPLOYER"

AND

M/s. NAME OF CONTRACTOR represented by PROPRIETOR/AUTHORISED REPRESENTATIVE hereinafter referred to as "The BIDDER / CONTRACTOR".

### Preamble

The Principal intends to award, under laid down organizational procedures, contract/s for **"Providing Interior Works and Other Allied Works to Sea Farers Club House inside Kamarajar Port "on Item Rate Basis**. The Principal values full compliance with all relevant laws and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with the Bidder/s and Contractor/s.

In order to achieve these goals, the Principal will appoint an External Independent Monitor who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence / prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to:-

Enabling the PRINCIPAL/EMPLOYER to obtain the desired said stores / equipment at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and Enabling BIDDERS / CONTRACTORS to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the Principal/EMPLOYER will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:-

### Commitments of the PRINCIPAL/EMPLOYER

The PRINCIPAL/EMPLOYER undertakes that no official of the Principal/Employer connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER / CONTRACTOR, either

for themselves or for any person, organization or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.

The PRINCIPAL/EMPLOYER will, during the pre-contract stage, treat all BIDDERS / CONTRACTORS alike, and will provide to all BIDDERS / CONTRACTORS the same information and will not provide any such information to any particular BIDDER / CONTRACTOR which could afford an advantage to that particular BIDDER / CONTRACTOR in comparison to other BIDDER / CONTRACTOR and could obtain an advantage in relation to the tender process or the contract execution.

All the officials of the PRINCIPAL/EMPLOYER will report to the Chairman cum Managing Director / Chief Vigilance Officer of Kamarajar Port Limited any attempted or completed breaches of the above commitments as well as any substantial, suspicion of such a breach.

If the PRINCIPAL/EMPLOYER obtains information on the conduct of any of its employees with full and verifiable facts and the same is prima facie found to be correct which is a criminal offence under the Indian Penal Code / Prevention of Corruption Act, or if there be a substantive suspicion in this regard, the Principal will inform its Chief Vigilance Officer and in addition can initiate disciplinary actions.

#### **Commitments of the BIDDER / CONTRACTOR**

The Bidder / Contractor commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the post contract stage.

- i. The Bidder / Contractor will not enter with other Bidder / Contractors into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- ii. The Bidder/Contractor will not commit any offence under the Indian Penal Code, 1860 / Prevention of Corruption Act, 1988 further the Bidder / Contractor will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- iii. The Bidder / Contractor will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or any other advantage, commission, fees, brokerage or inducement to any official of the Principal/Employer, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.
- iv. The Bidder/Contractor further undertakes that it has not given, offered or promised to give directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or any other advantage, commission, fees, brokerage or inducement to any official of the Principal/Employer or otherwise in procuring the Contract or for bearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract

with the Principal for showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with the Principal.

- v. The Bidder / Contractor of foreign origin shall disclose the name and address of the Agents / representatives in India, if any. Similarly the Bidder/Contractor of Indian Nationality shall furnish the name and address of the foreign principals, if any.
- vi. Bidder / Contractors shall disclose the payments to be made by them to agents or any other intermediary, in connection with this bid/contract.
- vii. The Bidder / Contractor further confirms and declares to the Principal/ Employer that the Bidder / Contractor is the original manufacturer/integrator/ authorized government sponsored export entity of the stores and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the Principal/Employer or any of its functionaries, whether officially or unofficially to the award of the contract to the Bidder / Contractor, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.
- viii. The Bidder / Contractor, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the Principal/Employer or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.
- ix. The Bidder / Contractor will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.
- x. The Bidder / Contractor will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
- xi. The Bidder / Contractor shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the Principal/Employer as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The Bidder / Contractor also undertakes to exercise due and adequate care lest any such information is divulged.
- xii. The Bidder / Contractor commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
- xiii. The Bidder / Contractor will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- xiv. If the Bidder/Contractor or any employee of the Bidder/Contractor or any person acting on behalf of the Bidder/Contractor, either directly or indirectly, is a relative of any of the officers of the Principal/Employer, or alternatively, if any relative of an officer of the Principal/Employer has financial interest / stake in the Bidder / Contractor's firm, the same shall be disclosed by the Bidder / Contractor at the time of filing of tender. The term 'relative' for this purpose would be as defined in Section 6 of the Companies Act 1956.

- xv. The Bidder / Contractor shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the Principal/Employer.
- xvi. The person signing Integrity Pact shall not approach the Courts while representing the matters to IEMs and he/she will await their decision in the matter.
- xvii. In the event of any dispute between the management and the contractor relating to those contracts where Integrity Pact is applicable, in case, both the parties are agreeable, they may try to settle dispute through mediation before the panel of IEMs in a time bound manner. If required, the organization may adopt any mediation rules for this purpose.

#### **Previous Transgression**

The Bidder / Contractor declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged here under or with any Public Sector Enterprises in India or any Government Department in India that could justify Bidder / Contractor's exclusion from the tender process. If the Bidder / Contractor makes incorrect statement on this subject, the Bidder / Contractor can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

#### **Sanction for Violations**

Any breach of the aforesaid provisions by the Bidder / Contractor or any one employed by it or acting on its behalf (whether with or without the knowledge of the Bidder / Contractor) shall entitle the Principal / Employer to take all or any one of the following actions, wherever required:-

- (i) To immediately call off the pre contract negotiations without assigning any reason or giving any compensation to the BIDDER / CONTRACTOR, However, the proceedings with the other BIDDER / CONTRACTOR (s) would continue.
- (ii) The Earnest Money Deposit (in pre-contract stage) and / or Security Deposit / Performance Bond (after the contract is signed) shall stand forfeited either fully or partially, as decided by the PRINCIPAL/EMPLOYER and the PRINCIPAL/EMPLOYER shall not be required to assign any reason therefore.
- (iii) To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER / CONTRACTOR.
- (iv) To recover all sums already paid by the PRINCIPAL/EMPLOYER, and in case of an Indian BIDDER / CONTRACTOR with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a BIDDER / CONTRACTOR from a country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the BIDDER / CONTRACTOR from the PRINCIPAL/EMPLOYER in connection with any other contract for any other stores, such outstanding payment could also be utilized to recover the aforesaid sum and interest.
- (v) To encash the advance bank guarantee and performance bond / warranty bond, if furnished by the BIDDER / CONTRACTOR, in order to recover the payments, already made by the PRINCIPAL/EMPLOYER, along with interest.

- (vi) To cancel all or any other Contracts with the BIDDER / CONTRACTOR. The BIDDER / CONTRACTOR shall be liable to pay compensation for any loss or damage to the PRINCIPAL/EMPLOYER resulting from such cancellation/rescission and the PRINCIPAL/EMPLOYER shall be entitled to deduct the amounts payable from the money(s) due to the BIDDER / CONTRACTOR.
- (vii) To debar the BIDDER / CONTRACTOR from participating in future bidding processes of the Principal for a minimum period of five years, which may be further extended at the discretion of the PRINCIPAL/EMPLOYER.
- (viii) To recover all sums paid in violation of this Pact by BIDDER/CONTRACTOR(s) to any middleman or agent or broker with a view to securing the contract.
- (ix) In cases where irrecoverable Letters of Credit have been received in respect of any contract signed by the PRINCIPAL/EMPLOYER with the BIDDER / CONTRACTOR, the same shall not be opened.
- (x) Forfeiture of Performance Bond in case of a decision by the PRINCIPAL/EMPLOYER to forfeit the same without assigning any reason for imposing sanction for violation of this pact.
- (xi) The Bidder / Contractor accepts and undertakes to respect and uphold the Principal's absolute right to resort to and impose such exclusion and further accepts and undertakes not to challenge or question such exclusion on any ground, including the lack of any hearing before the decision to resort to such exclusion is taken. This undertaking is given freely and after obtaining independent legal advice.
- (xii) If the Bidder / Contractor can prove that he has restored /recouped the damage caused by him and has installed a suitable corruption prevention system, in such a case, it will be at the discretion of the Principal to revoke the exclusion prematurely.
- (xiii) The PRINCIPAL/EMPLOYER will be entitled to take all or any of the actions mentioned at Para (i) to (xii) above of this Pact also on the Commission by the BIDDER / CONTRACTOR or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER / CONTRACTOR), of an offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of corruption Act, 1988 or any other statute enacted for prevention of corruption.
- (xiv) The decision of the PRINCIPAL / EMPLOYER to the effect that a breach of the provisions of this Pact has been committed by the BIDDER / CONTRACTOR shall be final and conclusive on the BIDDER / CONTRACTOR. However, the BIDDER / CONTRACTOR can approach the Independent Monitor (s) appointed for the purposes of this Pact.

### **Fall Clause**

The BIDDER / CONTRACTOR undertakes that it has not supplied / is not supplying similar product / systems or subsystems at a price lower than that offered in the present bid in respect of any other Ministry / Department of the Govt. of India or PSU and if it is found at any stage that similar product / systems or subsystems was supplied by the BIDDER / CONTRACTOR to the Principal at a lower price, then that very price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the BIDDER / CONTRACTOR to the PRINCIPAL / EMPLOYER, if the contract has already been concluded.



**Independent Monitors**

The Principal/Employer has appointed two Independent External Monitors (hereinafter referred to as Monitors)

|                                                                                                                                                     |            |                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------|
| Shri.Jatinderbir Singh, IAS (Retd)<br>House No No.1186,<br>Sector 77, Mohali – 140 308<br>(Punjab)                                                  | 9968607788 | jatinderbir@gmail.com  |
| Shri.MuvvalaKondala Rao, IFoS(Retd)<br>201, Kalakuj – B,<br>Cooperative Society, Lane 6,<br>Dahanukar Colony, Kothrud,<br>Pune – 411038, Maharastra | 9422161512 | mkraomuvvala@gmail.com |

- (a) The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.
- (b) The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.
- (c) Both the parties accept that the Monitors have the right to access all the documents relating to the project / procurement, including minutes of meetings.
- (d) As soon as the Monitor notices, or has reason to believe, a violation of this pact, he will so inform the authority designated by the Principal and the Chief Vigilance Officer of Kamarajar Port Limited.
- (e) The BIDDER / CONTRACTOR(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the PRINCIPAL including that provided by the BIDDER / CONTRACTOR. The BIDDER / CONTRACTOR will also grant the Monitor, upon his request and demonstration of a valid interest unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor shall be under contractual obligation to treat the information and documents of the Bidder / Contractor / Subcontractor(s) with confidentiality.
- (f) The Principal / Employer will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor, the option to participate in such meetings.
- (g) The Monitor will submit a written report to the designated Authority of Principal / Employer / Chief Vigilance Officer of Kamarajar Port Limited within 8 to 10 weeks from the date of reference or intimation to him by the Principal / Employer / Bidder / Contractor and should the occasion arise, submit proposals for correcting problematic situation.
- (h) As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or to take corrective action, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
- (i) If the Monitor has reported to the Principal substantiated suspicion of an offence under the Indian Penal Code, 1860 / Prevention of Corruption Act, 1988 and the Principal /

Employer has not, within reasonable time, taken visible action to proceed against such offence or reported to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

- (j) The word 'Monitor' would include both singular and plural.

**Facilitation of Investigation**

In case of any allegation of violation of any provisions of this Pact or payment of commission, the PRINCIPAL / EMPLOYER or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER / CONTRACTOR and the BIDDER / CONTRACTOR shall provide necessary information and documents in English and shall extend all possible help for the Purpose of such examination.

**Other Provisions**

Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

**Law and Place of Jurisdiction**

This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat of the PRINCIPAL / EMPLOYER.

**Other Legal Actions**

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

**Validity**

The validity of this Integrity Pact shall be from date of its signing and extend up to 5 years or the complete execution of the contract to the satisfaction of both the PRINCIPAL and the Bidder / Contractor including warranty period whichever is later. In case Bidder / Contractor is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract.

If any claim is made/lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/determined by the Kamarajar Port Limited. Should one or several provisions of this Pact turn out to be invalid, the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

**Equal treatment of all Bidders / Contractors / Sub-Contractors**

- (a) The Bidder / Contractor undertake to demand from all sub-contractors a commitment in conformity with this Integrity Pact, and to submit it to the Principal before contract signing.
- (b) The Principal will enter into agreements with identical conditions as this one with all Bidders / Contractors and Sub-Contractors.
- (c) The Principal will disqualify from the tender process all Bidder / Contractors who do not sign this pact or violate its provisions.

The parties hereby sign this Integrity Pact at Chennai on 05.03.2024.



The Principal represented  
by the CMD, Kamarajar Port Limited

BIDDER / CONTRACTOR

Name of the Officer  
Designation

Name :  
Designation :

Witness 1  
Name & address

Witness 1  
Name & address

Witness 2  
  
Name & address

Witness 2  
  
Name & address :

Place:  
Date:

Place:  
Date :

## PROFILE OF THE BIDDER

| General Information                                |                                                                                                                                                                                                                                                                                |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TYPE OF VENDOR                                     | Person / Organisation / Group                                                                                                                                                                                                                                                  |
| Sub-Type of the Vendor                             | <b>Person:</b> Mr./ Ms./ MrMs./ Artificial Juridical Person<br><b>Organisation:</b> Company / Firm / Government / Local Authority<br><b>Group:</b> Association of Persons (AOP) / Body of Individuals (BoI) / Hindu Undivided Family (HUF) / Trust (AOP) / Krish (Trust Krish) |
| Registered Name of the Vendor                      |                                                                                                                                                                                                                                                                                |
| Type of the Vendor                                 | MSME / MSME (SC) / MSME (ST) / Others                                                                                                                                                                                                                                          |
| Address of the Registered Office or Head Office    |                                                                                                                                                                                                                                                                                |
| Mailing Address of the Vendor                      |                                                                                                                                                                                                                                                                                |
| PAN                                                |                                                                                                                                                                                                                                                                                |
| GSTN Number                                        |                                                                                                                                                                                                                                                                                |
| Phone Number (with STD code)                       |                                                                                                                                                                                                                                                                                |
| Fax Number                                         |                                                                                                                                                                                                                                                                                |
| E-mail ID                                          |                                                                                                                                                                                                                                                                                |
| Type of Entity                                     |                                                                                                                                                                                                                                                                                |
| Date of Establishment                              |                                                                                                                                                                                                                                                                                |
| Name of the Chief Executive                        | --                                                                                                                                                                                                                                                                             |
| Name of Authorized Signatory                       |                                                                                                                                                                                                                                                                                |
| Phone No. and Email ID of the Authorized Signatory |                                                                                                                                                                                                                                                                                |
| Name of Contact Person                             |                                                                                                                                                                                                                                                                                |
| Phone No. and Email ID of the Contact Person       |                                                                                                                                                                                                                                                                                |
| Other details, if necessary                        |                                                                                                                                                                                                                                                                                |
| RTGS / NEFT Details                                |                                                                                                                                                                                                                                                                                |
| Name of the Bank                                   |                                                                                                                                                                                                                                                                                |
| Bank (Branch) Postal Address                       |                                                                                                                                                                                                                                                                                |
| Bank Account Number                                |                                                                                                                                                                                                                                                                                |
| Nature of the Account                              |                                                                                                                                                                                                                                                                                |
| RTGS* - Code of the Branch                         |                                                                                                                                                                                                                                                                                |
| NEFT** - Code of the Branch                        |                                                                                                                                                                                                                                                                                |
| MICR Code                                          |                                                                                                                                                                                                                                                                                |

RTGS\* - Real Time Gross Settlement", NEFT\*\* - \*National Electronic Fund Transfer". These "IFSC" Codes are unique numbers of each Branch - "Indian Financial Service Code". For some Branches both the codes are the same and some Banks, may maintain one Code No. for RTGS and another Code No. for NEFT. Hence, please fill -up both the rows, even if it is the same.

Name and Designation of Signatory:

Seal &amp; Signature of Authorized Person

Name of Firm:

Address:

**LETTER OF ACCEPTANCE**  
(On letter head paper of the port)

\_\_\_\_\_ (date)

To:

\_\_\_\_\_

(Name and address of the contractor)

Dear Sirs,

**Sub:** Tender for “**Providing Interior Works and Other Allied Works to Sea Farers Club House inside Kamarajar Port on Item Rate Basis**– Reg.

**Ref :** Your bid dated \_\_\_\_\_ and (list of correspondence with the bidder)

This is to notify you that your Bid dated \_\_\_\_\_ for execution of the work of “**Providing Interior Works and Other Allied Works to Sea Farers Club House inside Kamarajar Port on Item Rate Basis** ”for the contract price of Rupees \_\_\_\_\_ (amount in words and figures as corrected and modified in accordance with the Tender document is hereby accepted by the Employer/Board).

You are here by requested to furnish Performance Security, in the form detailed in Tender Document for an amount of Rs. \_\_\_\_\_ within \_\_\_\_\_ days of the receipt of this letter of acceptance valid upto 21 days from the date of completion of all contractual obligations expiry of taking over certificate and also sign the contract agreement within \_\_\_\_\_ days of the receipt of this letter of acceptance, failing which action as stated in the tender document will be taken.

Detailed Letter of Acceptance will follow.

Please acknowledge receipt.

**Yours faithfully,**

**Deputy General Manager (C)**  
**Kamarajar Port Limited,**  
**Chennai**

**SPECIMEN LETTER OF AUTHORITY FROM BANK FOR ALL BGs**

(To be executed on Bank's Letter Head)

Date:

To,

Deputy General Manager (Civil)  
Kamarajar Port Limited  
Chennai

Dear Sir,

Sub: Our Bank Guarantee No. \_\_\_\_\_ dated \_\_\_\_\_ for Rs. \_\_\_\_\_ favouring  
yourselves issued on a/c of M/s. (Name of the contractor)

.....

We confirm having issued the above mentioned guarantee favouring yourselves, issued on  
account of M/s. \_\_\_\_\_ validity for expiry up to date \_\_\_\_\_ and claim expiry date  
up to \_\_\_\_\_.

We also confirm 1) \_\_\_\_\_ 2) \_\_\_\_\_ is / are empowered to  
sign such Bank Guarantee on behalf of the Bank and his/their signatures is/ are binding on  
the Bank.

Name of Signature of Bank Officer

**SECTION 8**

**PREAMBLE TO BOQ**

**PREAMBLE TO BILL OF QUANTITIES****1. General**

The contractor's attention is drawn to the conditions of contract, the specifications and the drawings all of which are to be read in conjunction with the Bill of Quantities hereinafter. Directions and descriptions of work and material given in the other parts of the Contract Documents are not necessarily repeated in the Bill of Quantities.

The total cost of complying with all the provisions, conditions, obligations and liabilities etc. described in the contract and of carrying out the works as specified including, but not by way of limitation, all charges and the rates and prices inserted in the Bill of Quantities hereinafter unless expressly otherwise provided for in the contract. Consequently, the contractor shall have no claim for further or extra payment in respect of any work or rates and prices set against each item are to be for full and / or described in the specification which can reasonably be inferred there from and are to cover the cost of provision of all labor, materials, tools, tackles, plants, equipment, fuel, over head & profit etc., all as per conditions stipulated elsewhere. The rates shall also include all contingent costs and charges including all taxes such as Income Tax, Building & other Construction workers welfare cess and general tax, **(excluding GST)** and all the contractor's obligations under the contract and all matters and things necessary for the proper completion and maintenance of the works. The quantities given in the Bill of Quantities are estimated. The basis of payment shall be the actual quantities of work ordered and carried out as measured jointly by the contractor and by the Engineer-in charge or his representative and valued at the rates and prices specified in the Bill of Quantities, where acceptable and otherwise at such rates and prices as the Engineer-in charge may fix within the terms of the contract. The quantities of work and materials stated in the Bill of Quantities shall not be considered as limiting or extending the amount of work to be done or material to be supplied by the contractor.

The contractor is deemed to be familiar with all site conditions at the Port Site, weather, all site investigation records, available means of access and the locality of any existing services and working restrictions due to testing site features or other contractor's works in order to execute the works. General directions and descriptions of work and materials are not necessarily repeated or summarized in the Bill of Quantities. The contractor is deemed to have referred to the relevant sections of the contract documentation and prices incorporated against each item in the Bill of Quantities. The method of measurement is described in the following preambles and / or is demonstrated in the measured items included in the Bill of Quantities.

Unless separate items are measured, rates and prices must include for all testing in accordance with the specification.

The following abbreviations have been used:

PS -Provisional Sum

LS -Lump Sum

M /m -metre

M2/ m2 -square metre

M3/ m3 -cubicmetre

T/t /Te/ te/MT -tonne

wk -week

No. -Number

Rs. -Indian Rupee

## **2. METHOD OF MEASUREMENT & MODE OF MEASUREMENT**

### **2.1. General**

Unless stated or billed otherwise, quantities shall be measured in accordance with IS: 1200 and are net as they are finished and fixed in the works. The rates and prices shall include whatever allowance is considered by the contractor to be necessary for waste, working area, construction slopes, batters etc.

### **2.2. Units Rates prevail**

In case of any arithmetical errors in the calculations (Quantity x Unit Rates) in the Bill of Quantities, the quoted unit rates shall prevail. Arithmetical errors will be corrected by the employer in the manner set out in the Instructions to Bidders.

The required area shall be worked out correct up to 2 places of decimals of sq.mtr. and quantity shall be worked out up to 2 places of decimals of cubic meters of all items. The length & width shall be worked out correct up to 2 places of decimals of running meter for all the measurements. However levels shall be recorded in three decimals.

### **2.3. Removal/Dismantling/ Demolition**

The removal/dismantling/ demolition works shall be measured by taking Pre measurements jointly recorded by the contractor (or his representative) and Engineer's representatives before starting the dismantling work. The final quantity of dismantling will be the levels taken prior to and after completion of the removal/dismantling work at site.

### **2.4. Concrete**

The concrete works shall be measured net to the dimensions shown on the drawings or ordered by the Engineer-in charge or Engineer-in charge's representative except where otherwise specially described at prescribed in the specifications.



The rates for concrete shall include for all labor, material, tools, tackles, plant, equipment, fuel, shuttering, centering, transporting, depositing, concrete compacting, forming construction joints, curing etc.

### **3. PAYMENT**

#### **3.1. General**

Payment to the contractor shall be made on the recorded measurements and the contractor will have to submit bills in the prescribed form once in a month and payment will be made ordinarily once in a month. The Port shall pay 75% of the net amount of the bill submitted within 10 days from the date of receipt of the bill and the balance within 30 days from the date of receipt of the bill. On completion of the work or on the prior termination of the contract final measurement will be taken and account adjusted accordingly.

3.2 The bidders are advised that all payments related to this subject work would be made through ECS (Electronic Clearing Service). The bidder would be required to provide particulars of their bank account along with their bid. The payment will be made through ECS only.

The bidders to submit the following in their letter head for ECS procedure.

1. Name of the Bank, Branch and full postal Address
2. Account Number
3. MICR Number
4. Type of Account
5. IFSC code number
6. Copy of PAN Card
7. TIN Number
8. Income tax PAN
9. GST

#### **3.3 Concrete**

The rate for concrete items shall include all costs that are necessary to obtain concrete quality as described in the specifications but not limited to the following items:

- Supply, delivery and storage of all materials
- Provision of all mixing, transport equipment etc.
- Curing concrete and making and curing of test cubes and testing
- Provision of all shuttering, centering
- Provision of ducts and void formers
- Finishing as specified
- All labor, fuel, tools, tackles, and contingent items

#### **General**

- 1) The quantities given in the Bill of Quantities are estimated and provisional and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer-in charge and valued at the rates and prices tendered in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer-in charge may fix within the terms of the Contract.
- 2) The rates and prices bid in the priced Bill of Quantities except insofar as it is otherwise, provided under the Contract, include all constructional plant, labour, supervision, materials, all temporary works and false works, erection, maintenance, establishment and overhead charges, profit, foreign taxation and levies, taxes (other than GST )local levies and other charges, together with all general risks, liabilities and obligations set out or implied in the Contract and including remedy of any defects during the Defects Liability Period.
- 3) “Re-preparation as per Specifications requirement of previously completed similar works before construction of subsequent layers/works shall be deemed to be included in the Bid Rates and Prices in the Priced Bill of Quantities (BOQ) of respective items”.
- 4) The rates and prices shall be quoted entirely in Indian Rupee.
- 5) The rate or price rounded off to the nearest Indian Rupee shall be entered against each item in the Bill of Quantities both in figures and words, whether quantities are stated or not. The cost of items against which the Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities.
- 6) The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Bill of Quantities, and where no items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related items of work.
- 7) General directions and descriptions of work and materials are not necessarily repeated or summarized in the Bill of Quantities. References to the relevant sections of the contract documentation shall be made before entering rates or prices against each item in the Bill of Quantities.
- 8) **Bidders should adhere the basic cost of Item indicated in the respective BoQ items. To substantiate this, necessary tax invoice for the material brought to be submitted along with running bills.**

\*\*\*\*\*

A large, rounded rectangular box with a double-line black border. Inside the box, the text "SECTION 7" and "DRAWINGS" are centered and written in a bold, black, sans-serif font.

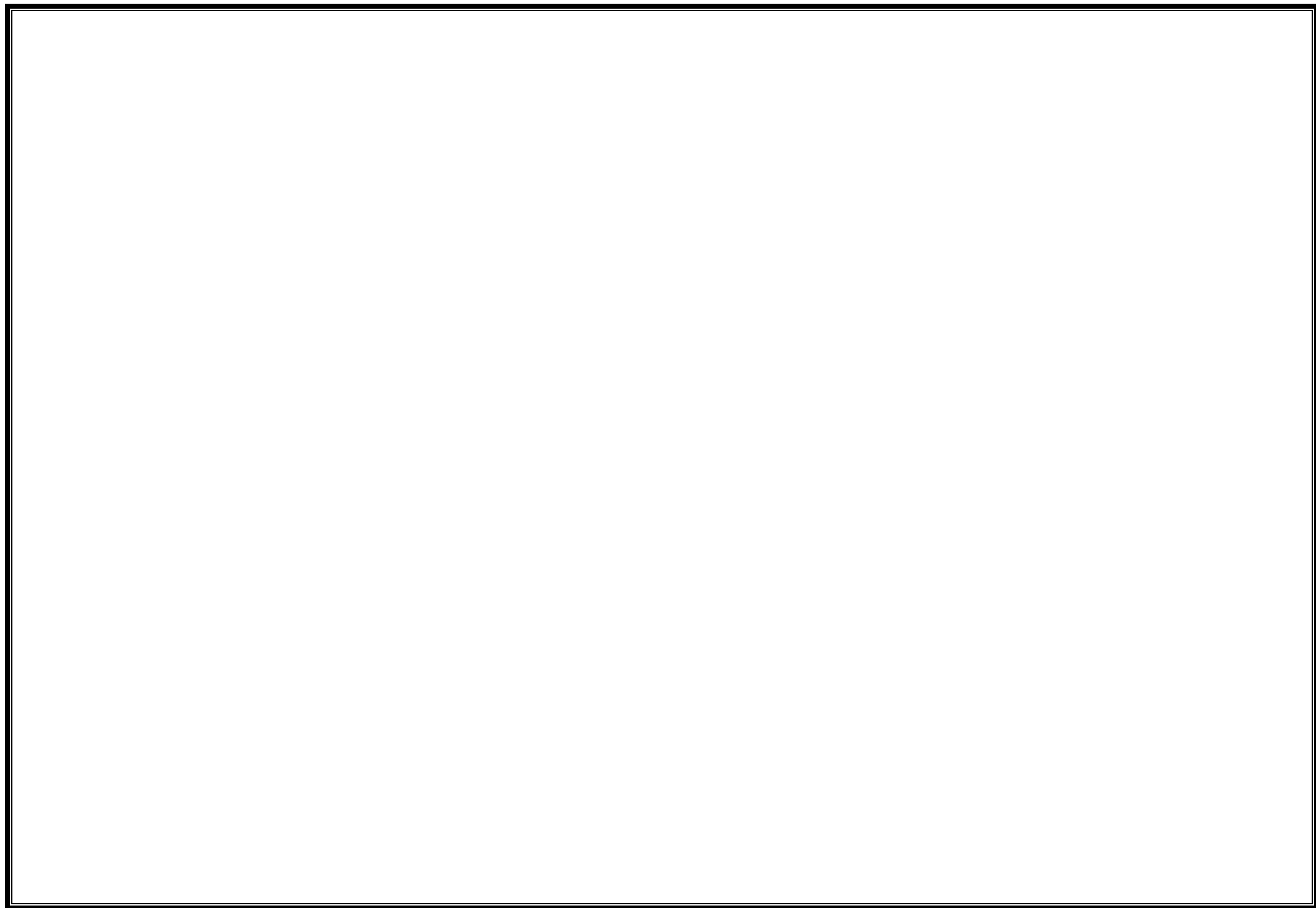
**SECTION 7**  
**DRAWINGS**

**KAMARAJAR PORT LIMITED****(A Company of Chennai Port Authority)****Providing Interior Works and Other Allied Works to Sea Farers Club House inside  
Kamarajar Port****LIST OF DRAWINGS**

| <b>LIST OF DRAWINGS</b> |                       |                                                 |
|-------------------------|-----------------------|-------------------------------------------------|
| <b>S.NO</b>             | <b>SHEET NO</b>       | <b>DESCRIPTION OF DRAWING</b>                   |
| 1                       | KPL/SEA/WD/SITE/01    | SITE ELECTRICAL LAYOUT                          |
| 2                       | KPL/SEA/WD/SITE/03    | PLUMBING LAYOUT                                 |
| 3                       | KPL/SEA/WD/FC/06      | GROUND FLOOR FALSE CEILING LAYOUT               |
| 4                       | KPL/SEA/WD/FC/07      | FIRST FLOOR FALSE CEILING LAYOUT                |
| 5                       | KPL/SEA/WD/AC&CCTV/15 | FIRST FLOOR AC AND CCTV LAYOUT                  |
| 6                       | KPL/SEA/WD/INT/ELE/17 | HOME THEATRE INTERIOR DETAILED ELEVATION        |
| 7                       | KPL/SEA/WD/INT/ELE/22 | RESTOBAR INTERIOR DETAILED ELEVATION            |
| 8                       | KPL/SEA/WD/INT/ELE/30 | GROUND FLOOR LOBBY INTERIOR DETAILED ELEVATION  |
| 9                       | KPL/SEA/WD/INT/ELE/31 | FIRST FLOOR LOBBY INTERIOR DETAILED ELEVATION   |
| 10                      | KPL/SEA/WD/INT/ELE/32 | SUITE ROOM-1 LOUNGE INTERIOR DETAILED ELEVATION |
| 11                      | KPL/SEA/WD/EXT/ELE/39 | EXTERIOR ELEVATION                              |
| 12                      | KPL/SEA/WD/PG/40      | PERGOLA DETAIL                                  |
| 13                      | KPL/SEA/WD/SW/41      | SWIMMING POOL                                   |

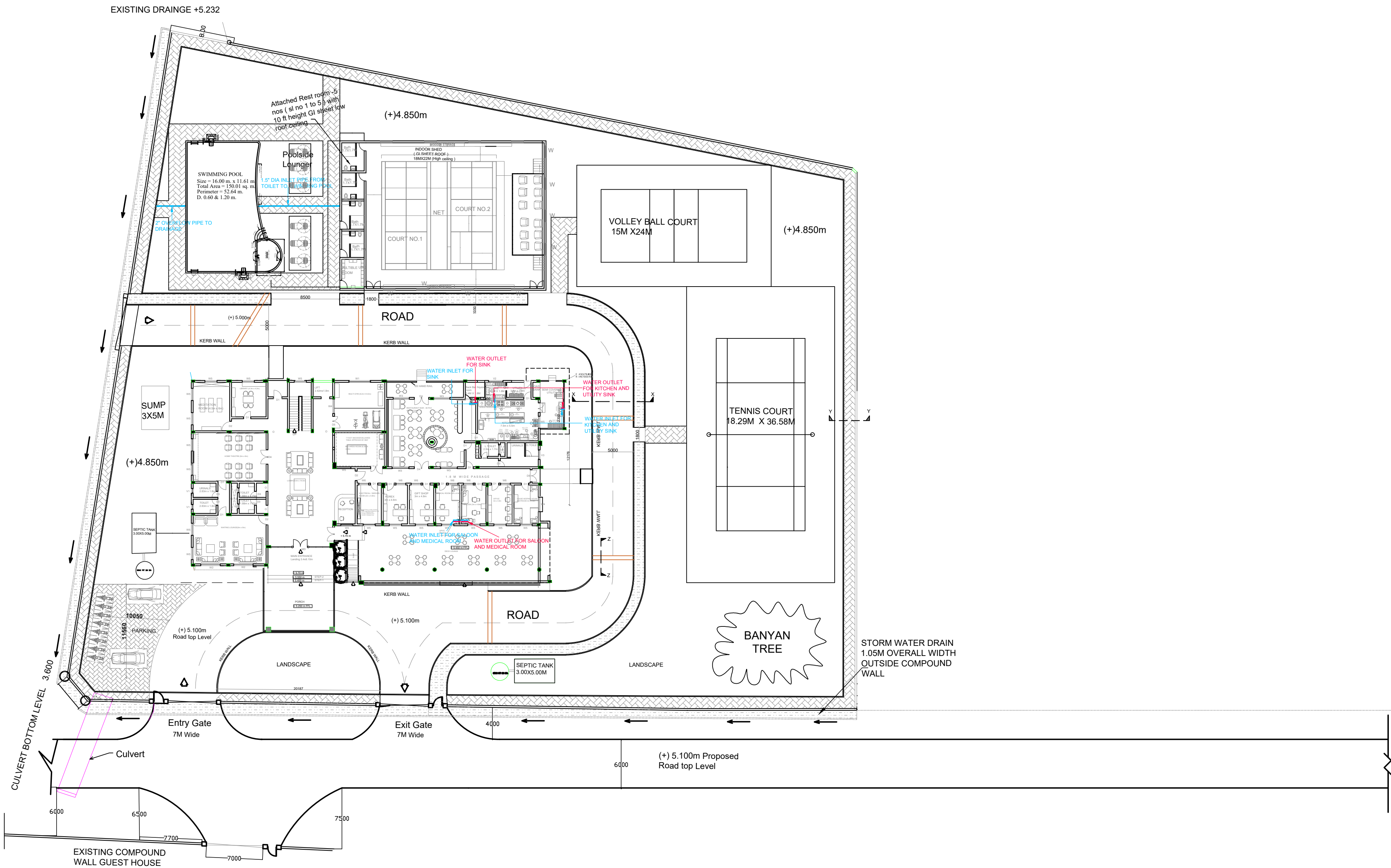
*Note: Good for Construction” and Supplementary drawings will be issued during the execution time by KPL / Architect*

\*\*\*\*\*









# SITE PLUMBING LAYOUT

CLIENT :



## PROPOSED BUILDING FOR SEAFARER'S CLUB HOUSE BUILDING AT KPL, ENNORE, CHENNAI

SHEET NO - KPL/SEA/WD/SITE/03

ARCHITECTS :

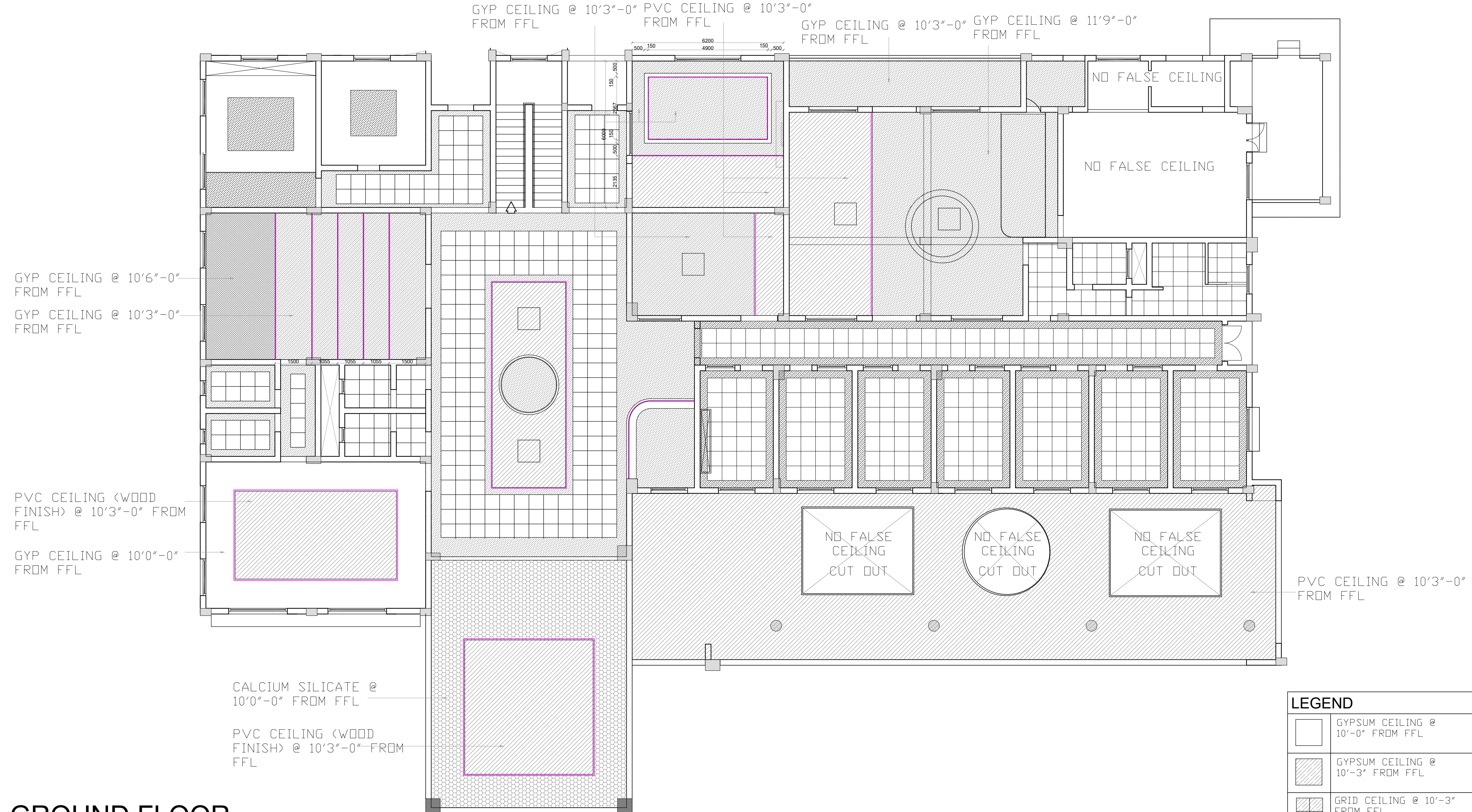
**OFFCENTERED**



|      |            |
|------|------------|
| DATE | 08.10.2025 |
| DRW  | AS         |
| CHKD | BA         |
| APRD | BA         |

ARCHITECTURE + INTERIOR DESIGN  
NO: 7/8, CRESCENT ROAD,  
SHENOY NAGAR, CHENNAI - 600 030  
e-mail - info@offcentered.in  
Ph No: 044 4266 0600

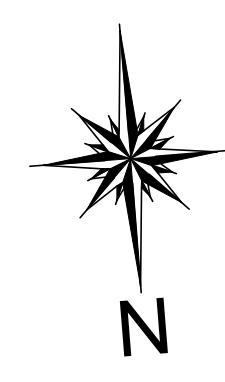




GROUND FLOOR  
FALSE CEILING LAYOUT



PROPOSED BUILDING FOR  
SEAFARER'S CLUB INSIDE KAMARAJAR PORT

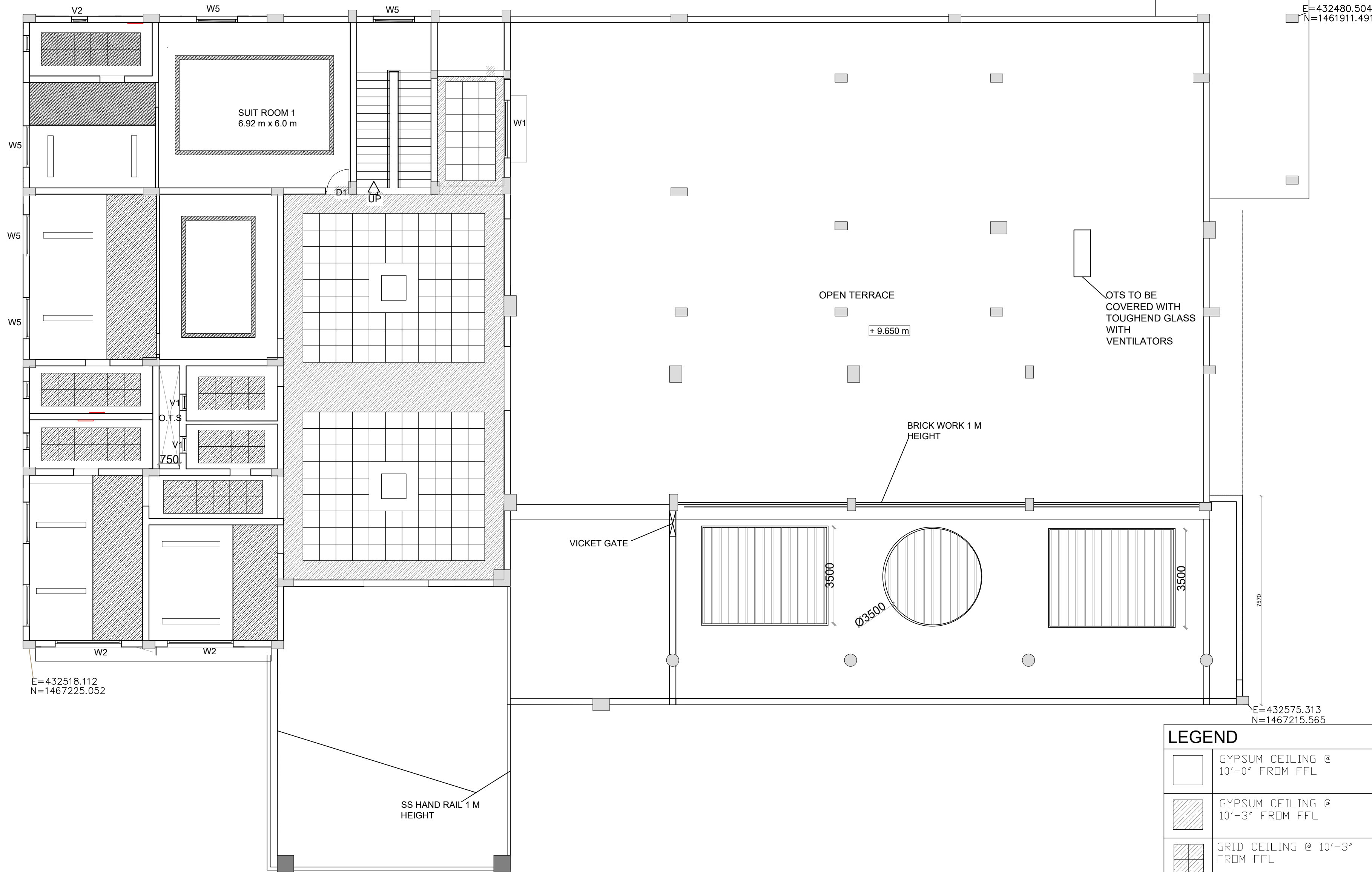


| KPL/SEA/WD/FC/06 |            |                                                                                                                                                                                                               |
|------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCALE            | 1:100      | ARCHITECTS :<br><b>OFFCENTERED</b><br><small>ARCHITECTURE + INTERIOR DESIGN<br/>NO: 7/8, CRESCENT ROAD,<br/>SHENOY NAGAR, CHENNAI - 600 030<br/>e-mail - info@offcentered.in<br/>Ph No: 044 4266 0600</small> |
| DATE             | 08.10.2025 |                                                                                                                                                                                                               |
| DRWN             | AS         |                                                                                                                                                                                                               |
| CHKD             | BA         |                                                                                                                                                                                                               |
| APRD             | BA         |                                                                                                                                                                                                               |

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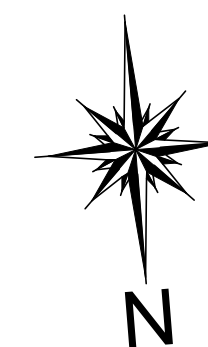
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N=1467204.401



## FIRST FLOOR FALSE CEILING LAYOUT

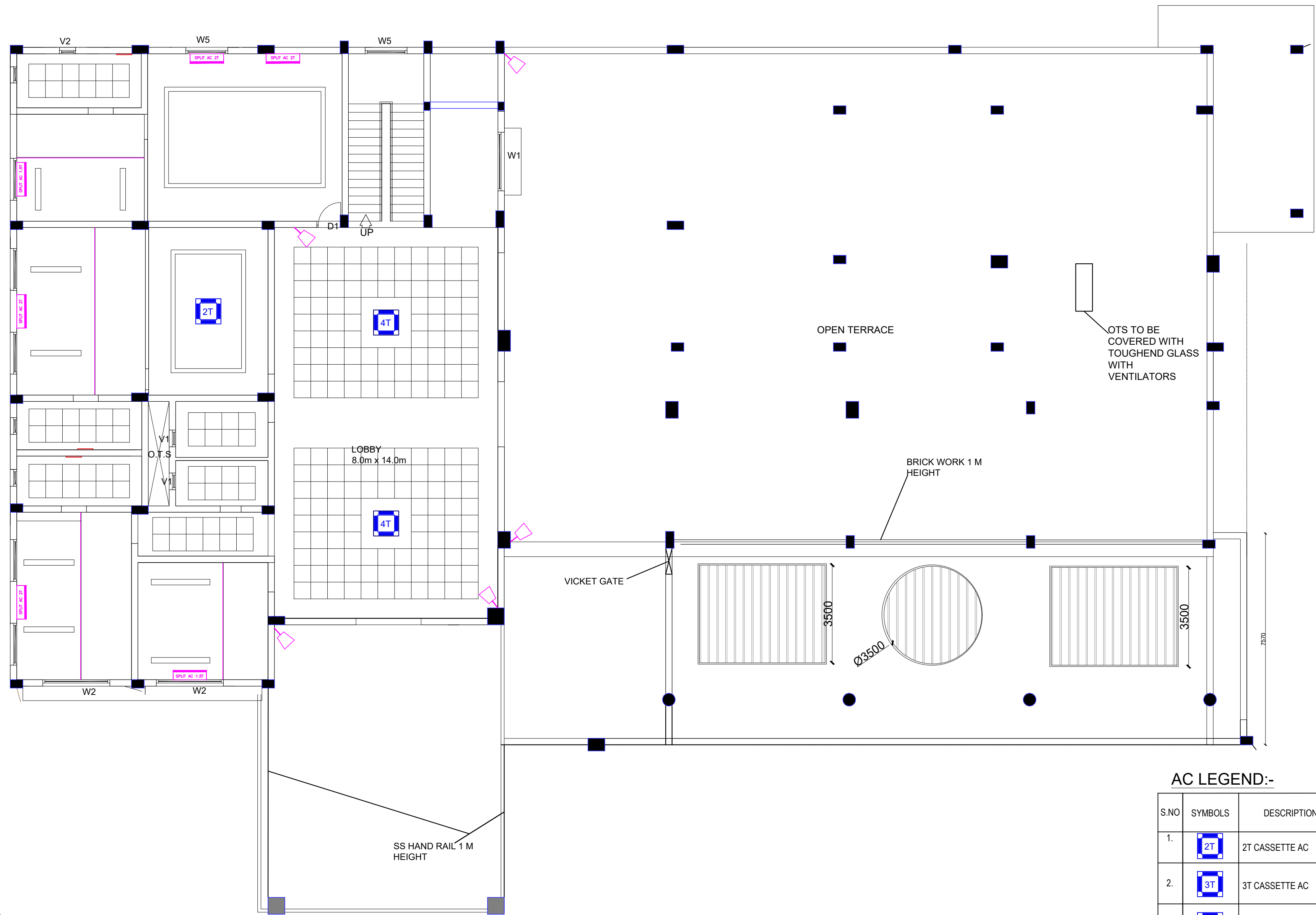


## PROPOSED BUILDING FOR SEAFARER'S CLUB INSIDE KAMARAJAR PORT



KPL/SEA/WD/FC/07

|       |            |                                                                                                                                                                                            |
|-------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCALE | 1:100      | ARCHITECTS :<br><b>OFFCENTERED</b><br>ARCHITECTURE + INTERIOR DESIGN<br>NO: 7/8, CRESCENT ROAD,<br>SHENOY NAGAR, CHENNAI - 600 030<br>e-mail - info@offcentered.in<br>Ph No: 044 4266 0600 |
| DATE  | 08.10.2025 |                                                                                                                                                                                            |
| DRWN  | AS         |                                                                                                                                                                                            |
| CHKD  | BA         |                                                                                                                                                                                            |
| APRD  | BA         |                                                                                                                                                                                            |



## FIRST FLOOR AC AND CCTV LAYOUT

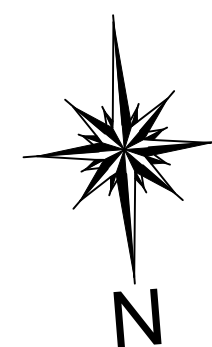
### AC LEGEND:-

| S.NO | SYMBOLS | DESCRIPTION    | QUANTITY FOR AC |       |        |
|------|---------|----------------|-----------------|-------|--------|
|      |         |                | GF              | FRF   | TOTAL  |
| 1.   |         | 2T CASSETTE AC | 1 NOS           | 1 NOS | 2 NOS  |
| 2.   |         | 3T CASSETTE AC | 2 NOS           | -     | 2 NOS  |
| 3.   |         | 4T CASSETTE AC | 2 NOS           | 2 NOS | 4 NOS  |
| 4.   |         | 1.5T SPLIT AC  | 8 NOS           | 2 NOS | 10 NOS |
| 5.   |         | 2T SPLIT AC    | 7 NOS           | 4 NOS | 11 NOS |

| QUANTITY FOR CCTV |        |        |
|-------------------|--------|--------|
| GF                | FF     | TOTAL  |
| 32 NOS            | 05 NOS | 36 NOS |



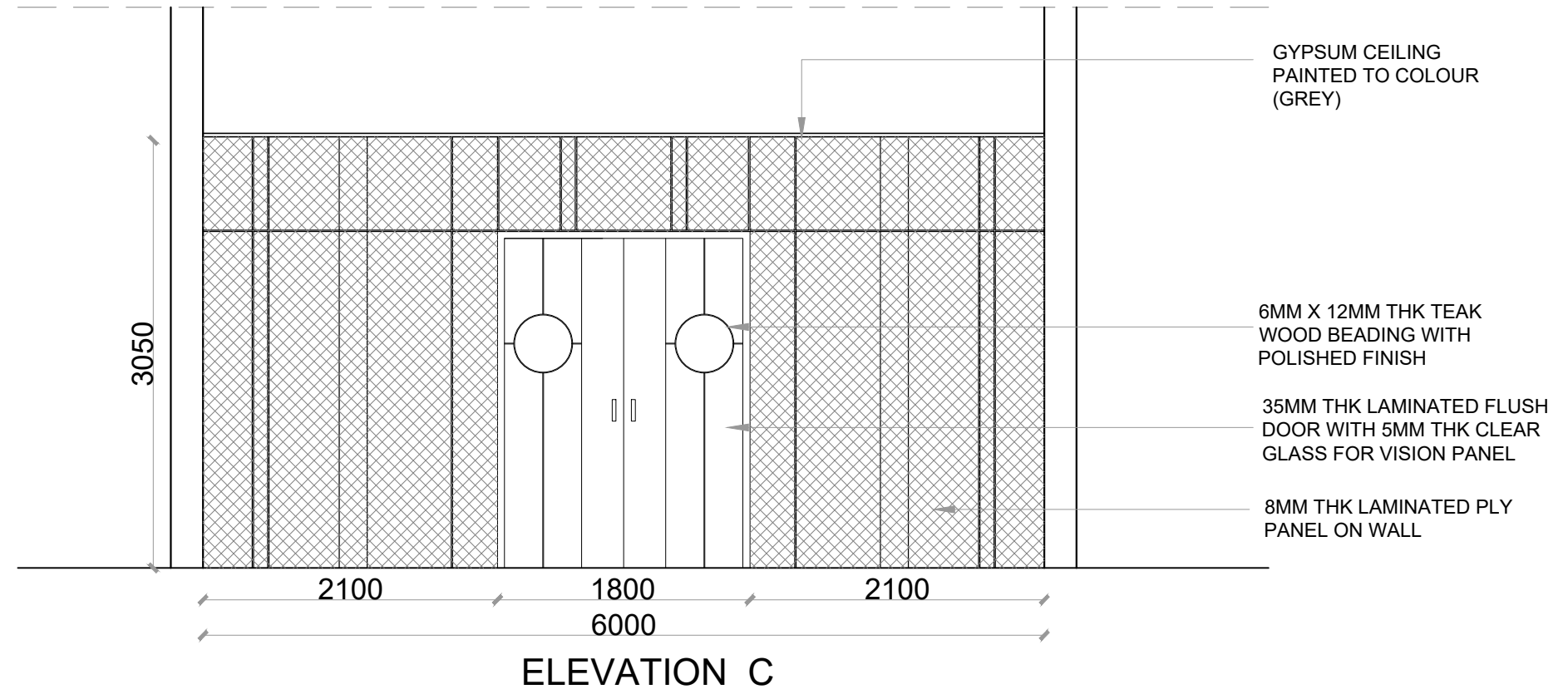
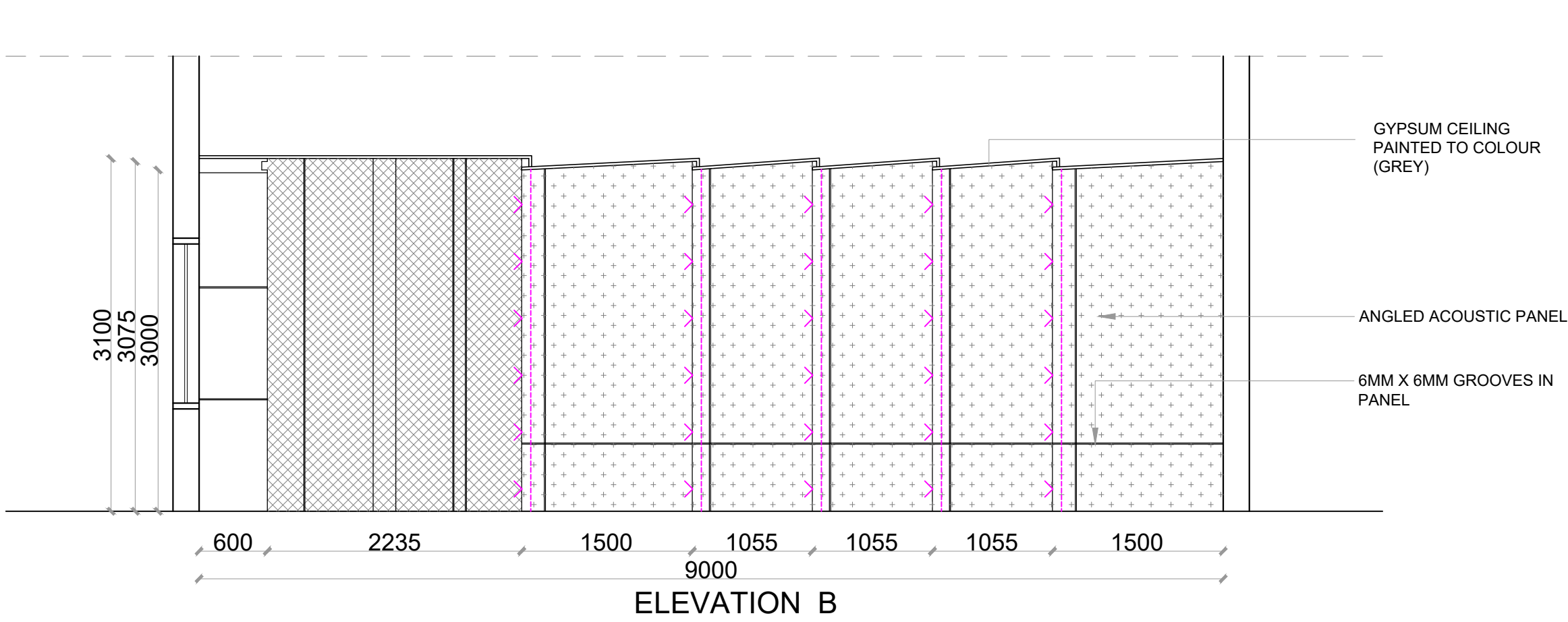
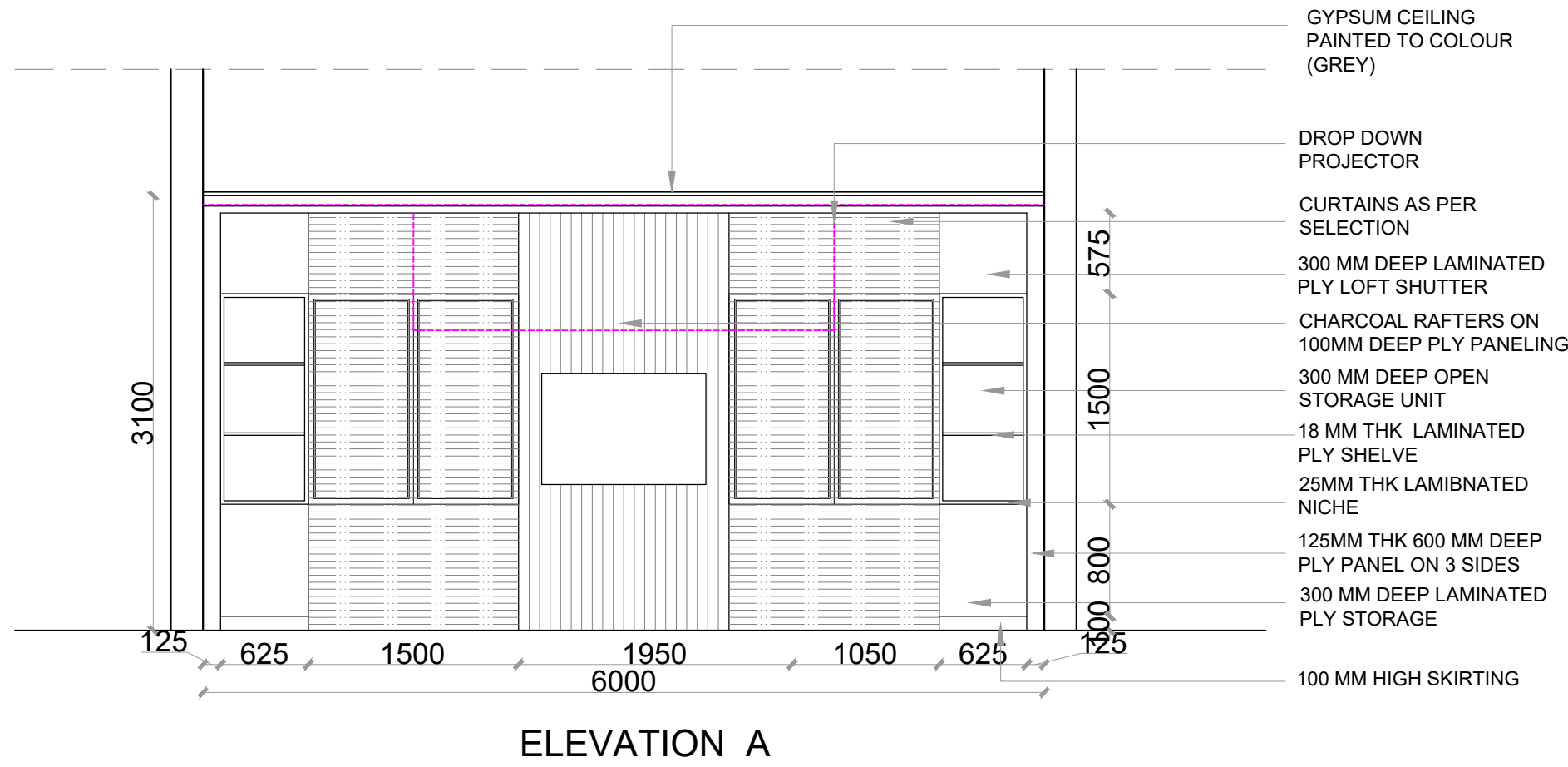
## PROPOSED BUILDING FOR SEAFARER'S CLUB INSIDE KAMARAJAR PORT



KPL/SEA/WD/ACCCTV/15

| SCALE | 1:100      | ARCHITECTS :<br><b>OFFCENTERED</b><br>ARCHITECTURE + INTERIOR DESIGN<br>NO: 7/8, CRESCENT ROAD,<br>SHENOY NAGAR, CHENNAI - 600 030<br>e-mail - info@offcentered.in<br>Ph No: 044 4266 0600 |
|-------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DATE  | 08.10.2025 |                                                                                                                                                                                            |
| DRWN  | AS         |                                                                                                                                                                                            |
| CHKD  | BA         |                                                                                                                                                                                            |
| APRD  | BA         |                                                                                                                                                                                            |

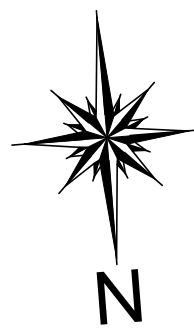




# WALL - ELEV - HOME THEATER



## PROPOSED INTERIOR WORKS FOR SEAFARER'S CLUB HOUSE BUILDING AT KPL, ENNORE, CHENNAI



KPL/SEA/WD/INT/ELE/17

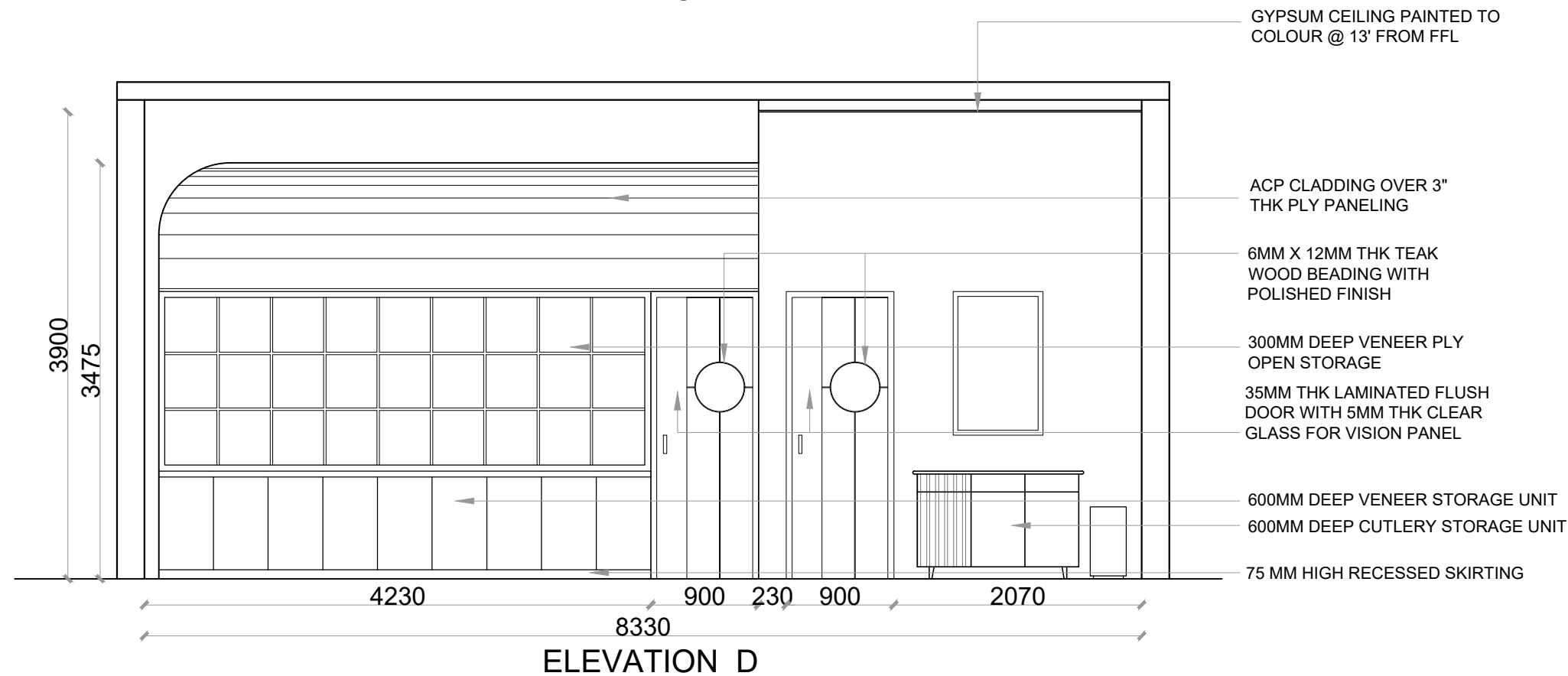
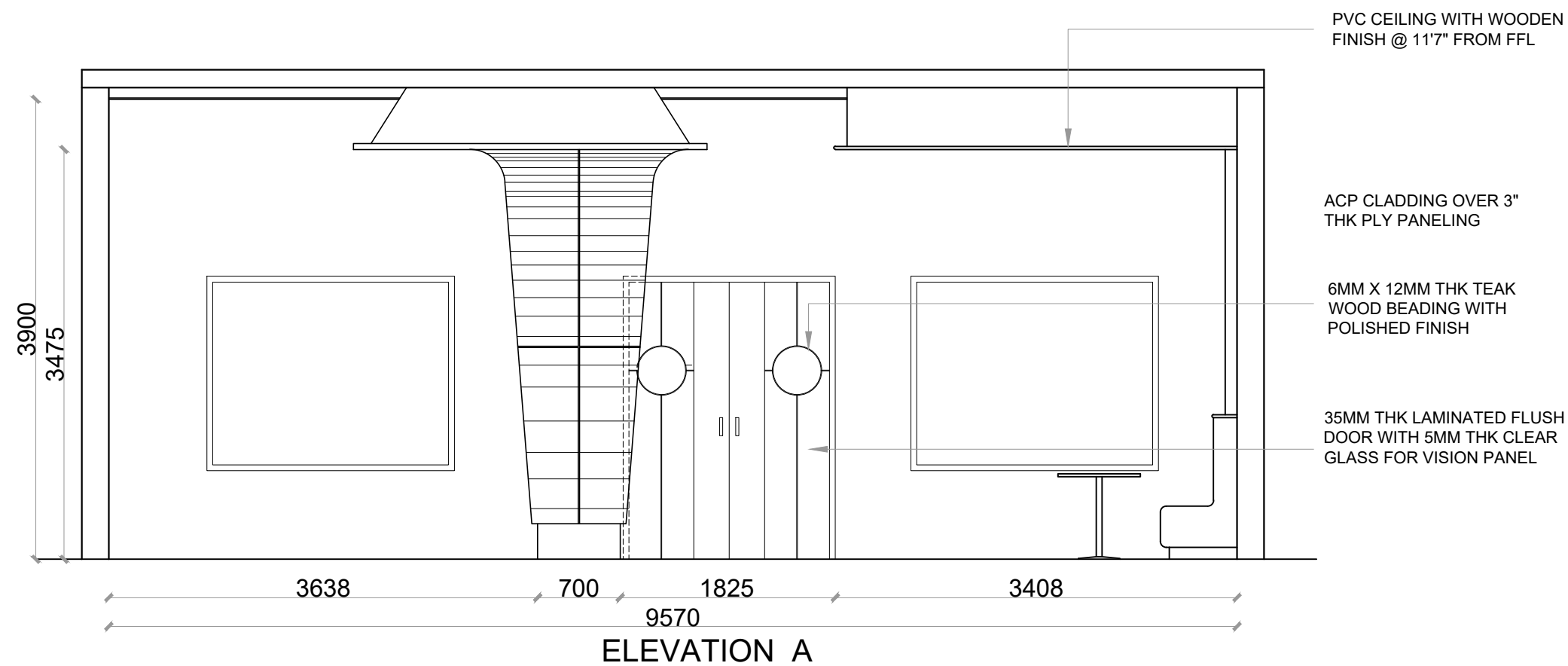
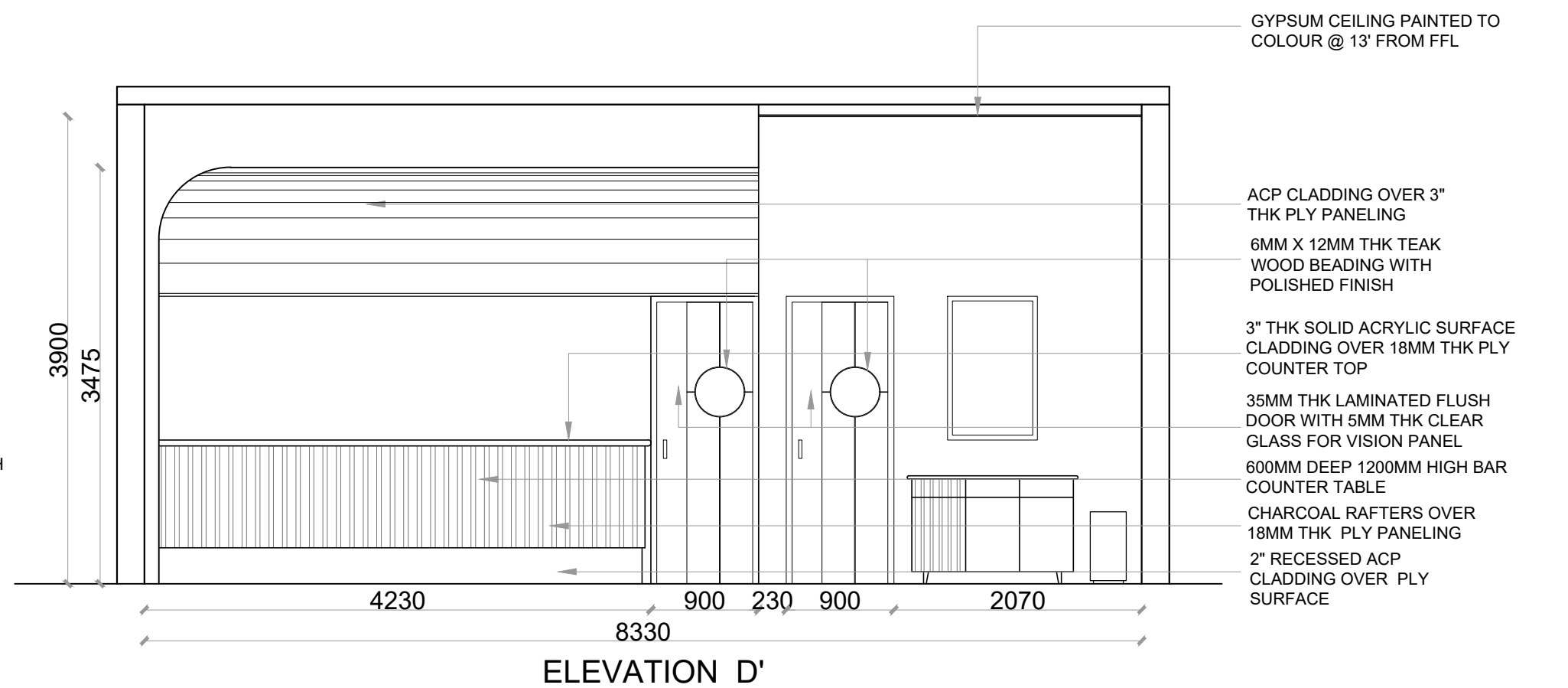
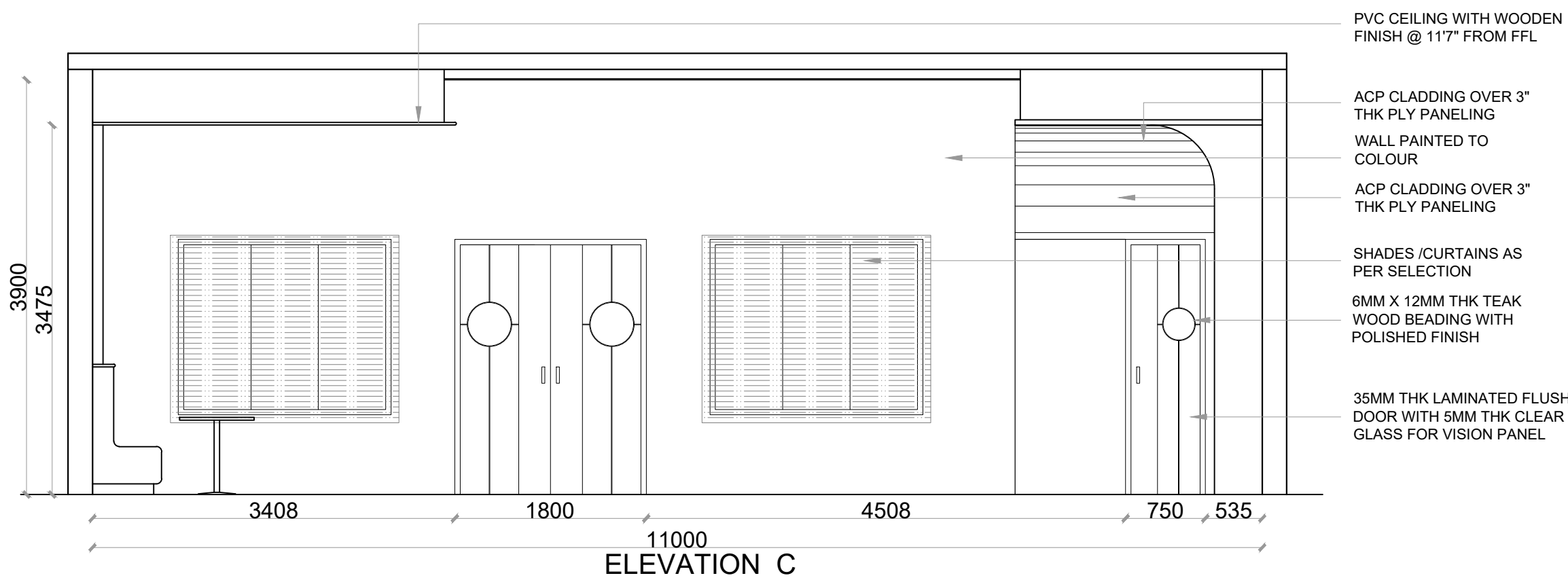
|       |            |
|-------|------------|
| SCALE | NTS        |
| DATE  | 08.10.2025 |
| DRWN  | AS         |
| CHKD  | BA         |
| APRD  | BA         |

ARCHITECTS :

**OFFCENTERED**

ARCHITECTURE + INTERIOR DESIGN  
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SHENOY NAGAR, CHENNAI - 600 030  
e-mail - info@offcentered.in  
Ph No: 044 4266 0600

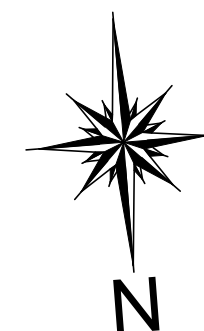
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## WALL - ELEV - RESTOBAR



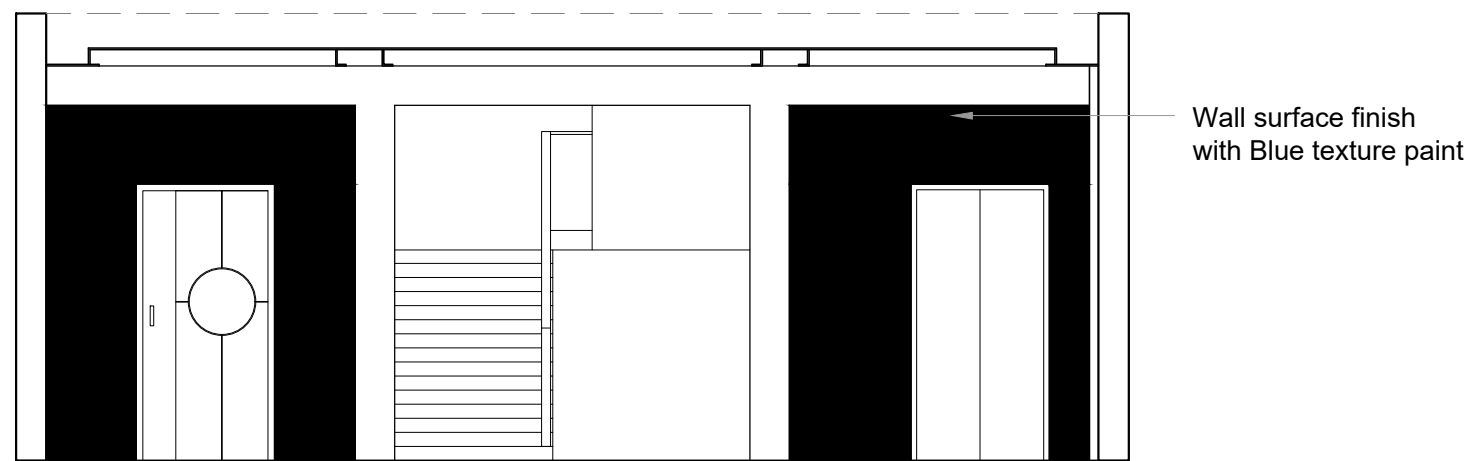
# PROPOSED INTERIOR WORKS FOR SEAFARER'S CLUB HOUSE BUILDING AT KPL, ENNORE, CHENNAI



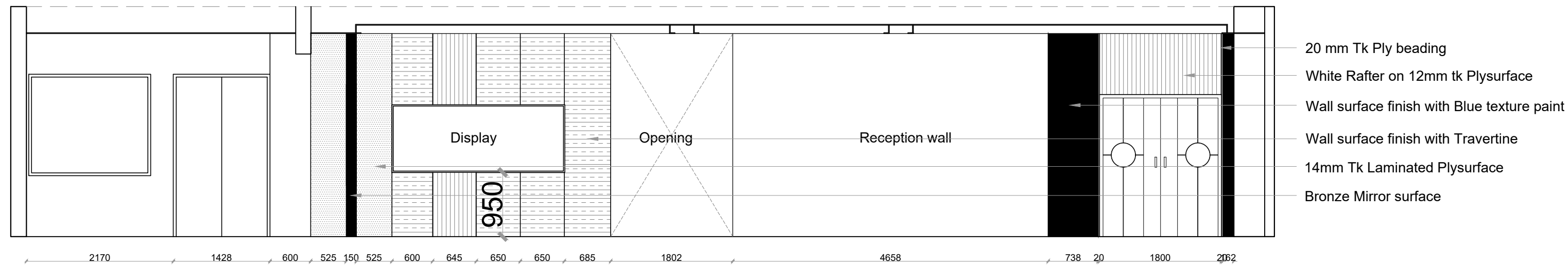
KPL/SEA/WD/INT/ELE/22

| SCALE | NTS        | ARCHITECTS :                                                                                                                                       |
|-------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| DATE  | 08.10.2025 | OFFCENTERED                                                                                                                                        |
| DRWN  | AS         |                                                                                                                                                    |
| CHKD  | BA         |                                                                                                                                                    |
| APRD  | BA         |                                                                                                                                                    |
|       |            | ARCHITECTURE + INTERIOR DESIGN<br>NO: 7/8, CRESCENT ROAD,<br>SHENOY NAGAR, CHENNAI - 600 030<br>e-mail - info@offcentered.in<br>Ph No 44 4266 0600 |

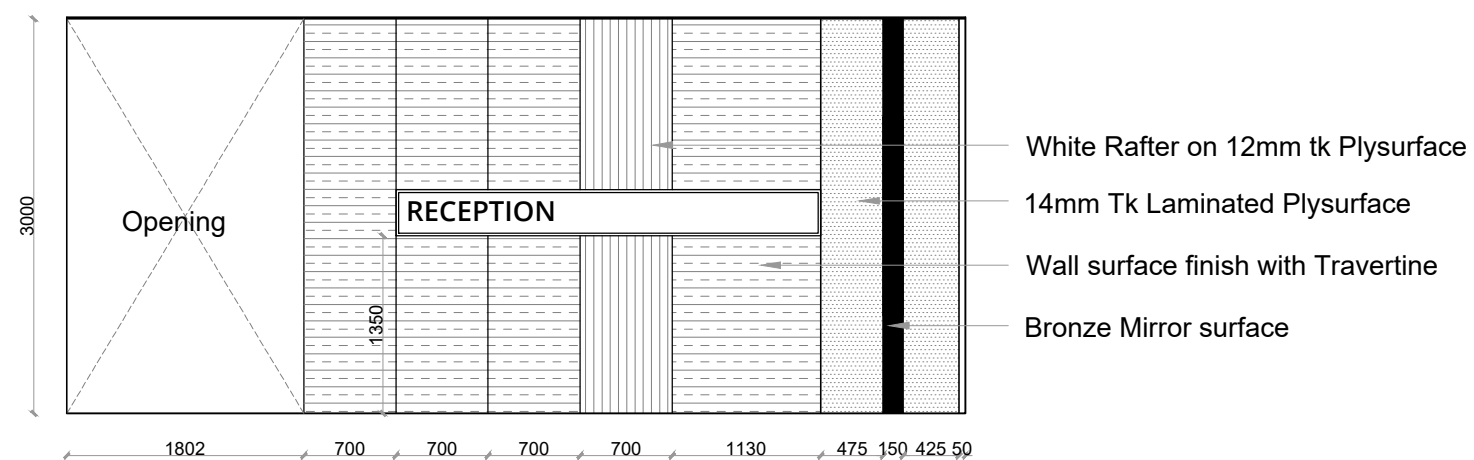




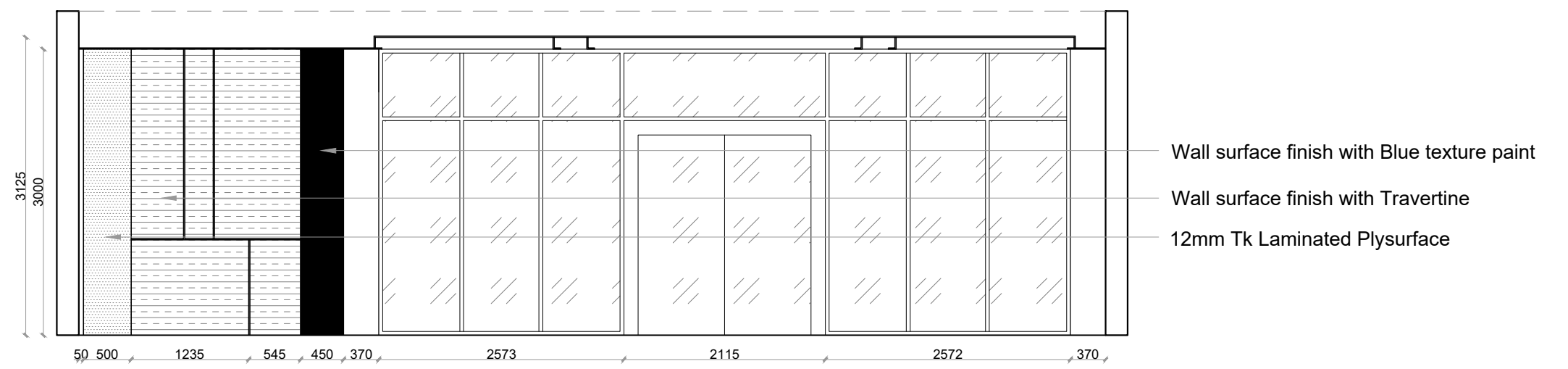
ELEVATION - A



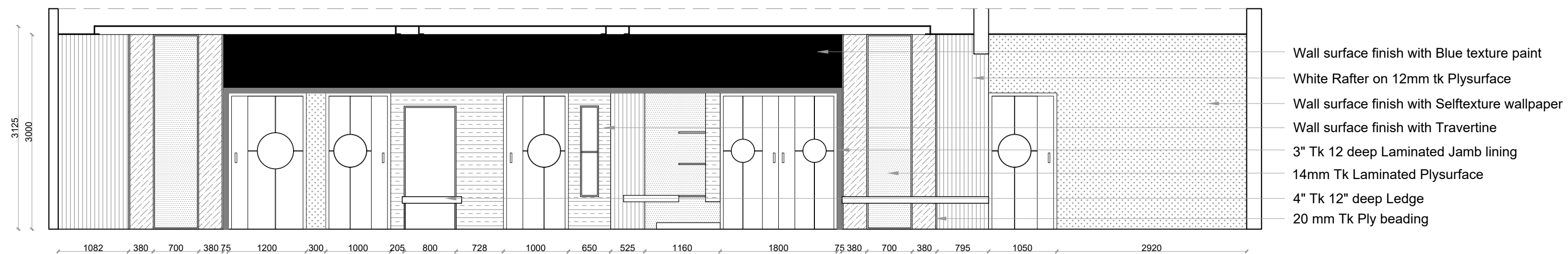
ELEVATION - B



RECEPTION WALL



ELEVATION - C

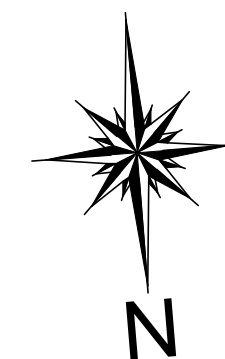


ELEVATION - D

WALL - ELEV - GF LOBBY

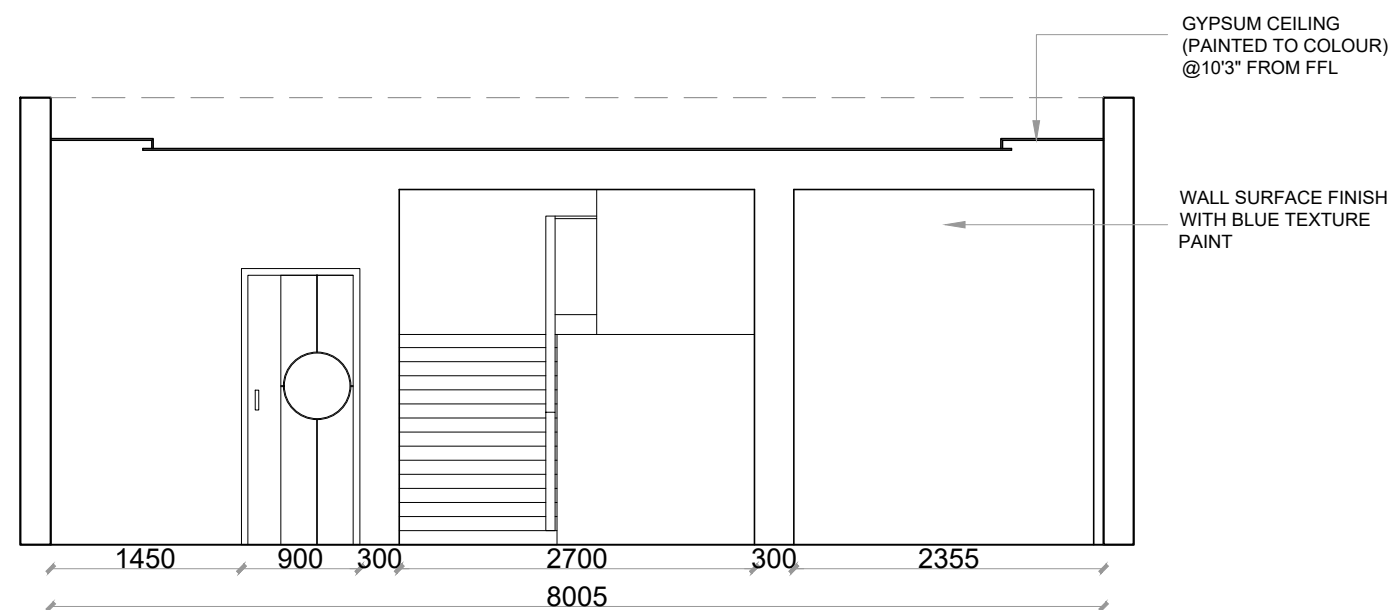


# PROPOSED INTERIOR WORKS FOR SEAFARER'S CLUB HOUSE BUILDING AT KPL, ENNORE, CHENNAI

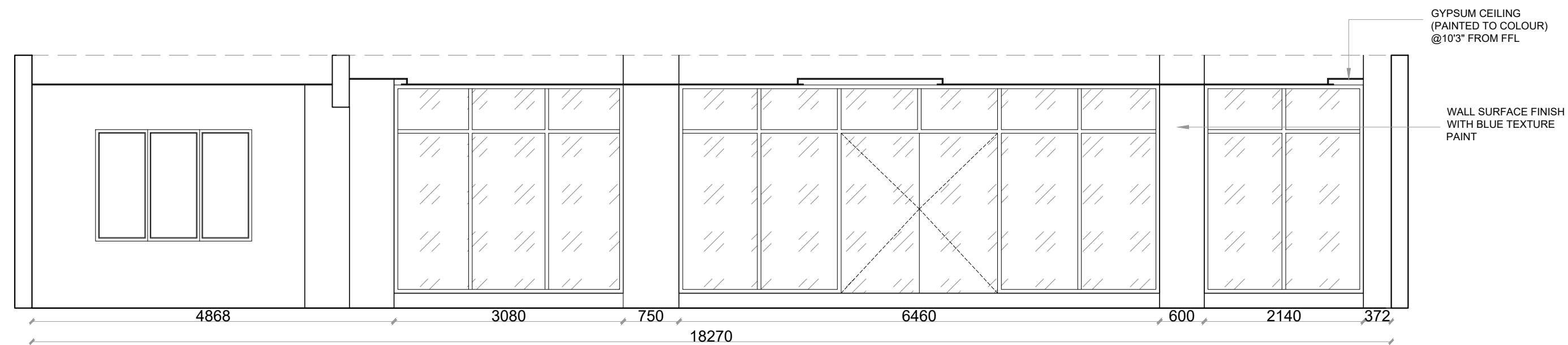


KPL/SEA/WD/INT/ELE/30

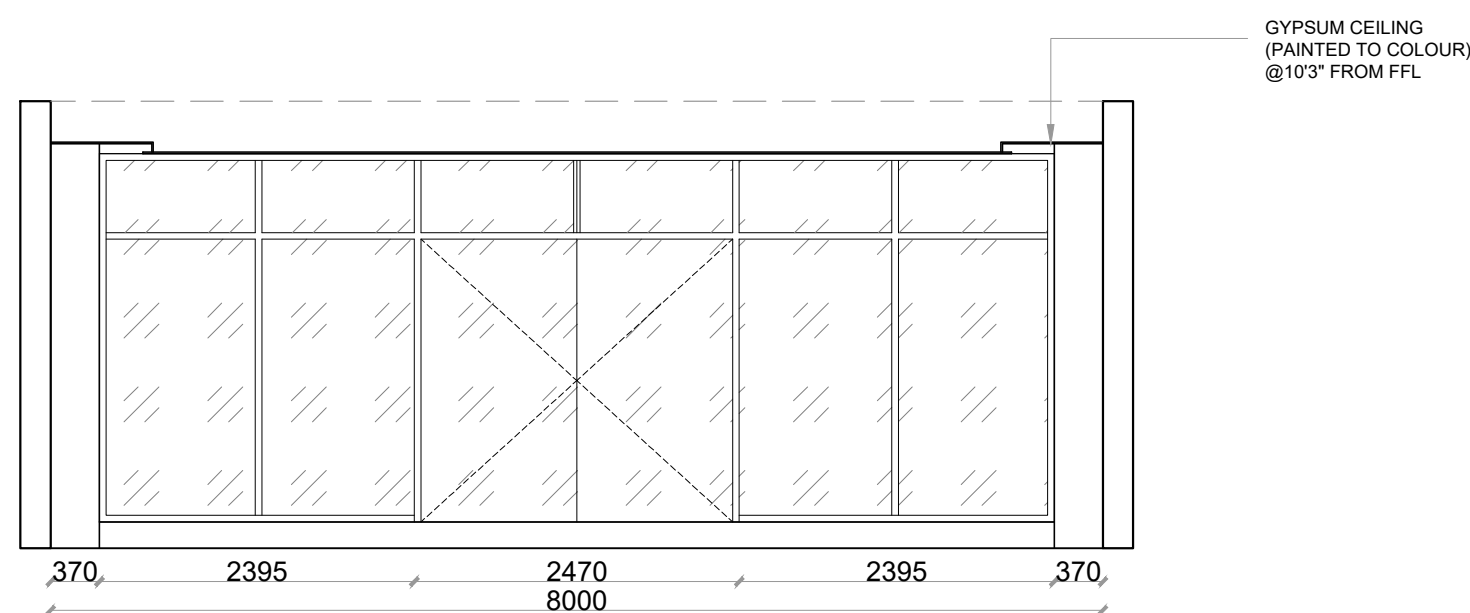
| SCALE | NTS        | ARCHITECTS :                                                                                                                                                               |
|-------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DATE  | 08.10.2025 |                                                                                                                                                                            |
| DRWN  | AS         | <b>OFFCENTERED</b><br>ARCHITECTURE + INTERIOR DESIGN<br>NO: 7/8, CRESCENT ROAD,<br>SHENOY NAGAR, CHENNAI - 600 030<br>e-mail - info@offcentered.in<br>Ph No: 044 4266 0600 |
| CHKD  | BA         |                                                                                                                                                                            |
| APRD  | BA         |                                                                                                                                                                            |
|       |            |                                                                                                                                                                            |



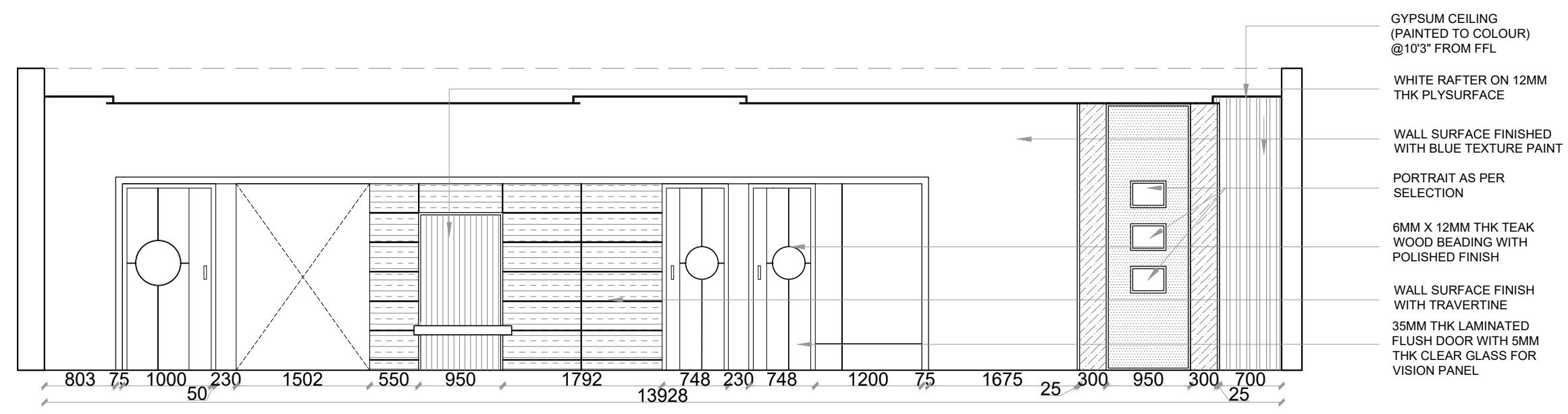
ELEVATION - A



ELEVATION - B



ELEVATION - C

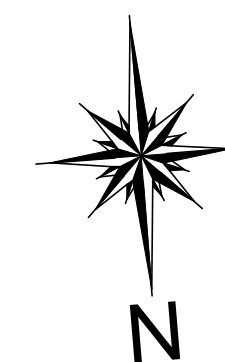


ELEVATION - D

## WALL - ELEV - FF LOBBY



# PROPOSED INTERIOR WORKS FOR SEAFARER'S CLUB HOUSE BUILDING AT KPL, ENNORE, CHENNAI



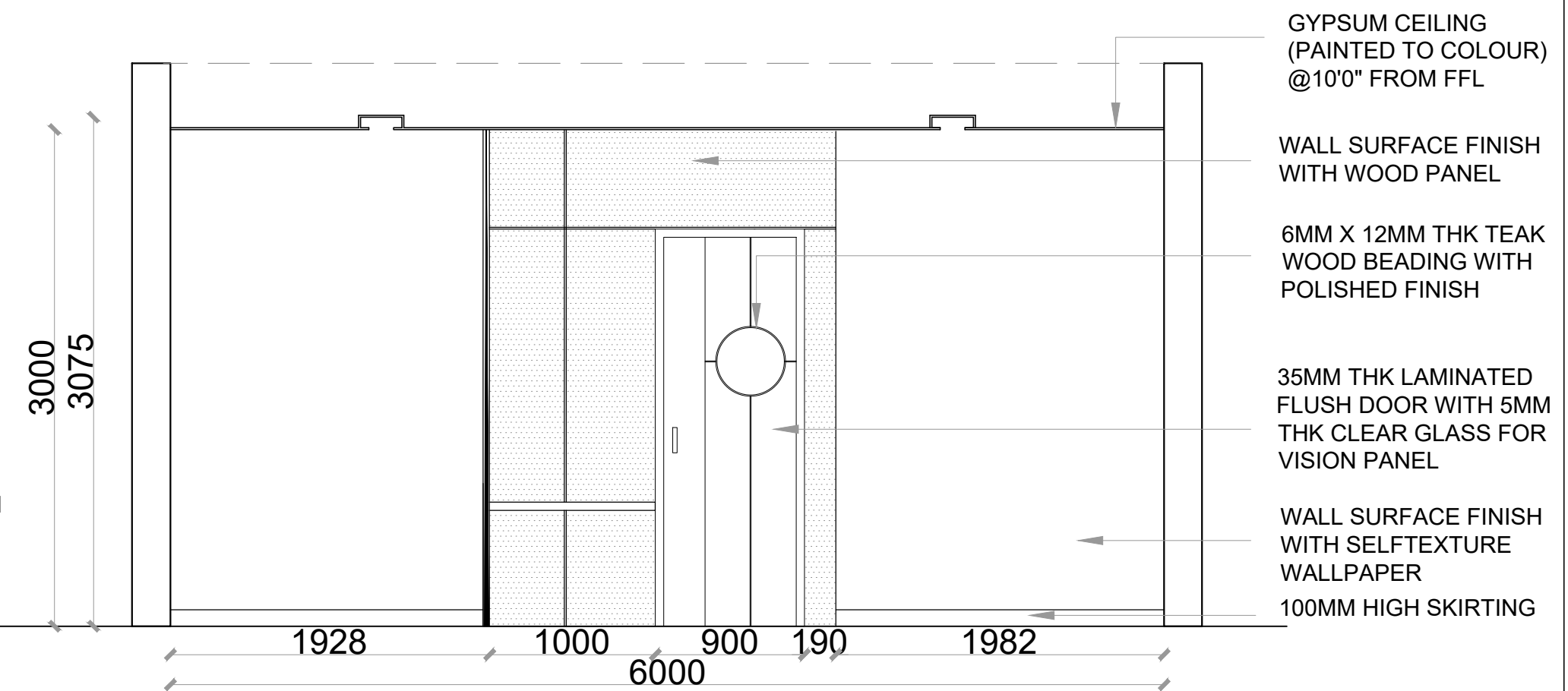
KPL/SEA/WD/INT/ELE/31

| SCALE | NTS        | ARCHITECTS :<br><b>OFFCENTERED</b>                                                                                                                   |
|-------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| DATE  | 08.10.2025 |                                                                                                                                                      |
| DRWN  | AS         | ARCHITECTURE + INTERIOR DESIGN<br>NO: 7/8, CRESCENT ROAD,<br>SHENOY NAGAR, CHENNAI - 600 030<br>e-mail - info@offcentered.in<br>Ph No: 044 4266 0600 |
| CHKD  | BA         |                                                                                                                                                      |
| APRD  | BA         |                                                                                                                                                      |





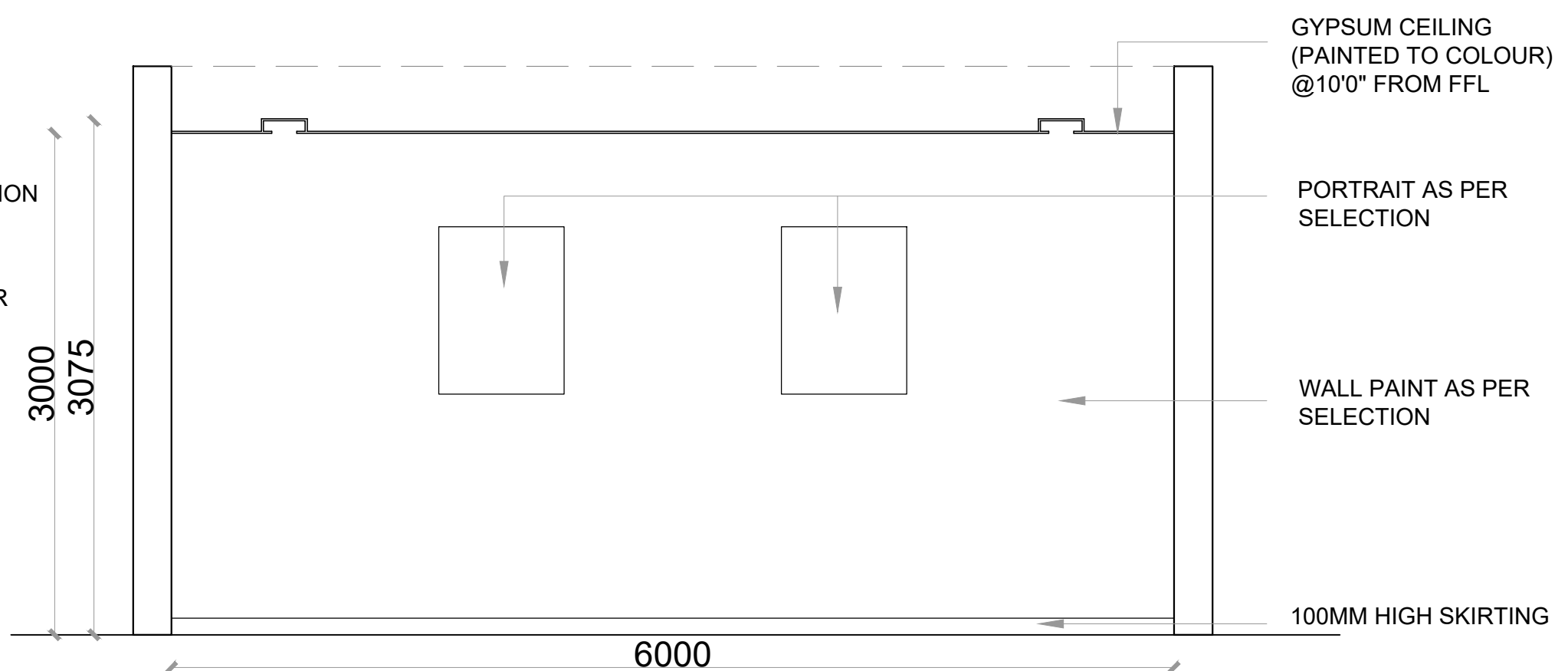
ELEVATION - A



ELEVATION - B



ELEVATION - C

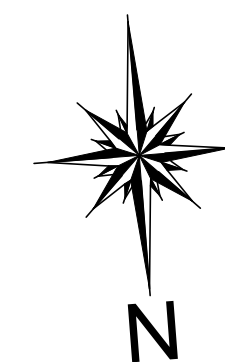


ELEVATION - D

WALL - ELEV - SUITE ROOM 1- LOUNGE 1



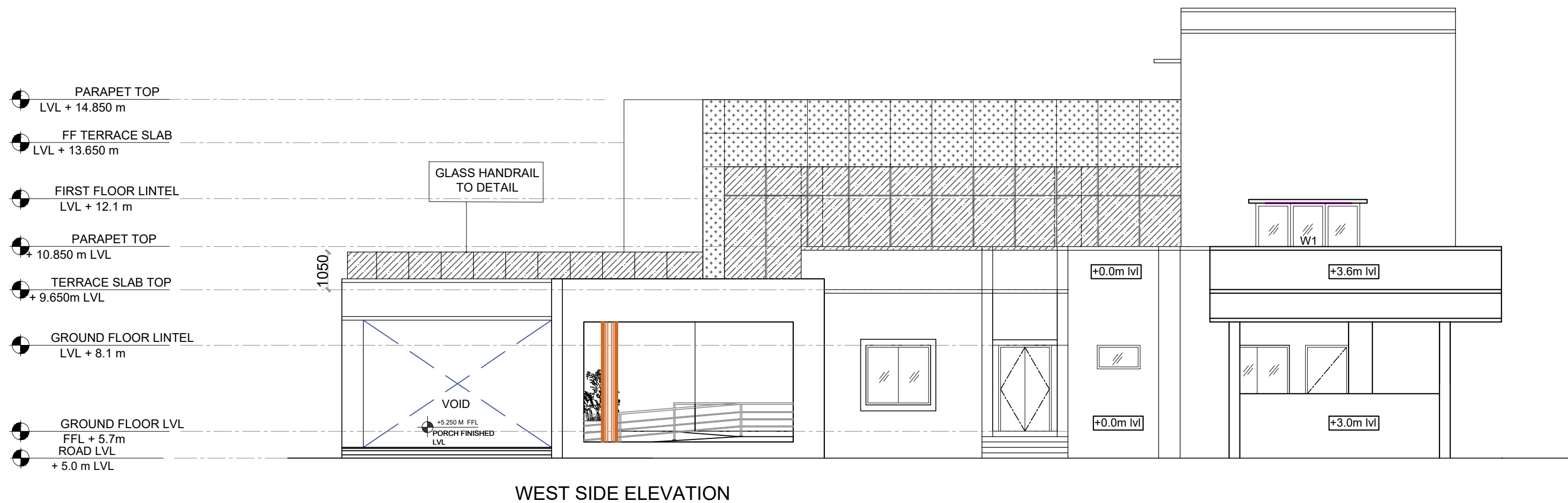
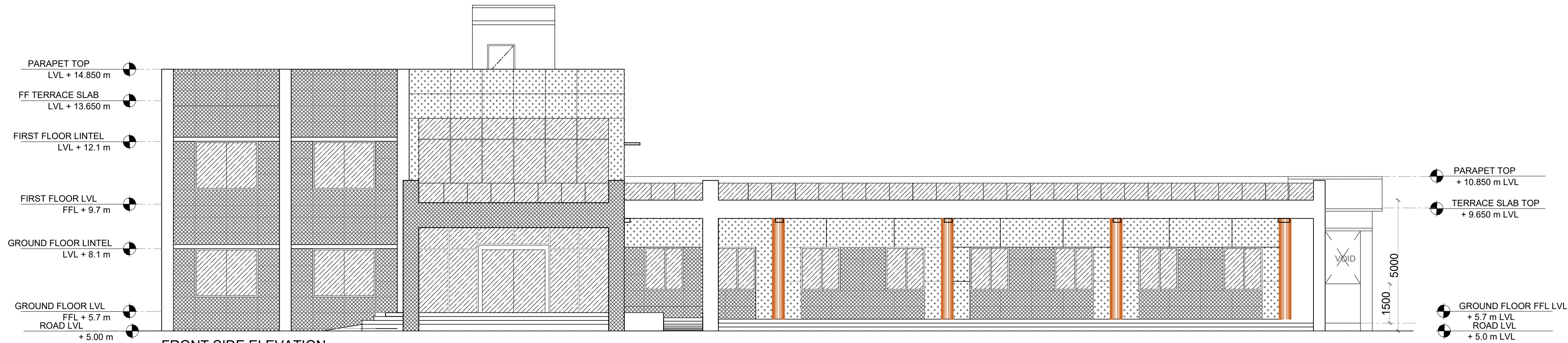
PROPOSED INTERIOR WORKS FOR  
SEAFARER'S CLUB HOUSE BUILDING AT  
KPL, ENNORE, CHENNAI



KPL/SEA/WD/INT/ELE/32

|       |            |
|-------|------------|
| SCALE | NTS        |
| DATE  | 08.10.2025 |
| DRWN  | AS         |
| CHKD  | BA         |
| APRD  | BA         |

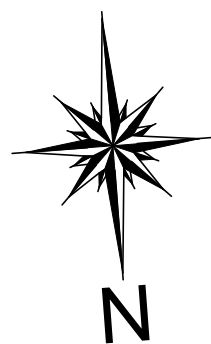
ARCHITECTS :  
**OFFCENTERED**  
ARCHITECTURE + INTERIOR DESIGN  
NO: 7/8, CRESCENT ROAD,  
SHENOY NAGAR, CHENNAI - 600 030  
e-mail - info@offcentered.in  
Ph No: 044 4266 0600



## EXTERIOR ELEVATION

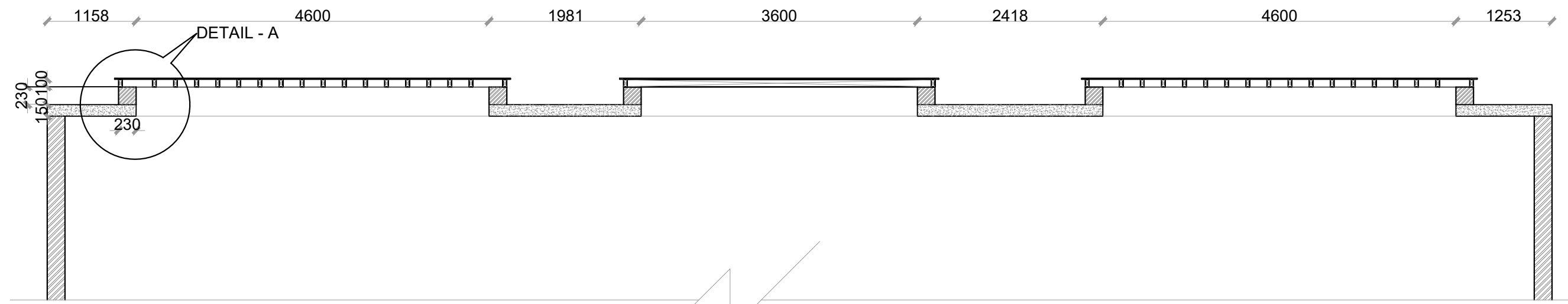


## PROPOSED BUILDING FOR SEAFARER'S CLUB INSIDE KAMARAJAR PORT

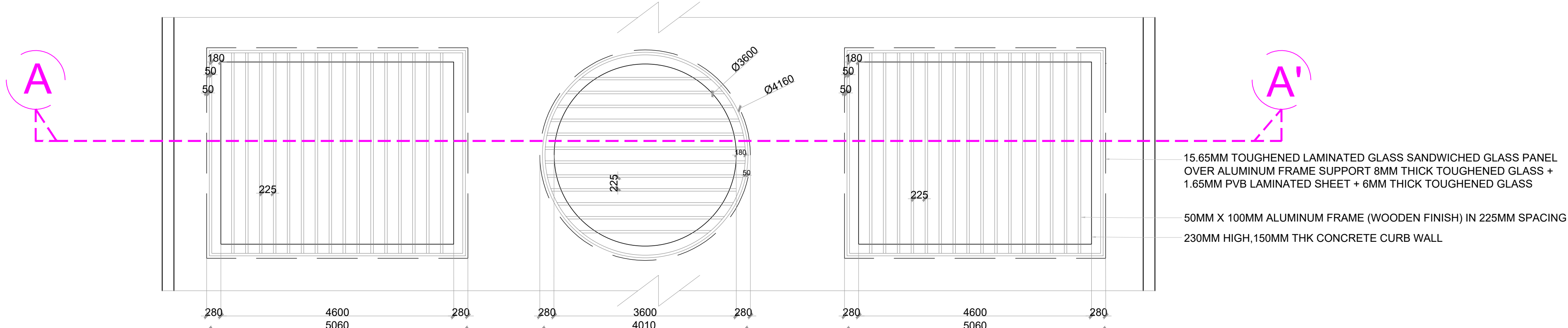


|                       |            |                                                                                                                                                                            |
|-----------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KPL/SEA/WD/EXT/ELE/39 |            |                                                                                                                                                                            |
| SCALE                 | 1:100      | ARCHITECTS :                                                                                                                                                               |
| DATE                  | 08.10.2025 | <b>OFFCENTERED</b><br>ARCHITECTURE + INTERIOR DESIGN<br>NO: 7/8, CRESCENT ROAD,<br>SHENOY NAGAR, CHENNAI - 600 030<br>e-mail - info@offcentered.in<br>Ph No: 044 4266 0600 |
| DRWN                  | AS         |                                                                                                                                                                            |
| CHKD                  | BA         |                                                                                                                                                                            |
| APRD                  | BA         |                                                                                                                                                                            |

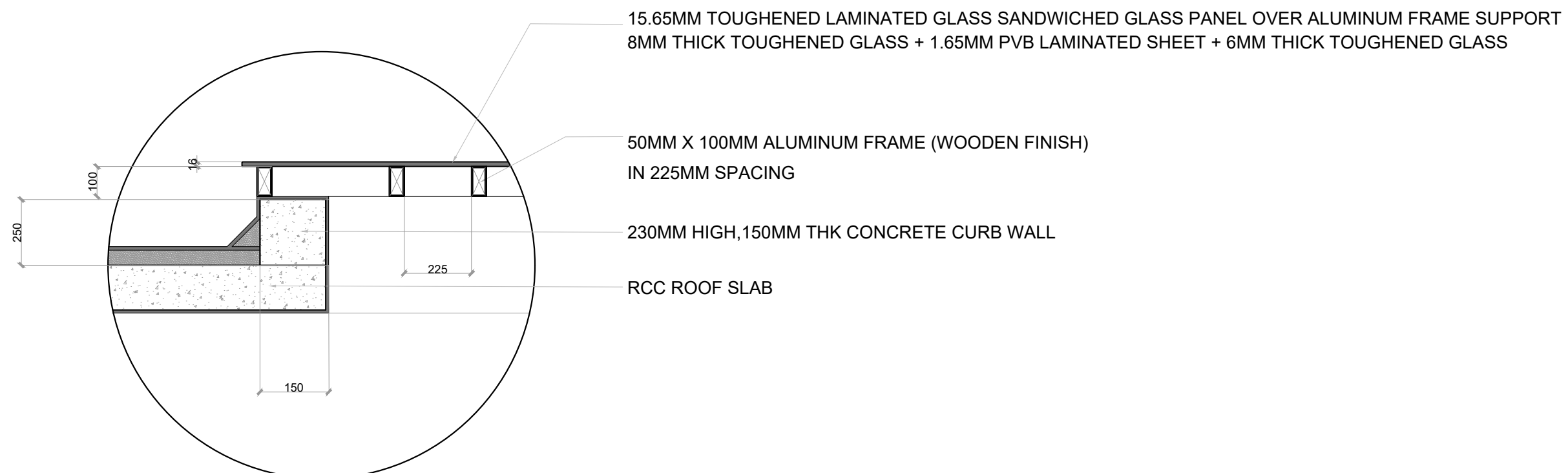




SECTION : A-A'

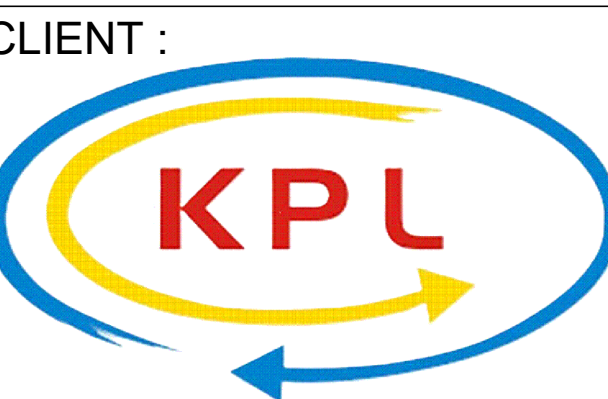


PLAN

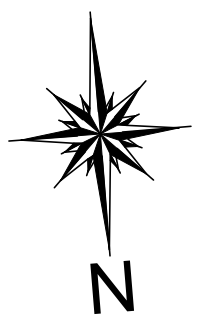


DETAIL-A

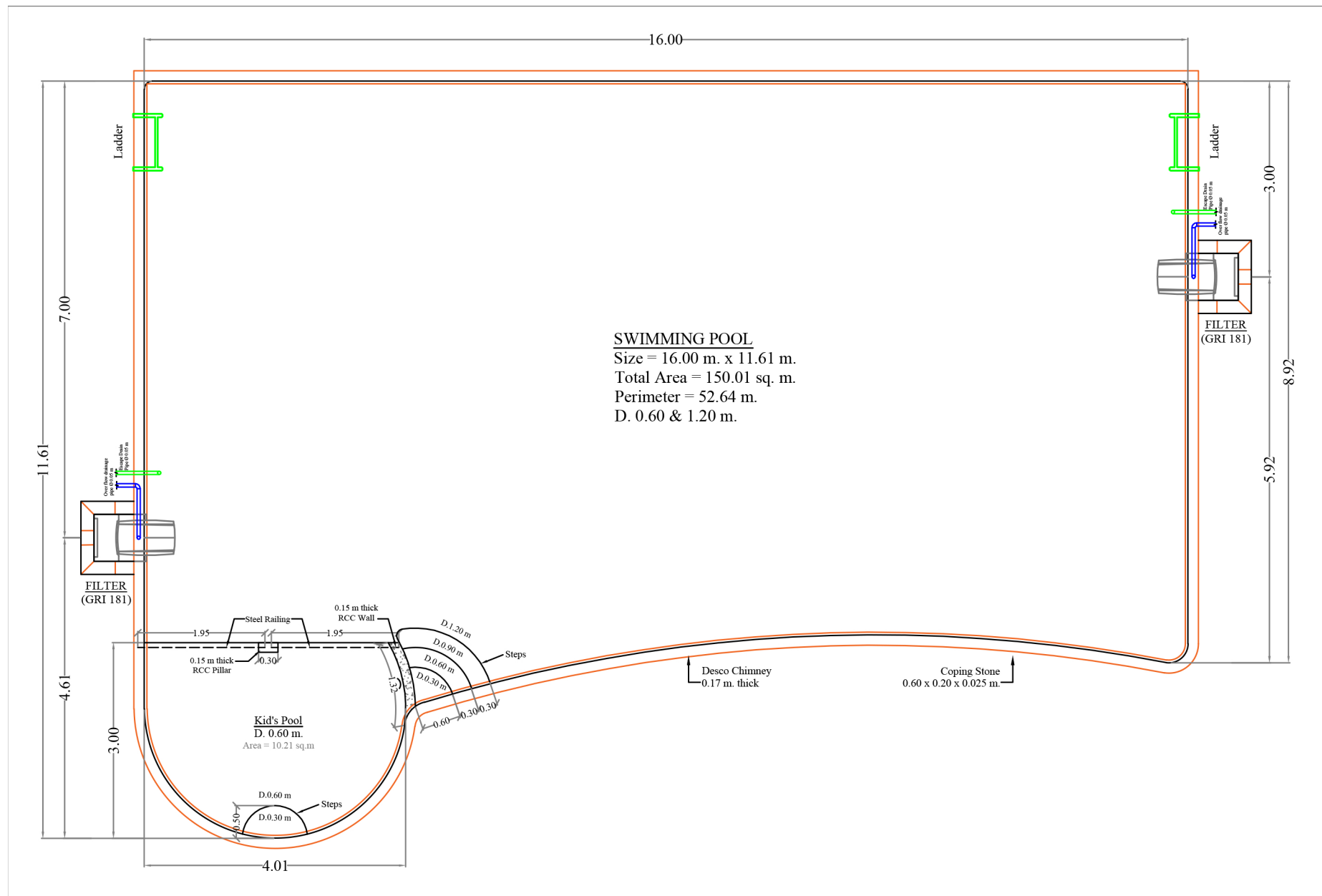
TYPICAL PERGOLA DETAIL FOR SKYLIGHT



PROPOSED BUILDING FOR  
SEAFARER'S CLUB INSIDE KAMARAJAR PORT



|                  |            |                                                                                                                                                      |
|------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| KPL/SEA/WD/PG/40 |            | ARCHITECTS :                                                                                                                                         |
| DATE             | 08.10.2025 | OFFCENTERED                                                                                                                                          |
| DRWN             | AS         |                                                                                                                                                      |
| CHKD             | BA         |                                                                                                                                                      |
| APRD             | BA         |                                                                                                                                                      |
|                  |            | ARCHITECTURE + INTERIOR DESIGN<br>NO: 7/8, CRESCENT ROAD,<br>SHENOY NAGAR, CHENNAI - 600 030<br>e-mail - info@offcentered.in<br>Ph No: 044 4266 0600 |



SWIMMING POOL



PROPOSED BUILDING FOR  
 SEAFARER'S CLUB INSIDE KAMARAJAR PORT



|                  |            |                                  |
|------------------|------------|----------------------------------|
| KPL/SEA/WD/SW/41 |            | ARCHITECTS :                     |
| DATE             | 08.10.2025 | OFFCENTERED                      |
| DRWN             | AS         |                                  |
| CHKD             | BA         |                                  |
| APRD             | BA         |                                  |
|                  |            | ARCHITECTURE + INTERIOR DESIGN   |
|                  |            | NO. 7/8, CRESCENT ROAD,          |
|                  |            | SHENNOY NAGAR, CHENNAI - 600 030 |
|                  |            | e-mail - info@offcentered.in     |
|                  |            | Ph No: 044 4266 0600             |