

V.O.CHIDAMBARANAR PORT AUTHORITY
TUTICORIN -628004



BID-I

TENDER – TECHNICAL BID

**Filling and development of area behind the
North Cargo Berth II**

July, 2024

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V.O.CHIDAMBARANAR PORT AUTHORITY
ENGINEERING DEPARTMENT (CIVIL)

NIT No. 01/NCB II Backup yard / PD / 2024-25 / D.1953 Dated:12.07.2024

1. TENDER NOTICE

NOTICE INVITING TENDER FOR THE WORK OF “Filling and development of area behind the North Cargo Berth II” (Only Through E – Tendering mode) VOCP- E – Tendering website: <https://etenders.gov.in/eprocure/app>.

V.O.Chidambaranar Port Authority invites competitive offers through on-line Tendering process from experienced, reputed contractors fulfilling qualifying criteria as stipulated in the tender document for the work: “Filling and development of area behind the North Cargo Berth II”

1.	Downloading of Tender from VOCPA online e-tendering website	12.07.2024 to 29.07.2024
2.	Estimate Amount	Rs. 3,17,24,696/- (Rupees Three crores Seventeen Lakhs Twenty four thousand six hundred and ninety six only)
3.	Earnest Money Deposit	Rs 6,34,494/- (Rupees Six lakhs thirty four thousand four hundred and ninety four only)
4.	Last date and time for submission of e-Tender through online	29.07.2024 upto 15:00 Hrs
5.	Online Bid opening date and time	30.07.2024 at 15:30 Hrs
6.	Period of completion	4 months
7.	Validity of tender	120 days from the last date fixed for receiving the tender
For further details, visit Port Website: www.vocport.gov.in		
Ph No : 0461-2352252, FAX : 0461-2354270.		
CHIEF ENGINEER		

1. Pre-bid clarifications and Amendment to Tender document:

- a) The Tenderer requiring a clarification of the proposal document must notify the Employer in writing, not later than 17.07.2024 upto 17.00hrs. Any request for clarification in writing must be sent to the Employer by email **ce@vocport.gov.in** with a copy to **vocportce@gmail.com** in editable M.S word format only. The Employer will respond by email only to such requests.
- b) The compilation of questions raised and answers given will be posted in the VOCPA website and will bind all the tenderers. Any modification of the tender document which may become necessary as a result of the pre-bid clarifications will be made by the Employer exclusively through the issuance of an addendum and the pre-bid clarifications of the Authority shall form the part of this tender document.
- c) At any time before the submission of bids, the Employer may, for any reasons, whether at its own initiative or in response to a pre-bid clarification modify the document by amendment. The amendment will be notified in VOCPT/e-tender website only and will be binding on them. The Employer may at its discretion also extend the deadlines for the submission of proposals. Hence, the tenderers are requested to keep watching the VOCPA website regularly till the due date for bid submission

2. Responsiveness of Tender

- i. Payment of Earnest Money Deposit as per the tender.
- ii. Undertaking by the tenderer that the credentials submitted are true and duly attested by Notary Public.
- iii. The tenderer has to submit the undertaking as **Form – I (C)** viz, Tender acceptance letter with the tender document, failing which the tender will not be considered for evaluation

The tenderer should fulfill / submit the above documents (i), (ii) & (iii) in the e-tender, failing which their offer will be treated as non-responsive and their bid will be summarily rejected without technical evaluation.

3. Minimum qualifying criteria:

The Tenderer shall meet the minimum qualifying criteria as follows:

a) Work Experience: The tenderer should have successfully completed *similar work* as detailed below during the **last Seven years ending June, 2024** with either of the following:-

Three works, each costing not less than **Rs.1.27 Crores**

(or)

Two works, each costing not less than **Rs.1.59 Crores**

(or)

One work costing not less than **Rs. 2.54 Crores.**

“Similar work means Construction of offshore / shore Rubble protection Bund / breakwater / revetment and / or development of yard.”

Note:-

If the work completion certificate furnished is from other than Govt. Departments by the tenderer to fulfill the requirement of MQC, the same shall be supported with TDS certificate (FORM-16A) issued by the department where the work was executed for full executed amount of the work otherwise such work experience shall not be considered.

b) Financial Position: Average annual Financial Turnover of the Tenderer during last three financial years (i.e) 2020-21, 2021-22 & 2022-23 shall be at least **Rs.0.95 Crores.**

4. The evaluation will be done only based on the information, evidence documents, records particular furnished by the tenderers and hence the tenderers are requested to furnish adequate, relevant information along with requisite documentary evidences and without any omission.
5. If any information furnished by the tenderer is found to be concealed or false at a later stage, the contract will be terminated forthwith without prejudice to the rights thereon, consequent on termination and the contractor will be banned to participate further VOC Port tenders for three years period.

6. Criteria regarding satisfactory performance of works, personnel, establishment, etc., shall also be uploaded according to the requirement of the project in the relevant formats given in the Tender Document (Technical Bid).
7. The tender documents can be downloaded from VOCPT Website www.vocport.gov.in through “E-tendering link: <https://etenders.gov.in/eprocure/app>.”
8. The E-Tender submitted by the firm will not be considered who has pending litigation against VOCPT or black listed contractors. If such tenderers submit the tender document downloaded from the web site, the same will not be considered.
9. The tenders shall be accompanied by EMD as specified in Clause 6.2 of Section-II of the Tender document . The tender will not be considered without EMD.
10. Tenders which are in any way incomplete will not be considered. The Port reserves the right to waive any formality thereof or to reject any or all the tenders without assigning any reasons thereof.
11. Port shall not be responsible if the tenderer is not able to upload all the relevant documents due to technical reasons, the bid will not be considered.
12. The Tenderer shall furnish the GST Registration Certificate and ESI & EPF, failing which the tender will be summarily rejected.
13. The Price Bid of those Tenderers who have qualified vide Para 3 above shall be opened at a later date which will be intimated to all concerned.
14. For further details and for issue of the tender document, interested applicants may contact the Chief Engineer, VOCPT at the following address:

The Chief Engineer,
V.O.Chidambaranar Port Authority
Tuticorin – 628 004
Tel : 00 91 461 2352252
Fax : 00 91 461 2354270
Email : ce@vocport.gov.in
Website : www.vocport.gov.in

15. This Tender Notice shall form part of the contract.

CHIEF ENGINEER

V.O.CHIDAMBARANAR PORT AUTHORITY

SECTION - I

FORM OF TENDER

(Note: This Memorandum forms part of the Tender)

To

The Chief Engineer,
V.O.C. Port Authority
Tuticorin - 628 004,
Tamil Nadu, INDIA.

Sir,

1. Having visited the site and examined the Drawings, Conditions of Contract, Specifications, Schedules and Bill of Quantities for the above named work, we offer to execute the work of "Filling and development of area behind the North Cargo Berth II" in conformity with the said drawings, conditions of Contract, Specifications, Schedules and Bill of Quantities for the sum of Rupees as indicated in Cover-II of the Tender document.
2. We undertake, if our Tender is accepted, to achieve completion of the various sections of the works within the periods specified in this schedule.
3. If our Tender is accepted we will furnish a Performance Security in the form of irrevocable Bank Guarantee from a Nationalized Bank for a sum equivalent to 3% of the accepted tender value in the form annexed hereto approved by the Employer
4. We agree to abide by this Tender for a period of 120 days from the date fixed for receiving the same or for such further period as may be mutually agreed upon and it shall remain binding upon us and may be accepted at any time before the expiration of that period or such further period as may be mutually agreed upon. If we fail to abide by, our Tenders during the above said period of four calendar months or such extended period as mutually agreed upon, the Port shall be at liberty to forfeit the Earnest Money deposited by us.
5. Unless and until a formal Agreement is prepared and executed, this Tender, together with your written acceptance thereof, shall constitute a binding Contract between us.
6. We understand that you are not bound to accept the lowest or any Tender you may receive.
7. If our Tender is accepted we understand that we are held fully responsible for the due performance of the Contract. We have furnished Earnest Money Deposit of **Rs 6,34,494/-** (Rupees Six lakhs thirty four thousand four hundred and ninety four only) as per Clause 6.2 of section II, which will not bear any interest. If our Tender is not accepted, the Earnest Money shall be returned to

us on our application when intimation is sent to us of rejection or at the expiration of sixty days from the date of expiry of validity of this Tender whichever is earlier. If our Tender is accepted the earnest money shall be adjusted against the Security Deposit at 5% of the Contract value, as is required for the faithful performance and proper fulfillment of the Contract and to execute the Contract Agreement as required by the terms of this Tender.

8. We further agree that in addition to the Performance Security in any one of the forms described in Sub-Clause 6.2.1. of the General Conditions of Contract with good and sufficient sureties furnished by us for the faithful performance and proper fulfillment of the Contract, we shall permit the Port at the time of making any payment to us for work done under the Contract to deduct at the rate of 10% of the total value of the interim certificate from each interim certificate towards Security Deposit till the whole of the Security Deposit at 5% of the Contract value is realized as described in Sub-Clause 6.2.2. of General Condition of Contract.

9. We agree to execute all the works referred to in the Tender documents upon the Terms and Conditions contained or referred to therein and to carry out such deviations as may be ordered.

Yours faithfully,
Signature

In the capacity of

**V.O.Chidambaranar Port Authority
Tuticorin - 628 004.**

" Filling and development of area behind the North Cargo Berth II"

1. INSTRUCTION TO TENDERERS

- 1.1** Tenders for the Work are invited in two-bid system from the experienced reputed and financially sound Contractors for "Filling and development of area behind the North Cargo Berth II".
- 1.2** Tender Document will consist of:

TECHNICAL BID

Section - I

- i)** Responsiveness of tender
- ii)** Form of Tender
- iii)** Instruction to Tenderers
- iv)** Appendix to Tender
- v)** Form of Agreement

Section - II

- v)** Part 'A' - General Conditions
- vi)** Part 'B' - Special Conditions
- vii)** Part 'C' – General Information
- viii)** Part 'D' – Materials
- ix)** Part 'E' - Workmanship

Section - III

- x)** Particular Specifications
- xi)** Specimen Form of Bank Guarantee (Annexure – A)

Section - IV

- xii)** List of Drawings

2. INSTRUCTIONS TO E - TENDERERS

2.1 GENERAL:

On behalf of the Board members of the V.O.Chidambaranar Port Authority, the Chief Engineer, V.O.Chidambaranar Port Authority invites tenders in Bids from reputed contractors for “Filling and development of area behind the North Cargo Berth II”

2.1.1 GENERAL GUIDELINES TO E – TENDER:

Electronic Tenders (Online) are invited in on behalf of **V.O.CHIDAMBARANAR PORT AUTHORITY (VOCPA)** from reputed and experienced contractors for the work of “Filling and development of area behind the North Cargo Berth II”

The tender shall remain valid for acceptance for a period of **120** days from the date fixed for opening of the tender. The period of completion of work is **4 months (excluding 15 days mobilization period)**.

Tender Document having all details is available at the URL of the e-Tender Portal **<https://etenders.gov.in/eprocure/app>**. Tenders in any other manner will be rejected and no correspondence on such matter will be entertained.

VOCP T Tender Form: The tender documents can be downloaded from VOCP T Website www.vocport.gov.in through “E-tendering link: **<https://etenders.gov.in/eprocure/app>**” and while uploading tender,

2.1.2 EARNEST MONEY DEPOSIT: The tenders shall be accompanied by Earnest Money Deposit amounting **Rs 6,34,494/-** (Rupees Six lakhs thirty four thousand four hundred and ninety four only) as per tender clause 6.2 of Section-II.

IMPORTANT INSTRUCTIONS AND GUIDELINES TO TENDERERS FOR E-TENDRING

Tenders Only Through E-Tendering Mode. **<https://etenders.gov.in/eprocure/app>**
VOCP T Tenders through online/e-tendering only.

- 1) VOCP T and the e-tendering website will not entertain and will not accept any reasons of Tenderer due to Net Connection Failure/Current Connection Failure and any issues during the filling of tender online. Tenderer will be responsible for all those facts and failure of Net Connectivity; Current Connectivity and they should be at their own risk VOCP T and e-tendering website will not take any liabilities and claims for failure of Network and problem arise submission of the tender forms online.
- 2) VOCP T E-TENDER WEBSITE: **<https://etenders.gov.in/eprocure/app>** or go to VOCP T website and click on “E-TENDERING” LINK for accessing the site.
- 3) Employer has rights to verify the genuineness of the documents submitted in the e-tendering process.

- 4) The tenders submitted by the firm who has litigation against the Port will not be considered and the amount paid towards the cost of document will not be refunded.
- 5) The Tenders which are incomplete will not be considered. The Port reserves the rights to waive any formality thereof or to reject any or all the tenders without assigning any reason and not bound itself to accept the lowest tender.
- 6) The scanned copy of Work Experience certificate along with BOQ details, financial turn over as per Profit and Loss account for the last three years, Assessment of Income Tax return filed with IT Department duly attested by notary public shall be uploaded and the same will be considered for evaluation.
- 7) The successful tenderer shall submit the original hard copies of submitted tender documents before award of work.

2.3 DOWNLOADING OF TENDER FROM VOCPT ON LINE E-TENDERING WEB SITE:

The complete set of tender documents including forms, conditions of contract, work specifications, etc. Can be downloaded by contractors registered through e-tendering website <https://etenders.gov.in/eprocure/app> from 12.07.2024 to 29.07.2024 (**up to 15:00 Hrs.**). The instructions for submitting e-tender is given in the e-tendering website <https://etenders.gov.in/eprocure/app>.

2.3.1 In addition to the required documents for tender, scanned Copy of Income tax permanent account number card for assessing the income tax has to be uploaded.

2.3.2 The tenderer has to furnish the copy of Income Tax Permanent Account Number card for assessing the income tax attested by Notary Public. All relevant documents required for the tender for the work of "Filling and development of area behind the North Cargo Berth II" have to be uploaded in the online tender process on or before **29.07.2024 upto 15.00 hrs.**

2.3.2 Electronic Tenders are invited by V.O.Chidambaranar Port Authority in two bid system (i.e,) Bid-I (Technical Bid), Bid-II (Price Bid) from firms and contractors fulfilling minimum qualifying criteria as stipulated in the tender document for the work of "Filling and development of area behind the North Cargo Berth II".

2.3.3 The tenders will be submitted through online up to **29.07.2024 till 15.00 hrs** and the same will be opened on **30.07.2024 at 15.30 hrs**. The Employer may at his discretion extend the date of submission and opening of tenders. Tenderer will be responsible for all those facts and failure of Net Connectivity; Current Connectivity and they should be at their own risk VOCPT and e-tendering website will not take any liabilities and claims for failure of Network and problem arise submission of the tender forms online.

2.3.4 The Tenderer is advised to acquaint himself with the study and related with hydrological conditions, climatic conditions, availability of man power, communication facilities, entry restrictions to the Port, being a custom bound secured area, laws and bye-laws of Government of Tamil Nadu or Government of India and any other statutory bodies and collect all information that may be necessary for preparing and submitting the Tender and entering into the contract.

- 2.3.5** The Tenderer shall bear all the costs of visiting the site, collecting the information and for preparing and submitting the Tender.
- 2.3.6** The Tenderer and or his workers and agents will be granted permission to visit the site for the purpose of inspection. The Tenderer will be fully responsible for any activity related with this purpose. The Tenderer will be liable to indemnify the Employer against any loss or damage to the property of the Employer or neighboring property which may be caused due to any act of the Tenderer or his workers and agents.
- 2.3.7** All documents and correspondence in respect of or in connection with the Tender and the work to be executed hereunder shall be in English Language only.
- 2.3.8** All Central and State Governments duties, taxes and levies payable by the Contractor under the contract or for any other cause, shall be included in the rates, prices and amounts submitted by the Tenderer. However, Goods and Service Tax, if any, may be claimed separately.
- 2.3.9** Tenderer shall bear all costs for preparation and submission of his Tender. Employer will not be responsible for or pay for any expenses or losses which might be incurred or suffered by any Tenderer in connection with submission of Tender.
- 2.3.10** The successful tenderer has to furnish the Performance Guarantee within 15 days from the date of award of work or before commencement of commercial operation whichever is earlier. If the successful Tenderer fails, Earnest Money Deposit furnished by the successful Tenderer will be forfeited. No interest shall be payable by the Employer on the EMD mentioned above.
- 2.3.11** The Employer reserves the rights to reject all or any Tender or to accept any Tender in part or to annul the tendering process at any stage without assigning any reason thereof & do not bind themselves to accept the lowest or any other Tender. No reasons will be assigned for the rejection of any Tender.
- 2.3.12** At any time prior to the last date for submission of tenders, the Employer may for any reason what so ever, change or modify the Tender documents by amendments. The amendments so carried out will be uploaded online. The amendment so carried out will form part of the Tender and shall be binding upon the Tenderers. The Employer may at his discretion extend the last date for submission of the tenders to enable the Tenderers to get reasonable time to submit their Tender after taking into consideration such amendments.
- 2.3.13** The completed Tender shall be submitted through on line as per general guideline instruction given.
- 2.3.14** The Tender (Main Bid and Bid -I) will be opened on the **30.07.2024** at 15.30 hours in the presence of such of the Tenderers who may wish to be present. Date of opening of price bid of qualified Tenderers will be intimated later.

2.3.15 Responsiveness of Tender

- (i) Payment of Earnest Money Deposit as per Clause 6.2 of section II.
- (ii) Undertaking by the tenderer that the credentials submitted are true and duly attested by Notary Public.
- (iii) The tenderer has to submit the undertaking as **Form I (C)** viz, Tender acceptance letter with the tender document, failing which the tender will not be considered for evaluation

The tenderer should submit the above documents (i), (ii) & (iii) in the e-tender, failing which their offer will be treated as non-responsive and their bid will be summarily rejected without technical evaluation.

2.4. BID - I shall contain the Technical Bid of document as issued by the Port duly filled in, and along with the following documents and the following general information and Technical Proposals:

1. Letter of Submission (Form of Tender)
2. Qualification Questionnaire

The qualification questionnaire contains the forms as follows:

Form – I :A – Letter of Application

B - General Information

C - Tender acceptance letter

Form – II : Financial Data

Form – III : Experience Record

Form – IV : Equipment proposed for the Project

Form – V : Proposed personnel for execution of work.

Form – VI : Power of Attorney

Form – VII : Proforma of Integrity Pact

3. The qualification of Tenderer is based on financial soundness, technical capability, work experience, past performance, reliability, organizational setup with qualified and experienced personnel, availability of resources and construction equipment.
 - i. Financial conditions
 - ii. Experience
 - iii. Equipment and manpower
4. **Form-IX** : It is a specific requirement for considering the bid that the Tenderers should sign and submit an **“Integrity Pact”** to be executed between the tenderer and V.O.Chidambaranar Port Authority along with the bid in a separate envelope superscribed **“Integrity Pact”** in Bid-I. Bids not accompanied by a duly signed **“Integrity Pact”** shall be liable for rejection
5. If necessary, additional sheets may be added to the forms. Each page of each form should clearly be marked in the right top corner as follows:
Form-I, page-1; Form-I, page-2; Form-I, page-3 etc.

6. Some of the forms will require attachment. Such attachments should be clearly marked as follows:

Attachment-1 to Form-I ; Attachment-2 to Form-I, etc.
7. Financial data and project costs should be given in Indian Rupees only.
8. The Tenderers should attend all meetings, discussions etc., called for whenever required by VOC Port in connection with the tender / works of this project at their own cost.
9. The information furnished by Tenderer must be latest and sufficient to show that the Tenderer is capable in all respects to complete the envisaged work successfully.
10. Incomplete information / information which are found to be of general nature may render the tender non-responsive. The following documents shall be enclosed with Tender.
11. Power of Attorney (in original) in favour of signatory/s to the Tender, duly authenticated by Notary Public.
12. Copy of Income Tax Return filed for the last three years assessment of Income Tax return filed with IT department, Profit & Loss account for last three years, Balance sheet (if a firm or a company) and Permanent Account Number of the Income Tax Assessment and Good and Service Tax Registration number along with copy of Certificate duly attested by Notary Public.
13. Independent Provident Fund Code Registration with Regional Provident Fund Commissioner.
14. A schedule of monthly electric power consumption and peak power requirement if required from Port.
15. A declaration to the effect that the Tenderer has not incorporated any conditions. In case any conditions are specified in the Price Bid, the tender will be rejected summarily without making any further reference to the Tenderer.
16. The CPM / PERT chart indicating the programme of work and material planning chart for all the works indicated in the Tender.
17. The programme showing the order of procedure and methodology in which he proposes to carry out the works.
18. It shall contain clear particulars of his scheme for execution of works inclusive of the plants and temporary works which he intends to use, supply or construct as the case may be. It shall also contain weekly targets for various items of work set out in the schedules to fit in with the completion date specified in the Tender.
19. Details of main plants, crafts and equipment proposed to be used by the Tenderer for the works given in the Schedules with specifications, indicating the plants and equipment now owned by the Tenderer and proposed to acquire (if any) for this work.

20. Details of personnel with their qualifications and experience proposed to be employed by the Tenderer on the work.
21. Information regarding any current litigation in which the Tenderer is involved.
22. Copies of documents defining the constitution or legal status, place of registration and principal place of business of the company or firm or partnership, duly attested by a Notary.
23. The **scanned copy** of Work Experience certificate along with BOQ details, Financial turn over as per Profit and Loss account for the last three years, Assessment of Income Tax return filed with IT Department and all the required documents mentioned above duly attested by notary public shall be uploaded and the same will be considered for evaluation.

2.5 Bid –II

- a. The second bid No.-II shall contain the price quote only (BOQ) and it should not contain any conditions.
- b. The Tenderers are requested to quote rates for the different items of works as per the specifications and conditions mentioned in the documents without putting any conditions. The rates quoted by the Tenderers are for finished items of work.
- c. The Port will not be responsible for or pay for expenses or losses which may be incurred by any Tenderer in the preparation of this Tender.
- d. It must be clearly understood that the rates quoted in the Price Bid are to include everything required to be done as per Notice Inviting Tender, Instruction for Tendering, Tender Conditions of Contract, Specifications, Bill of Quantities, Schedules and Drawings referred to therein and also for all such work as are necessary for the proper completion of the Contract, although specific mention thereof may have been omitted. The rates are for finished items of works and should be inclusive of cost of all materials, labour charges / Tools and Plant and incidentals necessary for carrying out and completing the works and also inclusive of clearance of site, temporary structures etc. No increase in rates will be permissible on any account after the price bid is opened. It shall be clearly understood that the rates quoted in the Schedule of Quantities include provision for maintaining the work executed under this Contract free from defects for the maintenance period of 12 months from the date of issue of Certificate of Completion by the Engineer.

2.6 Opening of Tender:

On the date and time specified in the Tender notice, following procedure will be adopted for opening of the Tender

2.6.1 Main Bid and Bid No.-I

Main bid No.-I will be opened by the Chief Engineer or his representative, on **30.07.2024 at 15.30 hours** for which Tenderers / authorized representative of the tenderer will be allowed.

2.6.2 Bid No.-II (price bid)

The price bid shall be opened on a date to be fixed later and intimated to all the responsive and eligible Tenderers to enable them to be present at the opening, if they so wish.

2.6.3 General:

- The qualification of Tenderer is based on financial soundness, technical capability, work experience, past performance, reliability, organizational setup with qualified and experienced personnel, availability of resources and construction equipment.
- Financial conditions
- Experience
- Equipment and manpower
- If necessary, additional sheets may be added to the forms. Each page of each form should be clearly marked in the right top corner as follows:
 - Form-I, page-1; Form-I, page-2; Form-I, page-3 etc.
- Some of the form will require attachment. Such attachments should be clearly marked as follows:
 - Attachment-1 to Form-I; Attachment-2 to Form-I, etc.
- Financial data and project costs should be given in Indian Rupees only.
- The Tenderers should attend all meetings, discussions etc., called for whenever required by VOC Port in connection with the tender / works of this project at their own cost.
- The information furnished by Tenderer must be latest and sufficient to show that the Tenderer is capable in all respects to complete the envisaged work successfully.
- Incomplete information / information which are found to be of general nature may render the tender non-responsive. The above documents shall be enclosed with Tender.
- The Tenderer should quote only for the Departmental designs.
- Each Tenderer shall submit with his Tender a programme for the execution of the work. Work shall be carried out round the clock on all days except Sundays and holidays. On Sundays and holidays, work can be executed with prior written requisition of the Contractor and after getting permission.
- The Tenderer shall submit with his Tender such information regarding the plant and temporary works, as shall be necessary for a full understanding of the methodology proposed to be used to complete the work.
- The Tender shall be signed by person or persons so authorized by the Tenderer with signature duly witnessed and Company seal affixed. The Power of Attorney (in original) authorizing the signatory(ies) of the Tender shall be enclosed.
- The Price bid shall be un-opened if the Tenderer's submission in Bid-I is found non-responsive without assigning any specific reason whatsoever.
- The Tenderer shall note that no alternative or qualifying Tender conditions or alternative proposal for whole or part of the work will be acceptable. Tenders containing any qualifying conditions or even Tenderer's clarifications in any form will be treated as non-responsive and will run the risk of rejection and subsequently Part- II: Price Bid of such Tenderers will not be opened.

- Any time prior to the opening of the tenders, the Engineer may modify the Tender document by issuance of addenda, which shall be in writing and be uploaded online before the date fixed for submission of Tender.
- Permission to visit the Site will be given during the Tender period on prior application to the Chief Engineer, VOC Port Authority. Clarification if any required, in connection with the work to be executed may be obtained from the Chief Engineer.
- Tenderer shall carefully examine the Conditions of Contract, Drawings and Specifications, visit the site of works and fully satisfy and fully acquaint himself in all respects and in particular about the local conditions, such as the nature and location of the work and accessibility to site, the rainfall, climatic conditions, winds and wind directions, waves, cyclones, tides, etc., around the work site, the number of working days available during the year, the configuration of the ground, the spring level, the sub surface soils, the character of equipment and facilities needed preliminary to and during the execution of the work, availability and wages of labour, materials, transport facilities etc., which may influence the work or cost thereof. He shall also inspect the sites wherein the materials can be procured and satisfy himself about the quality and availability of the materials to the specification. Any information available with the Chief Engineer, V.O.C. Port Authority will be made available to the Tenderer on request. But the Chief Engineer will not accept any responsibility for the accuracy thereof, or for the inferences that may be drawn there from. The cost of visiting the site shall be at Tenderer's own expense.
- The Employer will not be responsible or pay for any expenses which may be incurred by any Tenderer in connection with the visits to and examination of the Site or for the preparation of his Tender for submission.
- Any further information may be obtained on application in writing to:

The Chief Engineer,
V.O.C. Port Authority,
Tuticorin - 628 004, India.
Telephone : 91-0461-2352252
Email id : ce@vocport.gov.in

- Any Tender not conforming with the foregoing instructions will not be considered. The Employer does not bind himself to accept the lowest or any Tender and has the right to reject any Tender without assigning any reason thereof and without any liability. No representation whatsoever will be entertained on this account.
- No responsibility will be attached to any officer of the Port for premature opening of or the failure to open a Tender which is not properly addressed and identified.
- All the conditions applicable to the Central Public Works Department including safety code, rules for the protection of health and sanitary arrangements for workers employed and labour regulations shall apply to this Contract also.
- No foreign exchange is available for this work. All payments will be made in Indian Rupees only.
- The rates quoted by the Tenderer should be kept valid for a period of 120 (One hundred and twenty) days from the date fixed for receiving the same or for such other periods as may be mutually agreed upon and it shall remain binding upon

the Tenderer so that the Tender may be accepted at any time before the expiry of that period.

- Only such vehicles of the Contractor having valid permit from competent authority of Government will be permitted to enter the Harbour premises and for deployment in the work.
- Further the Tenderer undertake that if his Tender is accepted, to enter into and execute when called upon to do so, an Agreement with such modifications as agreed upon, and unless and until the formal Agreement is prepared and executed, this Tender together with the written acceptance of the Employer shall form a binding Contract between the Authority and the Contractor.
- The Contractor shall execute an Agreement in the form annexed and the cost of stamping the Agreement must be borne by the Contractor. The bill for the work shall be paid to the Contractor only after the execution of the Agreement.
- The Technical Bids of the Tenderers will be evaluated based on the whole work stipulated in Volume-II.
- The entire work may be entrusted to a single Tenderer.—APPENDIX TO TENDER

- IMPORTANT CLAUSES

Description	Clause No.	Data
Earnest Money deposit	6.2	The tenderer shall furnish Rs 6,34,494/- (Rupees Six lakhs thirty four thousand four hundred and ninety four only) as EMD
Performance Security	6.2.1	5% of accepted tender value
Security Deposit	6.2.2	10% deducted in each running bill subject to maximum of 5% of contract price.
Minimum amount of third party Insurance	6.15.2	Rs.10 Lakh for any one incident with provision for reinstatement to the above value for every incident
Traffic Regulations	6.21.1 to 6.21.4	-----
Supply of Material	6.24 & 6.25	All the materials required for execution of work are to be arranged by the Tenderer
Labour	7	-----
Cost of samples	8.1.2.	To be supplied by the Tenderer at his cost
Cost of Tests	8.1.3.	To be borne by the Tenderer
Commencement of work	9.1.	Within 15 days from the written order to commence the work.
Time of completion	9.3.	Four months from the 15 th day of written order to commence the work
Liquidated Damages	9.7.1.	1% of contract value per week or part thereof subject to maximum of 10% of tendered value.
Period of Maintenance	10.1.1.	The period of maintenance is 12 months from the date of completion of work certified by the Engineer.
Variation Limits	11.1.1.	(+) or (-) 15% of contract price
Time within which payment to be made after	15.1.1.	75% of the net amount of Interim Certificate within 10 days and balance within 30 days.

certification of bill by Engineer-in-charge		
Release of Security Deposit	15.1.2.1.	Half of the Security Deposit will be refunded to the Contractor, if he so desires, on 100% physical completion of work / handing over of the work to the satisfaction of the Engineer. The balance being held in deposit as security for satisfactorily maintaining the works free from defects for a period of 12 months after the actual date of completion of works
Dispute between the Contractor and Employer	20.1. 20.2. 21.0.	Engineer's Decision Amicable settlement Arbitration
Entry of Labour and vehicles into Green Gate	28.0.	Passes for entry for labour and vehicle on payment by the Tenderer.
Validity of tender		120 (One hundred and twenty days) from the last date of receipt of tender.
Jurisdiction	21.1.1.	Tuticorin

FORM OF AGREEMENT

THIS AGREEMENT made this day of. Two thousand twenty four (2024) between the **Board members of the Port of Tuticorin**, a body corporate under Major Port Authorities Act, 2024 (hereinafter called the 'Board' which expression shall, unless excluded by, or repugnant to the context, be deemed to include their successors in office) on the one part AND-----
----- (hereinafter called the "**Contractor**" which expression shall, unless excluded by, or repugnant to the context be deemed to include his heirs, executors, administrators, Representatives and assigns or successors in office) on the other Part.

WHEREAS the Board members of the Port of Tuticorin is desirous of constructing the work, "Filling and development of area behind the North Cargo Berth II"

WHEREAS the Contractor has offered to execute complete and maintain such works and whereas the Board has accepted the Tender of the Contractor and WHEREAS Contractor has furnished a sum of **Rs 6,34,494/-** (Rupees Six lakhs thirty four thousand four hundred and ninety four only) as Earnest Money Deposit at the time of tendering, which will be adjusted against Security Deposit as per Clause 6.2.2 will be collected by deductions from the running bills, at the rates mentioned therein and Performance Security as per Clause 6.2.1 for the due fulfillment of all the conditions of this Contract.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the conditions of Contract hereinafter referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement viz.
 - a) Form of Tender, Instructions to Tenderers, Appendix to Tender, Form of Agreement, General Conditions, General Information & Particular Specifications (Volume-I).
 - b) The Drawings (Volume-I)
 - c) The Bill of Quantities (Volume-II)
 - d) Amendment and Tender letters
 - e) Correspondence with contract firm before the Letter of Acceptance.
 - f) The Letter of Acceptance - Work Order
3. The Contractor hereby covenants with the Board members of VOC Port to construct, complete and maintain the "Works" in conformity, in all respects with the provisions of the Contract.
4. The Board members of VOC Port hereby covenants to pay the Contractor in consideration of such construction, completion and maintenance of the works the "Contract Price" at the time and in the manner prescribed by the Contract.

IN WITNESS WHEREOF the parties here unto have set their hands and seals the day and year first written.

The common seal of the members of Tuticorin Port was hereunto affixed and

The Chairman thereof
has set his hand
in the presence of

CHAIRMAN OF THE
BOARD OF
VOC PORT

Signed and sealed by
the Contractor in the
presence of

* * * *

SECTION – II

PART – A : GENERAL CONDITIONS DEFINITIONS AND INTERPRETATION

1.1. Definitions

In the Contract (as hereinafter defined) the following words and expressions shall have the meanings hereby assigned to them, except where the context otherwise requires:

- a) **"Employer"** (hereinafter called "Board") means the Board of V.O.Chidambaranar Port Authority or their successors and assigns, acting through its Chairman or any other Officer so nominated by the Board.
- b) **"Contractor"** means the person or persons, firm or company whose Tender has been accepted by the Employer and includes the Contractor's personal Representatives, successors and permitted assigns.
- c) **"Engineer"** means the Chief Engineer/ V.O.Chidambaranar Port Authority or any other Officer nominated so by the Chairman.
- d) **"Engineer's Representative"** means any Representative of the Engineer to perform such duties as mentioned in Clauses 2.1 and 2.2 hereof whose authority shall be notified in writing to the Contractor by the Engineer.
- e) **"Works"** means the works to be executed in accordance with the Contract.
- f) **"Contract"** means the Notice Inviting the Tender, the Tender and acceptance thereof and the formal Agreement, if any, executed between the Employer and the Contractor together with the documents referred to therein including these Conditions with appendices and any Special Conditions, the Specifications, Designs, Drawings, Priced Schedule / Bill of Quantities. All these documents taken together shall be deemed to form one Contract and shall be complementary to one another.
- g) **"Contract Price"** means the sum named in Tender subject to such additions thereto, or deductions there from as may be made under provisions hereinafter contained.
- h) **"Constructional Plant"** means all appliances or things of whatsoever nature required in or about the execution, completion or maintenance of the works or Temporary Works (and hereinafter defined) but does not include materials or other things intended to form or forming part of the permanent work.

- i) **"Permanent Work"** means the permanent works to be executed and maintained in accordance with the Contract.
- j) **"Temporary Work"** means all temporary works of every kind required in or about the execution, completion or maintenance of the works for which no payment will be made by the Port.
- k) **"Drawings"** means the drawings referred to in the specifications and any modification of such drawings approved in writing by the Engineer and such other drawings as may from time to time be furnished or approved in writing by the Engineer.
- l) **"Site"** means the lands and other places on under in or through which the works are to be executed or carried out and any other lands or places provided by the Employer for the purpose of the Contract together with such other places as may be specifically designated in the Contract as forming part of the site.
- m) **"Approved"** means approval in writing including subsequent written confirmation of previous verbal approval and "Approval" means approval in writing including as aforesaid.
- n) **"Market Rate"** means the rate as decided by the Engineer on the basis of the cost of materials and labour to the Contractor at the site where the Works are to be executed plus the percentage mentioned in Schedule to cover all overheads and profit.
- o) **"Prime Cost and Prime Cost Sum"** means the amount actually paid by the Contractor for any article, commodity or special work and shall include all proper charges for packing, carriage and delivery to site, after deduction of all trade discounts, rebates and allowances and the discount obtainable for cash in so far as such discount for cash exceeds 2.5%.
- p) **"Specifications"** means the specification referred to in the Tender and any modification thereof or addition thereto as may from time to time be furnished or approval in writing by the Engineer.
- q) **"Provisional Sum" or "Provisional Lump Sum"** means a lump sum included by the Employer in the Tender documents and shall represent the estimated value of work for which details are not available at the time of issue of Tender.
- r) **"Schedule (s)"** referred to in these conditions shall means the relevant schedule(s) annexed to the tender papers issued by the Employer.
- s) **"A Week"** means, seven days without regard to the number of hours worked in any day in the week.

- t) **"A Day"** means a day of 24 hours from midnight to the next midnight irrespective of the number of hours worked in that day.
- u) **"A Month"** means month according to Gregorian calendar.
- v) **"A Year"** means Contract year commencing from 15th day after the date of the written order to commence the work.

1.2. Singular and Plural

Words importing the singular only also include the plural and vice versa where the context requires.

1.3. Marginal Headings or Notes

The marginal headings or notes in these general Conditions shall not be deemed to be part thereof or be taken into consideration in the interpretation or laying / construction thereof or of the Contract.

2.0. ENGINEER AND ENGINEER'S Representative

2.1. Duties and Powers of Engineers Representative.

The Engineer shall carry out such duties in issuing decision, certificates and orders as are specified in the contract. The Engineer's Representative shall be responsible to the Engineer.

2.2. The duties of the Engineer's Representatives 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 or any of his duties or obligations under the contract nor except as expressly provided hereunder or elsewhere in the contract to order any work involving delay or any extra payment by the Employer nor to make any variation of or in the works.

2.3. Any written instructions or approval given by the Engineer'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 provided, however, that

- a) Failure of the Engineer's Representative to disapprove any work or materials shall not prejudice the power of the Engineer thereafter to disapprove such work or materials and to order the pulling down, removal or breaking up thereof.
- b) If the Contractor shall be dissatisfied by reason of any decision of the Engineer's Representative, he shall be entitled to refer the matter to the Engineer who shall thereupon confirm, reverse or vary such decision.

3.0. ASSIGNMENT AND SUB CONTRACTING

3.1. Assignment

The Contractor shall not, assign the contract or any part thereof or any benefit or interest therein or there under without the prior written consent of the Engineer.

3.2. Sub-Contracting

The Contractor shall not sub-contract the whole of the works. Except otherwise provided by the Contract, the Contractor shall not sub-contract any part of the Works without the prior written consent of the Engineer and such consent if given shall not relieve the Contractor from any liability or obligation under the Contract and he shall be responsible for the facts, defaults and neglects of any sub-Contractor, his agents, servants or workmen.

4.0. EXTENT OF CONTRACT

The Contract comprises, the construction, completion and maintenance of works and except in so far as the Contract otherwise provides, the provision of all labour, materials, constructional plant, temporary works and everything whether of a temporary or permanent nature required in and for such construction, completion including removal of temporary works, clearance of site and maintenance so far as the necessity for providing the same is specified in or reasonable to be inferred from the Contract. The period for completion of the work stipulated in the Tender is the essence of the Contract.

5.0. CONTRACT DOCUMENTS

5.1.1. Language

The language in which the Contract documents and correspondences shall be drawn up is English.

5.1.2. Documents mutually explanatory

Except if and to the extent otherwise provided by the Contract, the provisions of the General conditions and conditions of particular application shall prevail over these of any other document forming part of the Contract. Subject to the foregoing the several documents forming the Contract are to be taken as mutually explanatory of one another but in case of ambiguities or discrepancies the same shall be explained and adjusted by the Engineer who shall thereupon issue to the Contractor instructions directing in what manner the work is to be carried out.

5.1.2.1. If there are varying or conflicting provisions made in any one document forming part of the Contract, the Engineer shall be the deciding authority with regard to the intention of the documents.

5.1.2.2. Any error in description, quantity or rate in Schedule of works / items or bill of quantities or any omission there from shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the works comprised therein according to Drawings and specifications or from any of his obligations under the Contract. No extra claim of whatsoever nature will be entertained for any omission in the description of work in the schedule.

5.2.1. Custody of Drawings

The Drawings shall remain in the sole custody of the Engineer, but two copies thereof shall be furnished to the Contractor free of cost. The Contractor shall provide and make at his own expense if any further copies are required by him. At the completion of the contract, the Contractor shall return to the Engineer all drawings provided under the Contract, if so desired by the Engineer.

The Contractor shall give adequate notice in writing to the Engineer or the Engineer's Representative of any further drawing or specification that may be required for the execution of the works or otherwise under the Contract. The same shall be supplied to the contractor by the engineer, subject to availability within a reasonable time.

5.2.2. One copy of Drawings to be kept at site

One copy of the drawings furnished to the Contractor shall be kept by the Contractor at the Site and the same shall at all reasonable times be available for inspection and use by the Engineer and the Engineer's Representative and by any other person authorized by the Engineer in writing.

5.3. Further Drawings and Instructions

The Engineer shall have full powers and authority to supply to the Contractor by the Employer, 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 and the Contractor shall carryout as per the same and be bound by the same.

6.0. GENERAL CONDITIONS

6.1. Contract Agreement

The Contractor shall when called so to do enter into and execute a formal Agreement with the Employer incorporating the conditions of Contract in the form prescribed by the Engineer with such modifications as may be necessary at the cost of the Contractor. All costs, charges and expenses including stamp duty incurred in connection with the Contract as well as preparations of Agreement shall be borne by the Contractor. Until such Contract Agreement is executed, the acceptance of the Tender in terms of the Contract as defined in Sub-Clause 1.1(f) shall be binding upon the parties and shall be the Contract. The Contractor shall be supplied with a copy of the Agreement form free of cost.

6.2. Earnest Money Deposit

The tenders shall be accompanied by Earnest Money Deposit amounting to **Rs 6,34,494/-** (Rupees Six lakhs thirty four thousand four hundred and ninety four only) through CPP Portal. The tender will not be considered without EMD. EMD in any other form will not be accepted. EMD will not bear any interest. The EMD for unsuccessful Tenderers shall be returned on application from the Tenderers after the issue of work order to the successful Tenderer or on expiry of 60 days from the expiry of validity of the tender

whichever is earlier. EMD furnished shall be adjusted against Security Deposit in case of successful Tenderer.

6.2.1. Performance Security

The Contractor shall deposit an amount equal to 5% of the accepted tender value as Performance Security in the form of RTGS / NEFT payment or irrevocable Bank Guarantee obtained from the Nationalized Bank / Scheduled Bank / Scheduled Commercial Bank, both Nationalized and Non-Nationalized Bank in the form as per specimen in the schedule without any modifications. A letter from the bank shall also be sent along with the Bank Guarantee, approved by the Employer within 15 days on placement of work order or before the commencement of work whichever is earlier. However, the Chief Engineer may relax the time limit of 15 days and extend it by further period of 10 days in extraordinary circumstances for the reasons recorded by him. If the Performance Security is not deposited in time as prescribed above, the work order shall stand cancelled automatically and the Earnest Money Deposit will be forfeited. The Performance security will remain in force throughout the period of the contract, including the maintenance period, and will be refunded thereafter. The Performance security will remain in force throughout the period of the contract, including the maintenance period, and will be refunded thereafter. Bank Guarantee, obtained from the Nationalized/Scheduled bank in the format prescribed by the Port, Shall be in compliance with for a digital confirmation for the Bank Guarantee

6.2.2. Security Deposit

A sum @ 10% of the gross amount of the bill shall be deducted from each Running Bill of the Contractor till the sum will amount to Security Deposit of 5% of the tendered value of the work. Half of the Security Deposit will be refunded to the Contractor, if he so desires, on 100% physical completion of work / handing over of the work to the satisfaction of the Engineer. The balance being held in deposit as security for satisfactorily maintaining the works free from defects for a period of 12 months after the actual date of completion of works. The balance being held in deposit as security for satisfactorily maintaining the works free from defects for a period of 12 months after the actual date of completion of works. If during this period of 12 months, any defects are noticed which in the opinion of the Engineer are due to bad materials used and / or defective workmanship, the Contractor shall be required to carry out at the Contractor's cost, such repairs as the Engineer considers necessary or in the event of Contractor failing to do this within a notified time, the Engineer may arrange for such repairs to be carried out through some other agency and recover the cost of such rectification of the defects from the amount retained without prejudice to the recovery of any amount that may have been spent in excess of the deposit.

For purpose of this clause, the period of 12 months shall count from the actual date of completion of the works by the Contractor to the Engineer. The amounts as stated above will not bear any interest.

6.2.3 Payment of Income Tax

Income Tax, Surcharge on Income Tax and Educational Cess on (IT+ EC) will be deducted at the rates as applicable from time to time. It is open to the Contractor to make an application to the Income Tax officer concerned and obtain from him a certificate authorizing the Department to deduct the Income Tax at such lower rates or deduct no Tax as may be appropriate to his case. Such certificate will be valid for a period specified therein unless it is cancelled by the Income Tax officer earlier.

6.2.4 Payment of Value Added Tax [VAT] / Sales Tax

Refer Cl.6.2.5 below

6.2.5 Payment of Goods and Service Tax (GST)

a) As per GST Act, invoice in the prescribed format has to be issued by a registered dealer on or before the time when goods are removed for supply (where supply involves movement) and on or before the time when delivery is received by the recipient (where movement of goods is not involved).

b) The law has laid down conditions to avail GST input tax credit on supply of goods or services. All of the following conditions need to be satisfied to avail GST Input credit:

- i. The dealer should be in possession of Tax Invoice / Debit or Credit Note / Supplementary Invoice issued by a supplier registered under GST Act.
- ii. The said goods / services have been received.
- iii. Returns (GSTR-3) have been filed.
- iv. The tax charged has been paid to the Government by the supplier.

c) As a service provider, contractors / professionals etc., shall issue the invoice within 60 days to the Port from the date of providing service. If the invoice is not issued within the time limit, then penalty and / or interest shall be applicable. If any of the contractors / professionals do not issue invoices as aforesaid and do not file tax return by due date, Port cannot avail the ITC. Further, Port has to pay the said ITC availed with Interest and penalty as applicable under the GST rule. Therefore, in the event of default of the contractor on the above grounds, the said amount paid / payable to the Government by Port shall be recovered from any money due to the contractor or adjusted against the performance security / security deposit.

d) Similarly the claim of GST at a later stage i.e. in the next Financial Year shall not be admitted by Port as time limit has been fixed for availing tax credit.

e) For any correction in Invoice claimed, it shall be through Debit note / Credit note / supplementary invoice only, as all the invoices are to be uploaded in the GSTN portal.

6.2.6 Permanent Account Number (PAN)

The Tenderer shall furnish his Permanent Account Number (PAN) and his GST Registration number, if any, along with the tender. Xerox copies shall be furnished.

6.3. Inspection of Site

The Tender shall be deemed to have been based on such data regarding hydrological, climate and physical conditions, nature of ground and underlying strata as shall have been supplied by the Employer in the documents furnished to the Contractor by the Employer for the purpose of tendering. The Contractor shall nevertheless inspect and examine the site and its surroundings and shall satisfy himself before submitting his Tender as to the form and nature of the site, the quantities and nature of the 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.

6.4. Sufficiency of Tender

The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of the Tender for the works and of the rates and prices stated in the period, bill of quantities and the schedule of rates and prices (if any) which rates & prices shall except in the Contract cover all his obligations under Contract and shall cover matters and things necessary for the proper completion and maintenance of the works.

6.5. Work to be done to the Satisfaction of the Engineer

The Contractor shall execute, complete and maintain the works strict in accordance with the Contract to the satisfaction of the Engineer and shall comply with and adhere strictly to the Engineer's instructions and directions on any matter (whether mentioned in the Contract or not) touching or concerning the works. The Contractor shall take instructions and directions only from the Engineer or (subject to the limitations referred to in Clause 2 hereof) from the Engineer's Representative.

6.6. Programme to be Furnished

6.6.1. The execution of the works shall be so planned as to cause as little impediment as practicable to the working of the Port in general.

6.6.2. The Contractor shall submit to the Engineer within fifteen days or further period as may be permitted by the Engineer after receipt of the acceptance letter for the Tender, a detailed PERT / CPM network based programme for completion of the work in the form of a detailed network and bar charts both in triplicate. The network shall include the various activities involved in the execution of the work and their inter-dependencies and the time required for completion of the different activities. The progress of the work shall be

periodically reviewed and the network will be updated by the Contractor every three months and three copies of this shall be supplied expeditiously to the Engineer. The Contractor shall submit to the Engineer during the first week of every calendar month the up-to-date progress and the progress made during the previous month on important sections or portions of the work in relation to the network programme.

6.6.3. Progress Photographs

The Contractor shall arrange to take Progress Photographs on various activities every month till the completion of the project at his cost. The positions from which the photographs are to be taken shall be directed by the Engineer. The Contractor shall submit on monthly basis minimum 2 sets colour photographs (size 15 cm x 10 cm) each set containing 36 photographs in albums. Beside this, two sets of each A4 size enlargement of selected photographs from the entire work shall also be submitted to the Engineer. Prints may not be reproduced without the approval of the Engineer.

6.6.4. Completion Photographs, Video Film, Slides, Etc.

On completion of the works, the Contractor shall arrange to take completion photographs and CDs by a competent and professional photographer to be approved by the Engineer and shall submit a minimum of 20 Nos. of different shots of coloured photographs of 25 cm x 20 cm. size enlargements in album and one copy of negative to the Engineer for record at no extra cost to the Employer. The Contractor shall also arrange to produce the above selected 24 photographs in slides as directed by the Engineer. A video programme of about 10 minutes duration shall be arranged to be taken covering the main features of the project from time to time and two copies in the form of CD/DVD shall be submitted to the Engineer at the end of Contract.

6.6.5. The Contractor shall submit to the Engineer within 15 days or further period as may be permitted by the Engineer after the receipt of the acceptance letter for the Tender, a statement indicating his estimates, based on the detailed and approved network, of the gross and the net amounts that would become payable to him at the end of each month during the progress of the works, to enable the Employer to arrange for the required funds. In case a revision of such an estimate is considered necessary by the Contractor he will be allowed to furnish a revised estimate based again on approved network, provided it is received sufficiently in advance of the actual date of payment of a monthly certificate.

6.6.6. The Contractor shall submit to the Engineer for his approval full details and drawings for the design of any temporary works which he proposes to construct sufficiently in advance as directed by the Engineer depending on the nature of the work on the erection of any such Temporary Works commences on the site.

6.6.7. The submission to and approval by the Engineer or Engineer's Representative of such programme or the furnishing of such particulars shall

not relieve the Contractor of any of the duties or responsibilities under the Contract in connection with the Works or Temporary Works.

6.7. Contractor's Superintendence

The Contractor shall give or provide all necessary superintendence during the execution of the Works and as long thereafter as the Engineer may consider necessary for the proper fulfilling of the Contractor's obligations under the Contract. The Contractor, or his competent and authorized agent or Representative approved of in writing by the Engineer (which approval may at any time be withdrawn) is to be constantly on the works and shall give his whole time to the superintendence of the same. If such approval shall be withdrawn by the Engineer the Contractor shall as soon as is practicable after receiving written notice of such withdrawal remove the agent from the Site and shall not thereafter employ him again on the Site in any capacity and shall replace him by another agent approved by the Engineer. Such authorized agent or Representative shall receive on behalf of the Contractor directions and instruction from the Engineer or (subject to the limitations of Clause 2 hereof) the Engineer's Representative.

6.8.1. Contractor's Employees

The Contractor shall provide and employ on the site in connection with the execution and maintenance of the works.

- a) Only such technical assistance as are skilled and experienced in their respective callings and such sub-agents, foreman and leading hands as are competent to give proper supervision to the work they are required to supervise and
- b) Such skilled, semi-skilled and un-skilled labour as is necessary for the proper and timely execution and maintenance of the works.

6.8.2. Removal of Workmen

The Engineer shall be at liberty to object to and require to Contractor to remove forthwith from the works any person employed by the Contractor in or about the execution or maintenance of the works who in the option of the Engineer misconducts himself or is incompetent or negligent in the proper performance of his duties or whose employment is otherwise considered by the Engineer to be undesirable and such person shall not be again employed upon the works without the written permission of the Engineer any person so removed from the work shall be replaced as soon as possible by a competent substitute approved by the Engineer.

6.8.3. Regarding Employment of Government Retired Persons

The Employer shall be at liberty to terminate the Contract if the successful Tenderer himself or any of his partners / employees or any of his Directors who having held Class-I post in the Port Authority prior to his retirement has

failed to obtain the Port Authority Chairman's specific permission to undertake any outside employment before the expiry of two years from the date of his retirement, in accordance with the provisions of the Regulation 4 (a) under Tuticorin Port Authority Class-I Employees (Acceptance of Employment after Retirement) Regulations, 1979.

6.8.4. Employment of Technical Staff

The Contractor shall employ the following minimum technical staff during the execution of this work. The technical personnel should have sufficient experience in such nature of works.

- a) Three Graduate Engineers (OR) Four Diploma Engineers with 3 years' experience in Civil Engineering works. They shall be suitably supported by adequate staff at all work spot.
- b) The technical staff should be available at construction site at all times during the course of execution of work. They will take instructions from the Engineer / Engineer's Representative as and when required by them.
- c) In case, the Contractor fails to employ the technical staff as aforesaid, he shall be liable to pay a sum of Rs. 20,000/- (Rupees Twenty thousand only) per person per month of default or part thereof till the completion of works in all respect.

6.9. Setting Out

The Contractor shall be responsible for the true and proper setting out of the works in relation to original points, lines and levels of reference given by the Engineer in writing and for the correctness (subject as above mentioned) of the position, levels, dimensions and alignment of all parts of the Works and for the provision of the necessary instruments, appliances and labour in connection therewith.

If, at any time during the progress of the Works, any error shall appear in the position, levels, dimensions or alignment of any part of the Works the Contractor on being required so to do by the Engineer or Engineer's Representative shall at his own expense, rectify such error to the satisfaction of the Engineer or Engineer's Representative. The checking of any setting out or of any line or level by the Engineer or Engineer's Representative shall not in any way relieve the Contractor of his responsibility for the correctness thereof and the Contractor shall carefully protect and preserve all bench marks sight-rails, pegs and other things used in setting out the works.

6.10.1. Watching and Lighting

The Contractor at his own cost shall make such provisions for the lighting the works, material and plant and shall provide all such works and lights as may be required by the Engineer or the Employer or any other authority having jurisdiction in connection with the Site together with all labour, stores and

services required for their efficient working and use at any time of day and night. He shall also provide at his own cost every description of watching and maintenance required in connection with the foregoing and all other services and for protecting and securing all places dangerous whether to the Contractor's workmen or to other persons until the work shall have been handed over to the Employer unless the Engineer shall decide that such services are no longer required.

6.10.2. All lights provided by the Contractor shall be placed or screened so as not to interfere with any signal lights on the Employer's railways or with any traffic lights of any local or other authority.

6.11.1. Care of Works

From the commencement to the completion of works the Contractor shall take full responsibility for the care thereof and of all Temporary works and in case any damage, loss or injury shall happen to the works or to any part thereof or to any Temporary works from any cause whatsoever (save and except the Excepted Risks as defined in clauses 6.12.2.) shall at his own cost repair and make good the same so that at completion, the works shall be in good order and condition and in conformity in every respect with the requirements of the Contract and the Engineer's instructions. In the event of any such damage, loss, injury happening from any of the Expected Risks the Contractor shall if and to the extent required by the Engineer and subject always to the provisions of Clause 17 hereof repair and make good the same as aforesaid at the cost of the Employer. The Contractor shall also be liable for any damage to the works occasioned by him in the course of any operations carried out by him for the purpose of complying with his obligations under Sub-Clauses 10.1.1 to 10.1.4, hereof.

6.11.2. Excepted Risks

The "Excepted Risks" are 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 employee's) riot, commotion or disorder or use or occupation by the Employer of any portion of the works in respect of which a certificate of completion has been issued or a cause solely due to the Engineer's design of the Works or any such operation of the forces of nature as reasonable foresight and ability on the part of the Contractor could not foresee or responsibility provide against or any such eventuality which are beyond the control of the contractor and the Employer(all of which are herein collectively referred to as "The Excepted Risks").

6.12. Insurance of Works Etc.

Without limiting his obligations and responsibilities under clauses 6.11.1. and 6.11.2. hereof the Contractor shall insure at his cost in the joint names of the Employer and the Contractor against all loss or damage from whatever cause arising (other than the Excepted Risks) for which he is responsible under the terms of the Contract and in such manner that the Employer and Contractor

are covered during the period of construction of the works and are also covered during the period of maintenance for loss or damage arising from a cause occurring prior to the commencement of the period of maintenance and for any loss or damage occasioned by the Contractor in the course of any operation carried out by him for the purpose of complying with his obligations under Clauses 10.1.1. to 10.1.4 hereof:-

- a) The works and the Temporary works to the full value of such works executed from time to time.
- b) The materials, constructional plant and other things brought on to the site by the Contractor to the full value of such materials, constructional plant and other things.
- c) As in case of sinking of constructional plant and equipment for the cost of salvage of the same as assessed by the Port.

6.13. The Insurance applies only to contracts the estimated value of which is Rs. 25.00 lakhs (Rupees twenty-five lakhs) or above. Such insurance shall be effected with an insurer and in terms approved by the Employer and the Contractor shall whenever required produce to the Engineer or the Engineer's Representative the policy or policies of insurance and the receipts for payment of the current premiums without limiting his obligations and responsibilities as aforesaid nothing in the Clause contained shall render the Contractor liable to insure against the necessity for the repair or reconstruction of any work constructed with materials or workmanship not in accordance with the requirements of the Contract.

6.14. Damage to Persons & Property

The Contractor shall (except if and so far as the specification provided otherwise) indemnify and keep indemnified the Employer against all losses and claims for injuries or damages to any person, or any property whatsoever (other than surface or other damage to land being on the site suffered by tenants or occupiers) which may arise out of 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 further that for the purposes of this Sub-Clause the expression "the Site" shall be deemed to be limited to the area defined in the specification or shown on the drawing in which land will be disturbed or damaged as an inevitable consequence of carrying out of the works.

6.15.1. Third Party Insurance

Before commencing the execution of the works the Contractor (but without limiting his obligations and responsibilities under Sub-Clause 6.14 hereof) shall insure at his cost against any damage, loss or injury which may occur to any property (including that of the Employer) or to any person (including any employee of the Employer) by or arising out of the execution of the works or Temporary works or in the carrying out of the Contract.

6.15.2. Minimum Amount of Third Party Insurance

Such insurance shall be effected with an insurer and in terms approved by the Employer and for atleast the amount stated in the Appendix to Tender and the Contractor shall whenever required produce to the Engineer or the Engineer's Representative the Policy or Policies of insurance and the receipts for payment of the current premiums. As per Appendix, the amount is Rs.10 lakh for any one incident with provision for reinstatement to the above value for every incident.

6.16.1. Accident or Injury to Workmen

The Employer shall not be liable for or in respect for any damage or compensation payable at Law in respect of or in consequence of any accident or injury to any workman or other person 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 and expenses whatsoever in respect thereof or in relation thereto.

6.16.2. Insurance against Accident etc., to Workmen

The Contractor shall insurance against such liability with an insurer approved by the Employer and shall continue such insurance during the whole of the time that any persons employed by him on the Works and shall when required produce to the Engineer or the Engineer's Representative such policy of insurance and the receipt for payment of the current premium. Provided always that in respect of any persons employed by any sub-Contractor the Contractor's obligation to insure as aforesaid under this Sub-Clause shall be satisfied if the Sub-Contractor shall have insured against the liability in respect of such persons in such manner that the Employer is indemnified under the policy but the Contractor shall require such Sub-Contractor to produce to the Engineer or the Engineer's Representative when required such policy of insurance and the receipt for payment of the current premium.

6.17. Remedy on Contractor Failure to Insure

If the Contractor shall fail to effect and keep in force the insurance referred to in clauses 6.13; 6.15.1; and 6.16.1; hereof or any other insurance which he may be required to effect under the terms of Contract then and in any such case the Employer may effect and keep in force any such insurance and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount so paid by Employer with interest (Rate of interest as applicable is 2% plus SBI base rate or as applicable rates) as aforesaid from any money due or which may become due to the Contractor or recover the same as a debt due from the Contractor.

6.18.1. Giving of Notice and Payment of Fees

The Contractor shall give all notices and pay all fees required to be given or paid by any National or State Statute ordinance or other law or any Regulation or Bye-Law of any local or other duly constituted authority in relation to the execution of the works or of any Temporary Works and by the Rules and Regulations of all Public Bodies and Companies whose property or rights are affected or may be affected in any way by the works or any Temporary Works.

6.18.2. Compliance with Rules and Regulations

The Contractor shall at all times during currency of contract conform to and comply with the Regulations and Bye-Laws of the State or Central Government or of the Board 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 Compensation Act, Provident Fund and Miscellaneous Provisions Act. Health and Sanitary arrangements for worker Safety Code and Contract Labour (Regulation and Abolition) Act, 1970 and the Contract (Regulation and Abolition) Central Rules 1971 etc., for welfare and protection of works, workers or for the safety of the public and other insurance provisions.

The Board shall not be liable for the failure of the contracted in conforming to the provisions of the Acts, Rules and Regulations Act 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 the Board indemnified against any loss cost and damage in the event of any action being taken for contravention.

6.19. Fossils Antiquity Etc.

All fossil coins articles of value of antiquity and structures and other remains or things or geological or archaeological interest discovered on the site of the work shall as between the Employer and the Contractor be deemed to be absolute property of the Employer and the Contractor shall take responsible precautions to prevent his workmen or any persons from removing or damaging any such article or things and shall immediately upon discovery thereof and before removal acquaint the Engineer's Representative such discovery and carry out Engineer's Representative orders as to the disposal of the same at the expense of the Employer.

6.20. Patents Rights and Royalties

The Contractor shall save harmless and indemnify the Employer from and against all claims and proceedings for or on account of infringement of any patent rights, design trademark or name or other protected rights in respect of any constructional plant, machine, work or material used for or in connection with the works or Temporary works or any of them and from and against all

claims, demands, proceedings, damages, costs charges and expenses whatsoever in respect thereof or in relation thereto. Except where otherwise specified the Contractor shall pay all tonnage and other royalties, rent and other payments or compensation (if any) for getting stone, sand, gravel, clay or other materials required for the works or Temporary works or any of them.

6.21.1. Interference with Traffic and Adjoining properties and Anti-Pollution Measures.

All operations necessary for the execution of the works and for the construction of any Temporary works shall, so far as compliance with requirements of the Contract permits, be carried on as not to interfere unnecessarily or improperly with the public convenience or the access to use and occupation of public or private roads and footpaths to or of properties whether in the possessions of the Employer or of any other person and the Contractor shall save harmless and indemnify the Employer in respect of all claims demands 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.

6.21.2. The works and the Temporary works shall be carried out in such manner as not to interfere with ships or other vessels using the Port or endanger or interfere with traffic whether by road, rail or water and other normal operations of the Ports.

6.21.3. The Employer will afford the Contractor reasonable facilities to enable him to carry out the Contract but the Contractor must strictly observe any Rules, Regulations or instructions which he may from time to time receive from the Employer or the Engineer or any person or persons authorized by them for the safety and protection of persons, traffic whether by road, rail or water and property on the site or the land adjacent to the site.

6.21.4. The Contractor shall take all possible precautions to secure the efficient protection of the Docks, Harbours and all other water-ways against pollution of any kind during the execution completion and maintenance of the works as per requirement of appropriate authorities and he shall ensure that no oil, organic matter, refuse, rubbish or other things of whatsoever nature are allowed to sweep or be supplied or thrown into the waterways by him, his employees or sub-Contractors or any other agency of his.

6.22.1. Extra-ordinary Traffic

The Contractor shall use every reasonable means to prevent any of the highways or bridges communicating with or on the routes to the Site from being damaged or injured by any traffic of the Contractor or any of his Sub-Contractor and, in particular, shall select routes, choose and use vehicles, restrict and distribute loads so that any such extraordinary traffic as will inevitably arise from the moving of Plant and materials from and to the site shall be limited, as far as reasonable possible, and so that no unnecessary damage or injury may be occasioned to such road and bridges.

6.22.2. Special Loads

Should it be found necessary for the Contractor to move one or more loads of constructional plant machinery or pre-constructed units or parts of units of work over part of a highway or bridge falling within the jurisdiction of the Employer the moving whereof is likely to damage any highway or bridge unless special protection or strengthening is carried out then the Contractor shall before moving the load on to such highway or bridge give notice to the Engineer or Engineer's Representative of the weight and other particulars of the weight and other particulars of the load to be moved and his proposals for protecting or strengthening the said highway or bridge. Unless within fourteen days of the receipt of such notice the Engineer shall by counter-notice direct that such protection or strengthening is unnecessary then the Contractor will carry out such proposal or any modification thereof that the Engineer shall require, at his own cost.

6.22.3. Waterborne Traffic

Where the nature of the works is such as to require the use by the Contractor of waterborne transport the foregoing provisions of this Sub-Clause shall be construed as though "highway" included a lock, dock, sea wall, or other structure related to a waterway and "vehicle" included craft and shall have effect accordingly.

6.23. Opportunities for other Contractors

The Contractor shall in accordance with the requirements of the Engineer afford all reasonable opportunities for carrying out their work to Contractors employed by the Employer and their workmen and to workmen of the Employer and of any other duly constituted authorities who may be employed in the execution on or near the site of any work not included in the Contract or of any contract which the Employer may enter into in connection with or ancillary to the works. If however, the Contractor shall on the written request of the Engineer or the Engineer's Representative make available to any such other Contractor or to the Employer or any such authority any roads or ways for the maintenance of which the Contractor is responsible, or permit the use by any such of the Contractor's scaffolding or other plant on the site provide any other service of whatsoever nature for any such the Employer shall pay to the Contractor in respect of such case or services such sum or sums as shall in the opinion of the Engineer be reasonable. Provided also that if the Contractor avails of similar services from such other or the Employee the Employer shall be entitled to recover from the Contractor in respect of such service such sum or sums as shall in the opinion of the Engineer be reasonable. The decision of the Engineer shall be final.

6.24. Supply of Plant, Materials and Labour

Except where otherwise specified the Contractor shall at his own expense supply and provide all the Constructional Plant, temporary works, materials both for temporary and for the permanent works, labour (including the

supervision thereof) transport to or from the site and in and about the works and other things of every kind required for the construction, completion and maintenance of the works.

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 and such permission may or may not be granted by the Engineer.

The contractor shall not take away any of the plant & machinery or materials brought to site to any other place without the written permission of the Engineer or his authorized representative.

The Contractor shall at his own cost make due arrangements for the proper watch and safety of all materials and plant supplied to him by the Employer / or brought by him for use on this work. The Contractor shall arrange to operate the machinery in proper care with all safety precaution. He shall not remove such constructional plant or materials from the site without the permission of the Engineer.

If any of the materials supplied or constructional plants hired out by the Department are lost or damaged in any way due to negligence or carelessness on the part of the Contractor or any of his employees, the cost thereof as determined by the Engineer shall be recovered from the Contractor from any money due to him or to become due to him.

Removal of plant etc.: Upon completion of works, the Contractor shall remove from the site all the constructional plant and temporary works remaining thereon any unused materials provided by the Contractor.

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 Engineer then the Employer may sell the same and shall after deducting from the proceeds costs 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 liable for the loss of or injury to any of the said constructional plant temporary works or materials.

6.25. Materials to be supplied by the Contractor

The procurement of all the necessary materials for the completion of the works shall be sole responsibility of the Contractor which shall conform to I.S. Specifications. For any delay in procurement / non-availability etc., the Contractor is solely responsible.

6.26. Clearance of Site on Completion

On completion of the works the Contractor shall clear away and remove from the site all construction plant, surplus materials, rubbish and temporary works of every kind and leave the whole of the site and works clean and in a

workman like condition to the satisfaction of the Engineer. If not done the cost of clearing etc., will be recovered from any money due to the Contractor.

6.26.1. Ownership of Debris and Excavated Materials Etc.

All excavated materials, debris, etc., arising from the removal of properties, buildings or structures of the work site and all other materials or things of whatsoever nature found or being upon or excavated from the site shall remain the property of the Employer and shall not be removed by the Contractor from the site or used in the works until permission for such removal or use has been given by the Engineer in writing.

6.26.2. Except as specifically authorized in writing by the Engineer no photographs shall be taken nor shall any photograph, articles or description of the work or the site or any part thereof be published nor shall any details of the drawings furnished to him or part thereof be disclosed by the Contractor, his employees, sub-Contractors, agents and Representatives.

6.27. Removal of Craft or Plant that has sunk

The Contractor shall forthwith and will dispatch at his own cost raise and remove any craft or plant (floating or otherwise) belonging to him or to any sub-Contractor employed by him (including also any plant which is held by the Contractor or any sub-Contractor under Agreement for hire or hire-purchase) which may be sunk in the course of the construction, completion or maintenance of the works or otherwise deal with the same as the Engineer may direct and until the same shall be raised and removed. The Contractor shall set all such buoys and display at night such lights and do all such things for the safety of navigation as may be required by the Engineer or by the Employer. In the event of the Contractor not carrying out the obligation imposed upon him by this Sub-Clause the Employer may provide buoy and light such sunken craft or plant and raise and remove the same and the Contractor shall reimburse to the Employer all costs incurred in connection therewith.

6.28. Contractor's Temporary Moorings and Payment of Charges

Should the Contractor for the purpose or the Contractor desire to provide the temporary moorings for his craft and floating plant, he will be allowed to do so in positions and manner approved by the Engineer. The Contractor shall not lay such moorings so as to interfere with traffic in the water ways and such moorings shall remove if and when required by the Engineer. The Contractor shall pay all docks Port customs and wharfage charges, vessel pilotage charges, bunker charges, other fees, charges dues, assessments and out-goings may become payable in the course of execution of the contract works and the Contractor would be deemed to have made allowances for these charges in the contract price quoted by him in his tender.

6.28.1. Registration with the Boards DPC of the Contractor's Floating Crafts Used in the Execution of the Contract Works

The Contractor shall register with Employer's Deputy Conservator / Deputy Port Conservator / Director Marine Department all his floating crafts employed in the execution of his contract and no floating craft which has not been so registered shall be allowed to be employed in the execution of this contract. No exemption whatsoever shall be granted in this regard.

6.29. Life Saving Appliances and First Aid Equipments

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 and in accordance with the requirements of 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 43 of the said Regulation in respect of erection and maintenance of staging. Contractor shall indemnify the Port from the cases booked by the LEO for his negligence.

6.30. Bribes, Commission and Corrupt Gifts

Any bribe, commission, gift or advantage given, promised or offered by or on behalf of the Contractor or his partner, agent or servant or anyone of his or their behalf to any officer, servant, Representative or agent of the Engineer or to any person on his behalf in relation to the obtaining or to the execution of this or any other Contract with the Employer shall in addition to any criminal liability which he may incur subject to the Contractor to the cancellation of this and all other contract with Employer and also to the payment of any loss, or damage resulting from any such cancellation. The Employer shall be entitled to deduct the amounts so payable from any money otherwise due to the Contractor during this or any other Contract. Any question or dispute as to the commission of any offense under the present Clause shall be settled by the Engineer, in such manner and on such evidence or information as he shall think fit and consider sufficient and his decision shall be final and binding on the Contractor.

6.31.1. Precautions against Water-Borne Diseases

Every precaution to prevent the breeding of mosquitoes on the site and all receptacles used for the storage of water must be suitably protected for this purpose and must be applied at the close of work every day.

6.31.2. Precautions against Air & Water Pollution

Every precaution shall be taken by the Contractor to prevent air and water pollution resulting from his operations as per requirements of the appropriate authorities.

The hazardous wastes shall be disposed off only to the genuine processors having requisite in accordance with the Implementation of Hazardous Waste Rule, 1989, notified under Environment Act, 1986 and the Rules and Regulations made there under from time to time.

6.33. Use of Explosives

No explosives will be supplied by the Port. Unless provided in the specification or approved by the Engineer, the Contractor shall not use explosives. The Contractor shall only permit handling and use of explosives to be carried by men fully qualified and experienced in the storage, handling and use of the types of explosives to be used. He shall comply with the provisions of Indian Explosive Act.

6.34. Use of Port Lands

The Contractor shall be permitted to use the Port land for the purpose of laying out his work yard, offices, stores, etc. to the extent required to be decided by the Engineer free of any rental charges. The Contractor, however, shall fix all electrical, water supply and drawings installation, as per existing local Regulations and pay charges for consumption of electrical energy and water as levied by the Port from time to time. On execution of the works the site shall be handed over to the Engineer in good state within such a date as may be intimated to him by the Engineer. The location, area and the plan of such structures must be got approved by the Engineer. But these buildings are not to be used for residential purposes.

6.35. Levels, Soundings and Charts

The Contractor shall provide all assistance, instruments, machines, labour and materials as are normally required for taking levels for the preparation of charts and cross sections before commencement of work and after execution of works. The Contractor shall provide at his own expense experienced attendants for the Engineer or the Engineer's Representatives to assist him in taking levels and checking of alignments.

6.36. Inflammable Stores

The Contractor shall comply with all central and local Regulations in respect of safe storage of all inflammable stores, or other materials involving risk to third parties and shall take all special precautions required in the transport and use of such materials. The Contractor shall submit to the Engineer for approval all drawings and documents required for the construction of storage sheds or other accommodation and shall build all such storage sheds to the proper requirements.

6.37. Apprentices

The Contractor shall during the term of this Contract comply with the provisions of the Apprentices Act, 1981 and maintain as part of his organization a system of apprenticeship for training craftsmen. Failure on the

part of the Contractor to observe the conditions and stipulations of this Clause shall be deemed to be a failure to employ a sufficient number of proper and efficient workmen within the meaning of Sub-Clause 6.8.4 above and all the rights and remedies of Employer therein provided including the power to determine the Contract shall be applicable in such case.

7.0. LABOUR

7.1.1. Engagement of Labour

The Contractor shall make his own arrangements for the engagement of all labour local or otherwise and save in so far as the Contract otherwise provides for the transport, housing, feeding and payment thereof.

7.1.2. Supply of Water

The Contractor shall, so far as is reasonably practicable, having regard to local conditions provided on the Site, to the satisfaction of the Engineer's Representative, an adequate supply of drinking and other water for the use of the Contractor's staff and work people.

7.1.3. Alcoholic Liquor or Drugs.

The Contractor shall not, otherwise than in accordance with the Statutes, Ordinances and Government Regulations or Orders for the time being in force, import, sell, give, barter or otherwise dispose of any alcoholic liquor, or drugs, or permit or suffer any such importation, sale, gift, barter or disposal by his Sub-Contractors, agents or employees.

7.1.4. Arms and Ammunition

The Contractor shall not give barter or otherwise dispose of to any person or persons, any arms or ammunition of any kind or permit or suffer the same as aforesaid.

7.1.5. Festival and Religious Customs

The Contractor shall allow his labour the Government notified National and local festival holiday and also such closed holidays for the Port declared by the Employer and also have due regard to local religious and social custom in respect of labour employed by him.

7.1.6. Epidemics

In the event of any outbreak of illness of an epidemic nature, the Contractor shall comply with and carryout such Regulations, orders and requirements as may be made by the Government, or the local medical or sanitary authorities for the purpose of dealing with and overcoming the same.

7.1.7. Disorderly Conduct Etc.

The Contractor shall at all time take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst his employees and for the preservation of peace and protection of persons and property in the neighborhood of the Works against the same.

7.1.8. Observation by Sub-Contractors

The Contractor shall be responsible for observance by his Sub-Contractors of the foregoing provisions.

7.1.9. Compliance with Regulations etc.

The Contractor shall at all times during the continuance of the Contract so far it may be necessary comply with all existing enactments including central and state Legislation as well as an applicable Bye-Laws of any local authority regarding labour, particularly the Minimum Wages Act, Factories Act, Workmen's Compensation Act, Provident Fund and Miscellaneous Provisions Act, Family Pension Fund Act and Employees State Insurance Act, Contract Labour (Regulation and Abolition) Act, Payment of Wages Act, Maternity Benefit Act, National Festival Holiday Act, Shop and Establishment Act and shall keep the Employer indemnified against any action that may be taken against him for the contravention of provisions of the above said enactments by the Contractor. The rates quoted by the Contractor in Bill of Quantities and Rates shall be deemed to include all expenses whatsoever the Contractor may be required to incur for the compliance with the provisions of the above said legislation. The Contractor shall make necessary arrangements for the Employer to witness the payments made by the Contractor to his staff and labour and get the certificate from the Employer as required in terms of the CPWD Contract Labour Regulations. The Tenderer shall also produce copies of certificates of registration with Employees Provident Fund Authorities and Employees State Insurance Authorities.

7.1.10. Foreign Personnel

Should the Contractor find that suitable qualified and experienced personnel required for the works are not available in India in sufficient numbers and should Contractor wish to employ personnel of nationalities other than Indian the Contractor must obtain the necessary permits from the Central Government to permit foreign personnel to enter India and to work in India for this work. The Contractor shall keep the Employer fully informed of application made by him for the work permits for foreign staff and / or approvals by the Indian authorities.

7.1.11. 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 or wages as fixed by the Central Public Works Departments

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 Contractor shall pay the labour engaged by him on the work not less than the minimum wages notified under any Central or State law as applicable to the Port and he shall not engage persons below the minimum age fixed under any such law applicable.

7.1.12. 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 requirements of the Engineer and conciliation officer, Central Ministry of Labour, Government of India or such other authorised 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 Acts, Rules and Regulations made thereunder from time to time.

7.1.13.1. Inspection of Wage Records

The Engineer or the Engineer's Representative or any other person authorized by them on their behalf shall have power to make enquiries with a view to ascertain a proper observance of the fair Wage Clause. He shall also have the power to investigate into any compliance regarding any default made by the Contractor or Sub-Contractor in regard to such provisions and also the provisions made in the Contract Labour Act.

7.1.13.2 The Engineer shall have the right to deduct from the moneys due to the Contractor any sum required or estimated to be required by making good the loss suffered by a worker or workers by reason of non-fulfillment of the conditions of the Contract for the benefit of the workers, non-payment of wages or of deductions made from his or their wages which are not justified by their terms of the Contract or non-observance of the Regulations.

7.1.14. Accidents

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 accidents to the Engineer / Engineer's Representative. The Contractor shall also report such accidents to the competent authorities to whom such report is required to be sent as per prevailing law.

7.1.15. Wage book & Wage Slip

The Contractor shall maintain:-

- a) A wage book of each in such forms as may be convenient but the same shall include the following particulars:

- I. Rate of daily or monthly wages.
- II. Nature of work on which employed.
- III. Total number of days worked during each wage period.
- IV. Total amount payable for the work during each wage period.
- V. All deductions made from the wages with an indication in each case of the grounds for which the deduction is made.
- VI. Wage actually paid for each wage period.

b) A wage slip for each worker employed on the work. The Engineer may grant exemption for the maintenance of wage slip, if in his opinion not more than 19 persons are likely to be employed directly on the work, but in any case, he will have to maintain wage books as specified in 7.1.15(a) above.

7.1.16. Preservation of Books & Slips.

The Wage books and wage slips shall be preserved for a period of not less than 12 months after the date of the last entry made in it.

7.2. Return of Labour Etc.

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 several classes of labour from time to time employed by the Contractor on the Site and such information respecting Constructional plant as the Engineer's Representative may require.

7.3. Housing for Labour

For housing the Contractor's labours temporarily during construction period, plots can be allotted in the Port's labour colony based on the specific application from the Contractor for erecting temporary huts. Nominal ground rent will be charged as per rules at the rate fixed by the Port from time to time. The Contractor should furnish the layout of the land required for approval of the Engineer. The allotment of plots will be at the discretion of the Engineer. The Contractor has to make their own arrangements at their cost for erecting sheds, water supply, electricity and sanitary arrangements. On completion of the contract, such temporary camps/housings provided by the Contractor in the Port area shall be removed and the site reinstated to its original condition.

8.0. MATERIALS AND WORKMANSHIP

8.1.1. Quality of Materials and Workmanship & Tests

All materials and workmanship shall be of the respective kinds described in the Contract and in accordance with Engineer's instructions and shall be subjected from time to time to such tests as the Engineer may direct at the place of manufacture or fabrication or on the Site or at all or any of such places or any of the approved test houses. The Contractor shall provide such assistance, instruments, machines, labour and materials as are normally

required for examining measuring and testing any work and the quality weight or quantity of any materials used and shall supply samples of materials before incorporation in the works for testing as may be selected and required by the Engineer.

8.1.2. Cost of Samples

All samples required for testing and comparison shall be supplied by the Contractor at his own cost at the places indicated by the Engineer if the supply thereof is clearly intended by or provided for in the specification or Bill of Quantities.

8.1.3. Cost of Tests

The cost of making any test shall be borne by the Contractor if such test is clearly intended by or provided for in the specification or Bill of Quantities and (in the cases only of a test under load or of a test to ascertain whether the design of any finished or partially finished work in appropriate for the purposes which it was intended to fulfill) is particularized in the specification or Bill of Quantities in sufficient detail to enable the Contractor to price or allow for the same in his Tender. In case specifications for a particular item are not in the Tender documents, relevant I.S. Specification will apply.

8.1.4. Cost of Tests Not Provided for, Etc.

If any test is ordered by the Engineer which is either

- a) not so intended by or provided for or
- b) (in the case above mentioned) is not so particularized or
- c) though so intended or provided for is ordered by the Engineer to be carried out by an independent person at any place other than the site or the place of manufacture of fabrication of the material tested then the cost of such test shall be borne by the Contractor if the test shows the workmanship or material not to be in accordance with the provisions of the Contract or the Engineer's instructions but otherwise by the Employer.

8.2.1. General

Materials required for the Works, whether brought by the Contractor shall be stored by the Contractor only at places approved by the Engineer. Storage and safe custody of materials shall be the responsibility of the Contractor.

8.2.2. Materials Brought to Site

All Materials brought to the site shall become and remains property of the Employer and shall not be removed off the site without the prior written approval of the Engineer. 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 expenses forthwith remove from the site all surplus materials originally supplied by him and upon such removal, the same shall revert in and become the property of the Contractor.

8.3. Access to Site

The Engineer 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 hence materials, manufactured articles or machinery are being obtained for the works and Contractor shall afford every facility for and every assistance in or in obtaining the right to such access.

8.4.1. Examination of Work before Covering Up

No work shall be covered up or put out of view without the approval of the Engineer or the Engineer's Representative and the Contractor shall afford full opportunity for the Engineer or the Engineer's Representative to examine and measure any work which is about to be covered up, painted or put out of view and to examine foundations, etc., before permanent work is placed thereon. The Contractor shall give due notice to the Engineer's Representative whenever any such work or foundations is or are ready or about to be ready for examination and the Engineer's Representative shall without unreasonable delay unless he considers it necessary and advises the Contractor accordingly attend for the purpose of examining and measuring such work or of examining such foundations.

8.4.2. Uncovering and Making Openings

The Contractor shall uncover any part or parts of the Works or make openings in or through the same as the Engineer may from time to time direct and shall reinstate and make good such part or parts to the satisfaction of the Engineer. If any such part or parts have been covered up or put out of view after compliance with the requirements of Sub-Clause 8.4.1. and are found to be executed in accordance with the Contract the expenses of uncovering, making openings in or through reinstating and making good the same shall be borne by the Employer but in any other case all such expenses shall be borne by the Contractor and shall be recoverable from him by the Employer or may be deducted by the Employer from any money due or which may become due to the Contractor.

8.5.1. Removal of Improper Works and Materials

The Engineer shall during the progress of the Works have power to order in writing from time to time

- a) 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
- b) The substitution of proper and suitable materials and

- c) The removal and proper re-execution (not withstanding any previous test thereof or interim payment there for) for any work which in respect of materials or workmanship is not in the opinion of the Engineer in accordance with the Contract

8.5.2. Default of 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 incidental 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 money due or which may be come due to the Contractor.

8.6.1.1. Suspension of Work

The Contractor shall on the written order of the Engineer suspend the progress of the works or any part thereof for such time or times and in such manner as the Engineer may consider necessary and shall during such suspension property protect and secure the work so far as is necessary in the opinion of the Engineer. The extra cost including all running wages to be paid on the Site salaries, depreciation and maintenance of plant, site on-costs and general overhead costs of the Contract incurred by the Contractor is giving effect to the Engineer's instructions under this Sub-Clause shall be borne and paid by the Employer unless such suspension is

- a) Otherwise provided for in the Contract or
- b) necessary for the proper execution of the work or by reason of weather conditions effecting the safety or quality of the works or by some default on the part of the Contractor of
- c) necessary for the safety of the works or any part thereof.

8.6.1.2. Provided that the Contractor shall not be entitled to claim any such extra cost unless he gives notice in writing of his intention to claim to the Engineer within 28 days of the Engineer's order. The Engineer shall settle and determine such extra payment to be made to the Contractor in respect of such claim as shall in the opinion of the Engineer be fair and reasonable.

9.0 COMMENCEMENT TIME AND DELAYS

9.1. Commencement of Works

The Contractor shall commence the works on site within 15 days from the written order to commence the work from the Engineer and shall proceed with the same with due expedition and without delay except as may be expressly sanctioned or ordered by the Engineer or be wholly beyond the Contractor's control. Failure on the part of the Contractor to commence the work, without reasonable grounds which will be decided by the Engineer will entail forfeiture of the EMD to the Employer. No further correspondence on this account will be entered into with the Contractor.

9.2 Possession of Site

Save in so far as the Contract may prescribe the extent of portions of the site of which the Contractor is to be given possession from time to time and the order in which such portions shall be made available to him and subject to any requirement in the Contract as to the order in which the works shall be executed. The Employer will with the Engineer's written order to commence the works give to the Contractor possession of so much of the site as may be required to enable the Contractor to commence and proceed with the construction of the works in accordance with the programme refer to in Sub-Clauses 6.6.1. to 6.6.5. hereof (if any) and otherwise in accordance with such reasonable proposals of the Contractor as he shall by notice in writing to the Engineer make and will from time to time as the works proceed give to the Contractor possession of such further portions of the site as may be required to enable the Contractor to proceed with the construction of the works with due dispatch in accordance with the said programme or proposals (as the case may be). If the Contractor suffers delay from failure on the part of the Employer to give possession in accordance with the terms of this Sub-Clause the Engineer shall grant an extension of time for the completion of the works.

9.2.1. Way Leaves Etc.

The Contractor shall bear all expenses and charges for special or temporary way-leaves required by him in connection with access to the site. The Contractor shall also provide at his own cost any additional accommodation out-side the Site required by him for the purposes of the works. The Contractor will be permitted to use the suitable area subject to availability in side Green gate subject to availability. The Contractor shall maintain the same at his own cost during the currency of the Contract.

9.3 Time of Completion

Subject to any requirement in the specification as to completion of any portion of the works before completion, the whole of the works shall be completed within the time stated in the Tender i.e., 4 months, from the 15 days of written order to commence the work. The time completion of the work shall be extended in the proportion that the altered additional or substituted work bears to the original Contract work and the Certificate of the Engineer shall be conclusive as to such proportion.

9.4. Extension of Time for Completion

The Contractor shall commence the works on site with the period named in the Tender after the receipt by him of an order in writing to this effect from the Engineer and shall proceed with the same with due expedition and without delay except as may, be expressly sanctioned or ordered by the Engineer or be wholly beyond the Contractor's control.

The Contractor shall maintain the rate of progress required as per schedule. If the progress of work is held up owing to circumstances which, in the opinion

of Engineer are beyond the control of the Contractor such as war, stormy weather and for other reasonable causes the Engineer may, at his discretion, grant to the Contractor such extension of time as he considers reasonable for the completion of the work. In such circumstances, the Contractor shall immediately bring the same to the notice of the Engineer in writing and apply for extension of time before expiry of the period of contract with details of the hindrance(s) on account of which he desires such extension as aforesaid.

The execution of the work during the extended period also shall be only under the conditions and at the rate specified in the contract.

No claim shall be made by the Contractor on the grounds of executing the work beyond the completion period stipulated in the contract.

9.5. Night or Sunday Work

Subject to any provision to the contrary contained in the Contract none of the permanent work shall save as hereinafter provided be carried on during the night or on Sundays (if locally recognized as days of rest) or their locally recognized equivalent without the permission in writing of the Engineer's Representative save when the work is unavoidable or absolutely necessary for the saving of life or property or for the safety of the works in which case the Contractor shall immediately advise the Engineer's Representative. Provided always that the provisions of this Sub-Clause shall not be applicable in the case of any work which it is customary to carry out by rotary or double shifts.

9.6.1 Rate of Progress

The whole of the materials, plant and labour to be provided by the Contractor hereof and the mode manner and speed of execution and maintenance of the work are to be of a kind and conducted in a manner to the satisfaction of the Engineer. Should the rate of progress of the works or any part thereof be at any time in the opinion of the Engineer too slow to ensure the completion of the works by the prescribed time or extended time for completion the Engineer shall so notify the Contractor in writing and the Contractor shall there-upon take such steps as the Contractor may think necessary and the Engineer may approve to expedite progress so as to complete the works by the prescribed time or extended time for completion. If the work is not being carried on by day and night and Contractor shall request permission to work by night as well as by day the Engineer shall consider grant of such permission but the Contractor will not be entitled for any additional payment for so doing. If, however, the Engineer refuses such permission, the Contractor shall not be entitled for any extension of time on the Contract on account of such refusal. All work at night shall be carried out without unreasonable noise and disturbance. The Contractor shall indemnify the Employer from and against any liability for damages on account of noise or other disturbance created while or in carrying out the work and from and against all claims demands, proceedings, costs, charges and expenses whatsoever in regard or in relation to such liability.

9.6.2 Execute the work incase of non-performance/slow progress by the contractor

In case of the contractor fail to achieve the rate of progress for early completion of the work and if the performance of the tenderer is unsatisfactory, the employer is at the liberty to terminate the contract and to execute the work through other contractor or departmentally at the cost and risk of the tenderer.

The clause may be read as “For this purpose, contractor has to submit the weekly work plan *mutually agreed by the Port and the contractor* and the same has to be adhered till completion of work”. In case of not meeting the weekly targets continuously for six weeks Port will imitate action to terminate the Contract and will execute the work through other contractor/department at the cost and risk of the contractor.

9.7.1. Liquidated Damages

If the Contractor fails to complete the work in all respects within the time specified or within the extended time that may be allowed by the Engineer as per Clause 9.4 hereof, the Contractor shall pay or allow the Board to deduct a sum equivalent to 1% per week (quarter of one percent) or part thereof the total value of the Contract subject to a maximum 10% of the tendered value as liquidated damages as ascertained damages and not by way penalty, for every week or part thereof beyond the said period or extended period as the case may be during which the work shall remain unfinished, such damages will be deducted from any moneys due to the Contractor. The total value of contract is governed by “contract price” definition under clause 1.1of section-II which mean the sum named in the Tender subject to such addition thereto, or deductions there from as may be made under the provision of contract.

The payment of such damages will not relieve the Contractor of his obligations to complete the works or from any other of his obligations or liabilities under this Contract.

9.7.2. Reduction of Compensation

If before the completion of the whole of the works any part of the works has been certified by the Engineer as completed pursuant to Sub-Clause 9.8 hereof and occupied or used by the Employer the liquidated damages for delay shall for any period of delay after such certificate be reduced in the proportion which the value of the part so certified bears to the value of the whole of the works.

9.8. Certificate of Completion of Work

As soon as in the opinion of the Engineer the works shall have been substantially completed and shall have satisfactorily passed and final test that may be prescribed by the Contract, the Engineer shall on receiving a written undertaking by the Contractor to finish any outstanding work during the period of maintenance issue a Certificate of Completion in respect of the works and

the period of Maintenance of the works shall commence from the date of such certificate. Provided that the Engineer may give such a certificate with respect to any part of the works before the completion of the whole of the works and shall upon the written application of the Contractor give such certificate with respect to any substantial part of the Works which has been both completed to the satisfaction of the Engineer and occupied or used by the Employer and when any such certificate is given in respect of a part of the works such part shall be considered as completed and the period of maintenance of such part shall commence from the date of such certificate. Provided also that a certificate of completion given in accordance with the foregoing provisions of any part of the works occupied and used as aforesaid shall not be deemed to certify completion of any ground or surface requiring reinstatement unless such certificate shall expressly so state.

10.0 MAINTENANCE AND DEFECTS

10.1.1. Definition of Period of Maintenance

In these conditions the expression 'period of maintenance' shall mean the period of maintenance of twelve months calculated from the date of completion of the works certified by the Engineer in accordance with Sub-Clause 9.8 thereof or in the event of more than one certificate having been issued by the Engineer under the said Sub-Clause from the respective dates so certified and in relation to the period of maintenance the expression 'the works' shall be construed accordingly.

10.1.2. Execution of Works of Repair Etc.

To the intent that the works shall at or as soon as practicable after the expiration of the period of maintenance be delivered upto the Employer in as good and perfect a condition (fair wear and tear excepted) to the satisfaction of the Engineer as that in which they were at the commencement of the Period of Maintenance the Contractor shall execute all such work of repair, amendment, reconstruction, rectification and making good of defects imperfections shrinkages or other faults as may be required of the Contractor in writing by the Engineer during the period of maintenance or within fourteen days after its expiration as a result of an inspection made by or on behalf of the Engineer prior to its expiration.

10.1.3. Cost of Execution of Work of Repair Etc.

All such work shall be carried out by the Contractor at his own expense if the necessity thereof shall in the opinion of the Engineer be due to the use of materials or workmanship not in accordance with the Contract or to neglect or failure on the part of the Contractor to comply with any obligation expressed or implied on the Contractor's part under the Contract. If in the opinion of the Engineer such necessity shall be due to any other cause the value of such work shall be ascertained and paid for as if it were additional work.

10.1.4. **Remedy on Contractor's Failure to Carry out Work Required**

If the Contractor shall fail to do any such work as aforesaid required by the Engineer, the Employer shall be entitled to carry out such work by his own workmen or by other agencies and if such work is a work which the Contractor should have carried out at the Contractor's own cost shall be entitled to recover from the Contractor the cost thereon or may deduct the same from any money due or that may become due to the Contractor.

10.2. **Contractor to Search**

The Contractor shall if required by the Engineer in writing search for the cause of any defect, imperfection or fault under the directions of the Engineer. Unless such defect, imperfection or fault shall be one for which the Contractor is liable under the Contract, the cost of the work carried out by the Contractor in searching as aforesaid shall be borne by the Employer.

But if such defect, imperfection or fault shall be one for which the Contractor is not liable under the Contract, the cost of the work carried out by the Contractor in searching as aforesaid shall be borne by the Employer.

But if such defect, imperfection or fault shall be one for which the Contractor is liable as aforesaid the cost of the work carried out in searching as aforesaid shall be borne by the Contractor and he shall in such case repair, rectify and make good such defect, imperfection or fault at his own expense in accordance with the provision of Clauses 10.1.1. to 10.1.4. thereof.

11.0 **ALTERATIONS, ADDITIONS AND OMISSIONS**

11.1.1. **Variations**

The Engineer may make any variation of the form, quality or quantity of the works or any part hereof that may in his opinion be necessary and for that purpose or if for any other reasons it shall in his opinion be desirable he shall have power to order the Contractor to do and the Contractor shall do any of the following:-

- a) increase or decrease of the work upto 15% of Contract Price
- b) Omit any part of the work (partially or fully)
- c) Change the character or quality or kind of any such work
- d) Change the level lines, position and dimensions of any part of the works, and
- e) Execute additional work of any kind necessary for the completion of the works, and no such variation shall in any way vitiate or invalidate the Contract but the value (if any) of all such variations shall be taken into account in ascertaining the amount of the Contract price.

11.1.2. **Orders for Variations to be in Writing**

No such variation shall be made by the Contractor without an order in writing of the Engineer. Provided that no order in writing shall be required for increase or decrease in the quantity of any work where such increase or

decrease is not the result of an order given under this Sub-Clause but is the result of the quantities exceeding or being less those stated in the Bill of Quantities. Provided also that if for any reason the Engineer shall comply with such order and any confirmation in writing of such verbal order given by the Engineer whether before or after the carrying out of the order shall be deemed to be an order in writing within the meaning of this Sub-Clause. Provided further that if the Contractor shall confirm in writing to the Engineer any verbal order of the Engineer and such confirmation shall not be contradicted in writing by the Engineer it shall be deemed to be an order in writing by the Engineer.

11.2.1. Valuations of Variations

The Engineer shall determine the amount (if any) which in his opinion should be added to or deducted from the sum named in the Tender in respect of any extra or additional work done or work omitted by his order. All such work shall be valued at the rates set out in the Contract if in the opinion of the Engineer the same shall be applicable. If the Contract does not contain any rates applicable to the extra or additional work then suitable prices shall be agreed upon between the Engineer and the Contractor given below (i) if the altered additional or substituted works include any class of work shall be carried out at the rates entered in the schedule of rates of the Port Authority which was in force at the time of the acceptance of this Contract minus/plus the percentage which the total tendered amount bears to the estimated cost of the entire work put to Tender (ii) if the rates for additional, altered or substituted work are not specifically provided in the Contract for the work, the rates will be derived from the rate for the similar class of work as are specified in the Contract for the work (iii) if the altered additional or substituted work is not entered in the said schedule of rates, then the Contractor shall within seven days, of the date of his receipt of the order to carry out the work inform the Engineer of the rates, which is his intention to charge for such class of work, and if the Engineer does not agree to this rate he shall, by notice in writing be at liberty to cancel his order to carry it out in such manner as he may consider advisable provided always that, if the Contractor shall commence work or incur any expenditure in regard there to before the rates shall have been determined as lastly herein before mentioned, then and in such case he shall only be entitled to be paid in respect of the work carried out or expenditure as assessed by the Engineer prior to the date of the determination of the rate as aforesaid according to such rate or rates as shall be fixed by the Engineer. In the event of a dispute, the decision of the Chief Engineer shall be final.

11.2.2.1. Powers of Engineer to Fix Rates

Provided that if the nature or amount of any omission or addition relative to the nature or amount of the whole of the Contract Work or to any part thereof shall be such that in the opinion of the Engineer the rate or price contained in the Contract for any item of the Works is by reason of such omission or addition rendered unreasonable or inapplicable then a suitable rate or price shall be agreed upon between the Engineer and Contractor. In the event of

disagreement, the Engineer shall fix such other rate or price as shall in his opinion be reasonable and proper having regard to the circumstances.

- 11.2.2.2 Provided also that no increase of the Contract Price under Sub-Clause 11.2.1. or variation of rate or price under Sub-Clause 11.2.2.1. shall be made unless as soon after the date of the order as is practicable and in the case of extra or additional work before the commencement of the work or as soon thereafter as is practicable, notice shall have to be given in writing:-
- a) by the Contractor to the Engineer of his intention to claim extra payment or a varied rate or
 - b) by the Engineer to the Contractor of his intention to vary a rate or price as the case may be.

11.2.3. Claims

The Contractor shall send to the Engineer once in every month an account giving particulars (as detailed as possible) of all claims for any additional expense to which the Contractor himself entitled and of all extra or additional work ordered by the Engineer which he has executed during the preceding month and no claim for payment for any such work will be considered which has not been included in such particulars.

12.0. PLANT, TEMPORARY WORKS AND MATERIALS

12.1.1. Plant Etc. Exclusive Use for the Works

All Constructional Plant, Temporary Works and materials provided by Contractor shall when brought to the site be deemed to be exclusively intended for the construction and completion of the works and the Contractor shall not remove the same or any part thereof (save for the purpose of moving it from one part of Site to another) without the consent in writing of the Engineer which shall not be unreasonably withheld provided that nothing contained in these conditions shall prevent the Employer from retaining on the Site for the due completion of the Works, and any item of Constructional Plant, Temporary Works and materials after the happening of any event which gives to the Engineer the right to exclude the Contractor from Site and proceed with the Completion of the works.

12.1.2.1. Removal of Plant Etc.

Upon completion of the works, the Contractor shall remove from the Site all the said Construction Plant and Temporary Works remaining thereon and any unused materials provided by the Contractor.

- 12.1.2.2. If the Contractor fails to remove any such Constructional Plant, Temporary works, or unused materials within such reasonable time, after the completion of works, as may be allowed by the Engineer, then the Employer may sell the same and shall after deducting from the proceeds costs, charges and expenses in connection with such sale, pay the balance, if any, to the Contractor.

12.1.2.3. During the course of execution / completion of work, gate passes for the materials will be issued by the Engineer's Representatives on the written requisition by the Contractor. In case of any movement of unauthorized materials hidden / non-hidden and brought along the authorized materials the Contractor is alone fully responsible for all consequence and in no way Engineer's Representatives are responsible for the same.

12.1.3. Employer not Liable for Damage to Plant Etc.

The Employer shall not at any time be liable for the loss of or injury to any of the said Construction Plant, Temporary Works or materials save as mentioned in Clauses 6.11.1., 6.11.2. and 17 hereof.

12.1.4. Conditions of Hire of Construction Plant

With a view to securing in the event of a forfeiture under Sub-Clause 16.1.1. hereof the continued availability for the purpose of executing the works of any essential Hired Plant the Contractor shall not bring on to the Site any Essential Hired Plant unless the Agreement for hire thereof contains a provision that the owner thereof will, on request in writing made by the Employer within seven days after the date on which any such forfeiture has become effective and on the Employer undertaking to pay all hire charges in respect thereof from such date, hire Essential Hired plant to the Employer on the same terms in all respects as the same was hired to the Contractor save that the Employer shall be entitled to permit the use thereof by any other Contractor employed by him for the purpose of completing the works under the terms of the Sub-Clause 16.1.1.

12.1.5. Hire Purchase Payments by the Employer

The Employer shall in order to avoid seizure by the owner of any hire-purchase plant be entitled to pay to such owner the amount of any overdue installment or other sum payable under any agreement for hire purchase and in the event of its doing so any amount so paid by him shall be debt due from the Contractor to the Employer and may be deducted by the Employer from any moneys due or that may become due to the Contractor under the contract or may be recovered by the Employer from the Contractor at law. This will be accomplished in the following manner: -

The payment of overdue installment to the owner of hire purchase plant will be done by the Department after deducting from the bills / money due as on date to the Contractor.

In case if happened to be paid beforehand from the money that become due to the Contractor at a later date then the amount so paid is recoverable with interest at 2% plus SBI base rate or as applicable rates following the Departmental procedure.

12.1.6. Costs for Purposes of Sub-Clause 16.1.1.

In the event the Employer entering into any Agreement for hire of Essential Hired Plant pursuant to the provision of Sub-Clause 12.1.5. all sums properly paid by the Employer under the provision of any such agreement and all expenses incurred by him (including stamp duties) in entering into such Agreement shall be deemed for the purpose of Sub-Clause 16.1.1. hereof to be part of the cost of completing the work.

12.1.7. Contractor's Certificate as to Hiring Provisions

The Contractor shall upon request made by the Engineer at any time in relation to any item of Essential Hired Plant forthwith notify to the Engineer in writing the name and address of the owner thereof and shall certify that the Agreement for the hire thereof contains provisions in accordance with requirements of Clauses 12.1.4. and 12.1.5. The Contractor shall also upon request as aforesaid give a like notification (but without certificate) in regard to any Hire Purchase Plant.

13.0. MEASUREMENT

13.1. Quantities

The quantities set out in the Schedule of Quantities are the estimated quantities of the work but they are not to be taken as the actual and correct quantities of the Works to be executed by the Contractor in fulfillment of his obligations under the Contract. The quantities are subject to reasonable variation due to various reasons and no extra claim whatsoever shall be entertained on this account by the Engineer.

13.2. Method of Measurement

Except where any general or detailed description of the work in bills of quantities or schedule of works/ items/quantities expressly shows to the contrary, bills of quantities or schedule of works/items/ quantities shall be deemed to have been prepared and measurements shall be taken in accordance with the procedure set forth in the schedule of rates/specification notwithstanding any provision in the relevant standard method of measurement or any general or local custom. In the case of items which are not covered by the Schedule of Rates/specification, measurements shall be taken in accordance with the relevant standard method of measurements issued by the Bureau of Indian Standards.

13.3. Records & Measurements

The Engineer's Representative shall except as otherwise stated ascertain and determine by measurement the value in accordance with the Contract of work done in accordance therewith.

All items having a financial value shall be entered in measurement book, level book, etc., prescribed by the Employer so that a complete record is obtained of all work performed under the Contract.

Measurements shall be taken jointly by the Engineer's Representative or his authorized Representative and by the Contractor or the Representative. Before taking measurement of any work the Engineer's Representative or the person deputed by him for the purpose shall give a reasonable notice to the Contractor. If the Contractor fails to attend or send an authorized Representative for measurement after such a notice or fails to countersign or to record the objection within a week from the date of measurement, then in any such event measurements taken by the Engineer's Representative or by the person deputed by him shall be taken to the correct measurement of the work.

The Contractor shall, without extra charge, provide assistance with every appliance and other things necessary for measurement. Measurements shall be signed and dated by both parties each day on the site on completion of measurement. If the Contractor objects to any of the measurement recorded on behalf of the Employer, a note to that effect shall be made in the measurement book against the item objected to and such note shall be signed and dated by both parties engaged in taking the measurements.

If as a result of such objection, it becomes necessary to re-measure the work wholly or in part, the expense of such measurement shall be borne by the party requiring the measurements to be retaken provided that net errors are found by this measurement to amount to less than 5% of the value as recorded by the first measurement, where however the net errors amount to 5% or over the first value, the cost of re-measurement shall be borne by the other party. In any case if the net value of errors found exceeds Rs. 500/- the expense of re-measure shall be borne by the other party.

14.0 PROVISIONAL AND PRIME COST SUMS
14.1.1. Provisional Sums

Every Provisional Sum (other than P.C. Prices under the Sub-Clause 14.1.2.) set out in the Bill of Quantities (whether for work to be executed by the Contractor which has not been specified in detail when the Contract is entered into or for work to be executed by a Nominated Sub Contractor as hereinafter defined) together with the charges and profits (if any) which the Contractor shall have added to such sums shall be deducted from the contract Price and in lieu thereof there shall be added to the Contract Price:

- a) Where work to which the Provisional Sum relates has been ordered by the Engineer and executed by the Contractor the value of the work so executed valued in accordance with Sub-Clauses 11.2.1, 11.2.2.1 and 11.2.2.2 and
- b) Where work to which the Provisional Sum relates has been ordered by the Engineer and executed by a Nominated Sub-Contractor (as

hereinafter defined) the sums actually paid (subject however to the provisions of Sub-Clause 14.1.5.) by the Contractor to such Sub Contractor on the direction of the Engineer and (if the Contractor shall have added to the Provisional Sum to which the work relates any sums in respect of charges and profits) a sum in the same proportion to the sum so actually paid as the said charges and profits bear to the said Provisional Sum.

14.1.2. Prime Cost Items

Every sum in the Bill of Quantities which contains (either as the whole or part of the sum) a Prime Cost (P.C) Price for goods or materials to be supplied for or for incorporation into the works shall be varied by the substitution for the Prime Cost price of the actual price (subject however to the provisions of Sub-Clause 14.1.5. hereof) paid by the Contractor for the goods or materials on the direction of the Engineer and Contract Price shall be increased or decreased (as the case may be) by the amount by which the sum in the Bill of Quantities is increased or decreased by such substitution. No variation shall be made to or in respect of any sum added for labours to the Prime Cost price on account of the said actual price being greater or less than the Prime Cost price but in respect of all other charges and profit there shall be added or deducted as the case may be a sum representing such percentage as is provided in the Bill of Quantities in relation to the particular item of Prime Cost concerned or (if none) as is inserted by the Contractor in the form of Tender as the percentage for the adjustment of Prime Cost sums.

14.1.3. Use of Provisional & Contingency Item

All sums set out in the Bill of Quantities which shall be stated to be provisional or for contingencies shall be used only at the direction and discretion of the Engineer and if not used either wholly or in part shall as to the amount not used be deducted from the Contract Price.

14.1.4. Production of Vouchers, Etc.

The Contractor shall when required by the Engineer produce all quotations, invoices vouchers and accounts of receipts in connection with expenditure in respect of Provisional or Prime Cost items.

15.0. CERTIFICATES AND PAYMENTS

15.1.1. Payment of Monthly Bills

The Contractor shall submit to the Engineer each month on or before the 10th of the month, a statement on the standard printed form showing the quantity of each item of Contract Value of the permanent work executed upto the end of the month (if such value shall justify the issue of an interim certificate) and the Contractor will be paid monthly on the certificate of the Engineer. The amount due to him on account of estimated Contract Value of the Permanent Work executed upto the end of the previous month together with such amount (if any) as the Engineer may consider proper on account of material for

permanent Works or Constructional Plants for which separate amounts are provided in Bill of Quantities. All amounts due to the Board by the Contractor if outstanding on account of the supply of any materials, electricity, water services rendered in connection with the Contract, repairs or rectification to work etc., shall be adjusted from the bills or any amount due to the Contractor by the Board by way of outstanding, deposits etc. Provided always that no interim certificate shall be issued for a sum less than that named in the Tender at one time. In addition to the above all statutory levies such as Income Tax etc, will be deducted at the rates applicable from time to time. The Contractor should furnish proof of having paid all payments due to Employees Provident Fund and Employees State Insurance Organization along with monthly bills.

75% of the net amount of interim certificate shall be paid by the Employer within 10 days from the date of interim certificate and the balance within 30 days from the date of interim certificate.

The payment shall be made thorough e-payment and in order to make payment of bills through e-mode by bank directly, the Contractor shall give an authorization form as prescribed. The date on which e-payment to the Contractor by the Employer will be considered as the date of payment for all purposes. Delay in making such payments by the Employer due to exceptional circumstances shall not nullify or vitiate in any way or other the conditions of the contract and the Contractor shall have no claim on this account.

15.1.1.2. E- PAYMENT - Payments of Contractor's bills through Banks:-

Payments due to the Contractor shall be made to the bank instead of direct to him, provided that the Contractor furnishes to the Engineer– in –Charge (1) an authorization in the form of a legally valid document such as a power of attorney conferring authority on the bank to receive payments and (2) his own acceptance of the correctness of the account made out as being due to him by Employer or his signature on the bill or other claim preferred against Employer before settlement by the Engineer– in–Charge of the account or claim by payment to the Bank. While the receipt given by such banks shall constitute a full and sufficient discharge for the payment the Contractor should, wherever possible present his bills duly receipted and discharged through his bankers. Nothing here in contained shall operate to create in favor of the bank any rights or equities vis-à-vis the Board.

The date on which e-payment to the Contractor by the Employer will be considered as the date of payment for all purposes. Delay in making such payments by the Employer due to exceptional circumstances shall not nullify or vitiate in any way or other the conditions of the contract and the Contractor shall have no claim on this account.

The Engineers may by any certificate make any correction or modification in any previous certificate which shall have been issued by him and shall have power to withhold any certificate if the work or any part thereof is not being carried out to his satisfaction. Balance payment will be released on completion of work to the satisfaction of Engineer's Representatives. No claim

will be entertained by the Port in this account. For the e-payment, Port has made working arrangements with the following Bankers:

- a) State Bank of India, Main Office, Tuticorin.
- b) Indian Overseas Bank, Harbour Branch
- c) Syndicate Bank, New Port Branch, Tuticorin -4.

The arrangements designed to work are as follows:

- i. The amount due to the payee will be intimated to the port Bankers in the form of Electronic messages.
- ii. The Bank will arrange to credit the amount to the parties account through electronic transfer failing which by other modes as detailed further.
- iii. The Specimen for of E-Payment is given in Annexure – C.

15.1.2.1. Release of Security Deposit

One half of the Security Deposit shall become due and shall be paid to the Contractor when the Engineer shall certify in writing that the works have been substantially completed and the other half shall be paid to the Contractor 14 days after the maintenance certificate has been delivered to the Employer notwithstanding that at such time there may be outstanding claims by the Contractor against the Employer and provided always that if at such time there shall remain to be executed by the Contractor any works ordered during the such period of maintenance pursuant to Sub-Clause 10.1.1. to 10.1.4. and 10.2. Thereof the Employer shall be entitled to withheld payment until the completion of such works of so much of the second half of the Security Deposit as shall in the opinion of the Engineer represent the cost of the works so remain to be executed.

Provided further that in the event of different maintenance periods having become applicable to different parts of the Works pursuant to Sub-Clause 9.8 thereof the expression "expiration of the Period of Maintenance" shall for the purpose of this Clauses be deemed to mean the expiration of the latest of such period.

15.1.3. Correction and Withholding of Certificates

The Engineer's Representative may by any certificate make any correction or modification in any previous certificate which shall have been issued by him and shall have power to withhold any certificate make part payment if the Works or any part thereof are not being carried out to his satisfaction. Balance payment will be released on completion of work to the satisfaction of Engineer's Representative. No claim will be entertained by the Port on this account.

15.1.4. Indian Currency

All payments to the Contractor under the Contract shall be made in Indian Currency.

15.2. Approval only by Maintenance Certificate

No Certificate other than the Maintenance Certificate referred to in Clauses 15.3.1. to 15.3.3. hereof shall be deemed to constitute approval of any work or other matter in respect of which it is issued or shall be taken as an admission of the due performance of the Contract of any part thereof or of the accuracy of any claim or demand made by the Contractor or additional or varied work having been ordered by the Engineer nor shall any other certificate conclude or prejudice any of the powers of the Engineer.

15.3.1. Maintenance Certificate

The Contract shall not be considered as completed until a Maintenance Certificate shall have been signed by the Engineer and delivered to the Employer stating that the works have been completed and maintained to his satisfaction. The Maintenance Certificate shall be given by the Engineer within twenty-eight days after the expiration of the Period of maintenance (or if different periods of Maintenance shall become applicable to different parts of the Works the expiration of the latest such period) or as soon thereafter as any works ordered during such period pursuant to Sub-Clause 10.1.1 and 10.1.2. hereof shall have been completed to the satisfaction of the Engineer and full effect shall be given to this Clause notwithstanding any previous entry on the works or the taking possession working or using thereof or any part thereof by the Employer.

15.3.2. Cessation of Employer's Liability

The Employer shall not be liable to the Contractor for any matter or thing arising out of or in connection with the Contract or the execution of the Works unless the Contractor shall have made a claim in writing in respect thereof before the giving of the Maintenance Certificate under this Sub-Clause.

15.3.3. Unfulfilled Obligations

Notwithstanding the issue of the Maintenance Certificate the Contractor and (subject to Sub-Clause 15.3.2.) the Employer shall remain liable for the fulfillment of any obligation incurred under the provisions of the Contract prior to the issue of the Maintenance Certificate which remains unperformed at the time such certificate is issued and for the purposes of determining the nature and extent of any such obligation the Contract shall be deemed to remain in force between the parties hereto.

15.3.4.1. Time limit for Payment of Final Bill

The Contractor's Final bill shall be passed for payment within three months after the issue of certificate by the Engineer provided the Contractor has fully complied with the requirements under the Contract. If the amount payable under any certificate is not sufficient to cover The clause may be read as "deduction to be made for the sums loaned and other sums deductible under the contract the balance outstanding shall be paid by the contractor by NEFT / RTGS within 15 working days" from the date of receipt of the written notice issued in this regard by the Engineer.

The date on which e-payment made to Contractor by the Employer will be considered as the date of payment for all purpose.

15.3.4.2. After the payment of the amount of final bill, payable as aforesaid has been made the Contractor may, if he so desires, reconsider his position in respect of the disputed portion of the final bill and if he fails to do so within 90 days, his disputed claim shall be dealt with as provided in the Contract.

16.0. REMEDIES AND POWERS

16.1.1. Forfeiture

If the Contractor shall become bankrupt or have a receiving order made against him or shall present his petition in bankruptcy or shall make an arrangement with or assignment in favour of his creditors or shall agree to carry out the Contract under a committee of inspection of his creditors or (being a corporation) shall go into liquidation (other than a voluntary liquidation for the purposes of amalgamation or reconstruction) or if the Contractor shall assign the Contract without the consent in writing of the Employer first obtained or shall have an execution levied on his goods or if the Engineer shall certify in writing to the Employer that in his opinion the Contractor

- a) has abandoned the Contract or
- b) Without reasonable excuse has failed to commence the Works or has suspended the progress of the Works for 28 days after receiving from the Engineer written notice to proceed or
- c) has failed to remove materials from the Site or to pull down and replace Work for 28 days after receiving from the Engineer written notice that the said materials or Work had been condemned and rejected by the Engineer under these conditions or
- d) is not executing the works in accordance with the Contract or is persistently or flagrantly neglecting to carry out his obligations under the Contract or
- e) has to the detriment of good workmanship or in defiance of the Engineer's instructions to the contrary sub-let any part of the Contract then the Employer may after giving 14 days' notice in writing to the Contractor enter upon the site and the Works and expel the Contractor there from without thereby avoiding the Contract or releasing the Contractor from any of his obligations or liabilities under the Contract or affecting the rights and powers conferred on the Employer or the Engineer by the Contract and

may himself complete the works or may employ any other Contractor to complete the works and the Employer or such other Contractor may use for such completion so much of the Constructional Plant, temporary Works and materials which have been deemed to be reserved exclusively for the construction and completion of the works under the provisions of the Contract as he or they may think proper and the Employer may at any time sell any of the said Constructional Plant, temporary works and unused materials and apply the proceeds of sale in or towards the satisfaction of any sums due or which may become due to him from the Contractor under the Contract.

16.1.2. Valuation of Forfeiture

The Engineer shall as soon as may be practicable after any such entry and expulsion by the Employer fix and determine ex-parte or by or after reference to the parties or after such investigation or enquiries as he may think fit to make or institute and shall certify what amount (if any) had at the time of such entry and expulsion been reasonably earned by or would reasonably accrue to the Contractor in respect of Work then actually done by him under the Contract and what was the value of any of the said unused or partially used materials any Constructional Plant and any Temporary Works.

16.1.3. Payment after Forfeiture

If the Employer shall enter and expel the Contractor under this Sub-Clause he shall not be liable to pay to the Contractor any money on account of the Contract until the expiration of the Period of maintenance and thereafter until the costs of completion and maintenance damages for delay in completion (if any) and all other expenses incurred by the Employer have been ascertained and the amount thereof certified by the Engineer. The Contractor shall then be entitled to receive only such sum or sums (if any) as the Engineer may certify would have been due to him upon due completion by him after deducting the said amount. But if such amount shall exceed the sum which would have been payable to the Contractor on due completion by him then the Contractor shall upon demand pay to the Employer the amount of such excess and it shall be deemed a debt due by the Contractor to the Employer and shall be recoverable accordingly.

16.1.4. Assignment of Benefit of Agreement

If so required by the Employer or the Engineer the Contractor shall before the expiration of the notice referred to in Sub-Clause 16.1.1. assign to the Employer without payment the benefit of any Agreement which the Contractor has entered into for the supply for materials and / or for the execution of any works for the purpose of the Contract but on the terms that a supplier or Sub-Contractor shall be entitled to make any reasonable objection to any further assignment thereof by the Employer and the Employer may pay the supplier or Sub-Contractor for any such material supplied and delivered to the site or works executed under such Agreement (whether the same be assigned as aforesaid or not) before or after the giving of the notice the amount due by

such Agreement in so far as the supplier or the Sub-Contractor or by the Employer to the Contractor. The Employer's rights under this Sub-Clause may be made out of any Security Deposit in the hands of the Employer.

16.2. Urgent Repairs

If by reason of any accident or failure or other event occurring to in or in connection with the works or any part thereof either during the execution of the works or during the Period of Maintenance any remedial or other work or repairs shall in the opinion of the Engineer or the Engineer's Representative be urgently necessary for security and the Contractor is unable or unwilling at once to do such work or repair the Employer may by his own or other workman do such work or repair as the Engineer or the Engineer's Representative may consider necessary. If the work or repair so done by the Employer is work which in the opinion of the Engineer the Contractor was liable to do at his own expense under the Contract all cost and charges properly incurred by the Employer in so doing, shall on demand be paid by the Contractor to the Employer or may be deducted by the Employer from any money due or which may become due to the Contractor. Provided always that the Engineer or the Engineer's Representative (as the case may be) shall as soon after the occurrence of any such emergency as may be reasonably practicable notify the Contractor thereof in writing.

17.0. SPECIAL RISKS

17.1. No liability for War, Etc., 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 to work condemned under the provisions of Clauses 8.5.1. and 8.5.2. hereof prior to the occurrence of any special risk hereinafter mentioned) or temporary Works or to property whether of the Employer or third parties or for or 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 or due to any such eventuality caused which are beyond the control of the contractor as well as the Employer (hereinafter comprehensively referred to as "the said Special Risks")

17.2. 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 grenade or other projectile missile, munition or explosive of war shall be deemed to be a consequence of the said Special Risks.

17.3. Increased Costs Arising from Special Risks

The Employer shall repay 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 Clauses 8.5.1. and 8.5.2. hereof 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 the said special risks (subject however to the provisions in this Sub-Clause hereinafter contained in regard to outbreak of war) but the Contractor shall as soon as any such increase of cost shall come to his knowledge forthwith notify the Engineer thereof in writing.

17.4. Outbreak of War

If during the currency of the Contract there shall be an outbreak of war (whether war is declared or not) in any part of the country 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 in the Sub-Clause contained use his best endeavours 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 Sub-Clause and to the operation of Sub-Clause without prejudice to the rights of either party in respect of any antecedent breach thereof.

17.5. Removal of Plant on Termination

If the Contract is to be terminated under the provisions of the last preceding Sub-Clause the Contractor shall with all reasonable dispatch remove from the Site all Constructional Plant and shall give similar facilities to his Sub-Contractors to do so.

17.6. Payment if Contract is terminated

If the Contract shall be terminated as aforesaid the Contractor shall be paid by the Employer (in so far such amounts or items shall not have already been covered by payments on account made to the Contractor) for all work executed prior to the date of termination at the rates and prices provided in the Contract and in addition:-

- a) The amounts payable in respect of any preliminary items so far as the work or service comprised therein has been carried out or performed and a proper proportion as certified by the Engineer of any such items the work or service comprised in which has been partially carried out or performed.
- b) The cost of materials or goods reasonably ordered for the works or Temporary works shall have been delivered to the Contractor or of which the Contractor is legally liable to accept delivery (such materials or goods becoming the property of the Employer upon such payment being made by him).
- c) A sum to be certified by the Engineer being the amount of any expenditure reasonably incurred by the Contractor in the expectation of completing the whole of the works in so far as such expenditure shall not

have been covered by the payments in this Sub-Clause before mentioned.

- d) Any additional sum payable under the provisions of Sub-clause 17.4.
- e) The reasonable cost of removal under Sub-Clause 17.6 and (if required by the Contractor) return thereof to the Contractor's main plant yard in his country of registration or to any other destination at no greater cost.
- f) The reasonable cost of repatriation of all the Contractor's staff and workmen employed on or in connection with the works at the time of such termination.

Provided always that against any payments due from the Employer under this Sub-clause the Employer shall be entitled to be credited with any outstanding balance due from the Contractor for advance in respect of plant and materials and any sum previously paid by the Employer to the Contractor in respect of the execution of the work.

18.0. FRUSTRATION

18.1. Payment in the Event of Frustration

In the event of the Contract being frustrated whether by war or otherwise howsoever the sum payable by the Employer to the Contractor in respect of the work executed shall be the same as that which would have been payable under Clause 17 thereof if the Contract had been terminated under the provisions of Clause 17 thereof.

19. CONTRACTOR'S CLAIM ON THE DECISION AND INSTRUCTIONS OF ENGINEER

If the Contractor claims that the decisions or the instructions of the Engineer are unjustified and that accordingly he is entitled to extra payments on account thereof, he shall forthwith notify this to the Engineer to record his decisions and the reasons there for in writing and shall within two weeks from the date of execution/payment of items of work state his claims in writing to the Engineer thereafter. The Engineer shall thereafter within four weeks of the receipt of the claim reply to the points raised in the claim. Unless resolved by negotiation or discussion immediately thereafter within further four weeks, the question of liability for such payment will be treated as one of disputes.

In the Contract whenever, there is a discretion or exercise of will by the Engineer during the progress of work, the mode or manner of the exercise of the discretion shall not be a matter for arbitration.

Wherever the Board is given discretion to do any act under the Contract, the exercise of the discretion by the Board shall be final, conclusive and binding on all parties and the manner of exercise of discretion shall not be called in question and the matter cannot be referred to arbitration.

In the event of any dispute, the decision of the Chief Engineer shall be final, conclusive and binding on the parties to the Contract upon all questions relating to the meaning of the specifications, designs, drawings and instructions and as to the quality of workmanship or materials used on the

work or any matter arising out of or relating to the specifications, designs and drawings and instructions concerning the works or the execution of or failure to execute the same arising during the course of the works and in maintenance period. The above shall not be the subject of arbitration and in no case, shall the work be stopped consequent on such a dispute arising and the work shall also be carried out by the Contractor strictly in accordance with the instructions of the Chief Engineer.

20. SETTLEMENT OF DISPUTES

20.1. Engineer's Decision

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 dispute as to any opinion, instruction, determination, certificate or valuation of the Engineer, the matter in dispute shall, in the first place be referred in writing to the Engineer, with a copy to the other party. Such reference shall state that it is made pursuant to this Clause. Not later than the 90 days after the day on which he received such reference the Engineer shall give notice of his decision to the Contractor. Such decision shall state that it is made pursuant to this Clause.

Unless the Contract has already been repudiated or terminated, the Contractor shall, in every case continue to proceed with the Works with all due diligence and the Contractor shall give effect forthwith to every such decision of the Engineer unless and until the same shall be revised, as hereinafter provided, in an amicable settlement or an arbitral award.

If the Contractor dissatisfied with any decision of the Engineer, or if the Engineer fails to give notice of his decision on or before the ninetieth day after the day on which he received the reference then the Contractor may, on or before the sixteenth day after the day on which he received notice of such decision, or on or before the sixteenth day after the day on which the said period of 90 days expired as the case may be, give notice to the Engineer, of his intention to commence arbitration as hereinafter provided, as to the matter in dispute. Such notice shall establish the entitlement of the party giving the same to commence arbitration, as hereinafter provided, as to such dispute and, subject to Sub-clause 20.3 no arbitration in respect thereof may be commenced unless such notice is given.

If the Engineer has given notice of his decision as to a matter in dispute to the Contractor and no notice of intention to commence arbitration as to such dispute has been given by the Contractor on or before the sixteenth day after the day on which the parties received notice as to such decision from the Engineer, the said decision shall become final and binding upon the Contractor.

20.2. Amicable Settlement

Where notice of intention to commence arbitration as to a dispute has been given in accordance with Sub-Clause 20.1 arbitration of such dispute shall not be commenced unless an attempt has first been made by the parties to settle such dispute amicably. Provided that, unless the parties otherwise agree arbitration may be commenced on or after the sixtieth day after the day on which notice of intention to commence arbitration of such dispute was given whether or not any attempt at amicable settlement thereof has been made.

20.3. Failure to Comply with Engineer's Decision

Where neither the Engineer nor the Contractor has given notice of intention to commence arbitration of a dispute within the period stated in Sub-Clause 20.1. and the related decision has become final and binding, either party may, if the other party fails to comply with such decision, and without prejudice to any other rights it may have refer the failure to arbitration in accordance with Sub-clause 21. The provisions of Sub-Clause 20.1 and 20.2. shall not apply to any such reference.

21. ARBITRATION

Any dispute in respect of which

- a) The decision, if any, of the Engineer has not become final and binding pursuant to Sub-Clause 20.1 and
- b) The clause may be read as “Amicable settlement has not been reached within the period stated in the Sub Clause 20.2 shall be finally settled under the Rules of Indian Arbitration and Reconciliation (Amendment) Act, 2015 and the amendments thereafter if any” and the rules made there under and any statutory amendment thereof by two arbitrators one by each party and a presiding arbitrator to be appointed by the said arbitrators. The said arbitrator/s and / presiding arbitrator shall have full power to open up, review and revise any decision, opinion, instruction, determination, certificate or valuation of the Engineer related to the dispute. If any fees are payable to the Arbitrator these shall be paid equally by both the parties.

Neither party shall be limited in the proceedings before such arbitrator/s to the evidence or arguments put before the Engineer for the purpose of obtaining his said decision pursuant to Sub-Clause 20.1. No such decision shall disqualify the Engineer from being called as a witness and giving evidence before the arbitrator/s on any matter whatsoever relevant to the dispute.

The contractor should deposit with the port an amount equivalent to 10% the claims submitted for arbitration beforehand. The deposit will be refunded to the contractor if the arbitration award is in his favour in to otherwise the amount to be refunded to him will be in proportion to the amount of claims admitted by the arbitrator and the balance amount of the deposit will stand forfeited.

Arbitration may be commenced prior to or after completion of the works, provided that the obligations of the Employer, the Engineer and the Contractor shall not be altered by reason of the arbitration being conducted during the progress of the Works. Arbitration proceedings shall be held at Tuticorin.

21.1 Law Governing the Contract

This Contract shall be governed by the Indian Laws for the time being in force.

21.1.1. Law

The Contract shall be interpreted and have effect in accordance with the law of India and any suit or other proceeding relating to this Contract shall be filed or taken by the Contractor in a Court of Law only in Tuticorin.

22.0. NOTICES

22.1. Notice to Contractor

All certificates, notices or instructions to be given to the Contractor by the Employer or the Engineer under the terms of the Contract shall be sent by post, cable, telex or facsimile transmission to or left at the Contractor's principal place of business or such other address as the Contractor shall nominate for that purpose.

22.2 Notice to Employer and Engineer

Any notice to be given to the Employer or to the Engineer under the terms of the Contract shall be sent by post, or facsimile transmission to or left at the following address:-

Chief Engineer,
Administrative Building,
V.O.Chidambaranar Port Authority,
Tuticorin – 628 004
Tamil Nadu, INDIA.

23. MAJOR ECONOMIC DISLOCATION

In the event of there being subsequent to the date of Tender such a major economic dislocation within the country in which the works are being or are to be constructed as to result in the imposition by the Government or that country of currency restrictions or in devaluation of the currency of that country the Employer shall pay to the Contractor any increased costs of or incidentals to the execution of the works which is howsoever attributed, to or consequent on or the result of or in any way whatever connected with such economic dislocation provided always that nothing in this Sub-Clause contained shall prejudice the right of the Contractor to exercise any other rights or remedies to which the Contractor may be entitled in such event.

24. PRICE ESCALATION ON MATERIAL AND LABOUR

Adjustment to the contract Price shall not be allowed in respect of rise or fall in the cost of labour and / or materials and / or any other matters affecting the cost of execution of works.

25. SITE DRAINAGE

All water which may accumulate on the site during the progress of work or in trenches and excavations from other than the Excepted Risks shall be removed from the site to the satisfaction of the Engineer and at the Contractor's expenses.

26. PROTECTION OF TREES

Trees designated by the Engineer shall be protected from damage during the course of the works and earth level within one meter of each such tree shall not be changed. Where necessary such trees shall be protected with temporary fencing.

27. CHANGES IN CONSTITUTION

Where the Contractor' is a partnership firm, prior approval in writing of the Engineer shall be obtained before any change is made in the constitution of the firm. If the Contractor is an individual or a Hindu undivided family business concern such approval as aforesaid shall likewise be obtained before the Contractor enters into any partnership Agreement where under the partnership firm would have the right to carry out the work hereby undertaken by the Contractor.

28. REGARDING ENTRY OF LABOUR & VEHICLES IN HARBOUR PREMISES

Admission into the Harbour is regulated by passes.

The passes for entry into Green Gate for Labour and Vehicles of the Contractor in connection with the execution of this contract work shall be obtained at his cost as per tariff in force from time to time in this Port.

No entry fee will be collected for the entry and stationed at project site for construction equipments / floating barge to be engaged for the work depending on the type of work to be certified by the Engineer.

29. SET OFF CLAUSE

Any sum of money due and payable to the Contractor (including the Performance Security and Security Deposit returnable to him) under this Contract may be appropriated by the Port and set off against any claim of this Port for the Payment of a sum of money arising out of or under other Contract made by the Contractor with the Port.

30. TERMINATION OF CONTRACT IN THE EVENT OF DEATH, INSANE ETC.

In the event of death, insanity or insolvency of the Contractor or in the case of the Contractor being a partnership on dissolution of the firm of Contractors or in case of the Contractor being a company governed by Companies Act, 1956, the winding up of the company, the Contract shall be terminated on the happening of and all accepted and acceptable work shall be measured up and paid for to the person or persons legally entitled to receive payment for the work done, and on his or their executing a bond indemnifying the Board against any claims that may be made in respect of payments made by board by persons claiming from the Contractor or other in respect of work done by the Contractor prior to the termination of the Contract.

31. 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 personnel through custom barriers.

No photographs of the works or any part thereof or plant deployed thereon shall be taken or permitted by the Contractor to be taken by any of his or sub Contractor's employees without the approval of the Engineer and no such photographs shall be published or otherwise circulated without the approval of the Engineer, except for what is stated in Sub-Clause No. 6.6.3. & 6.6.4.

Contractor shall provide a four wheeler tourist vehicle (Tata sumo / Bolero / Xylo or equivalent) with driver during contract period for the use of employer. This vehicle will be used only for duties related to the works of this contract. Vehicle must be in very good condition and to the satisfaction of Engineer - In-charge. Necessary fuel / oil / driver / maintenance etc., will have to be borne by the contractor. During the currency of contract in case the contractor does not provide the vehicle the employer will engage the other tourist vehicle and actual charges incurred will be recovered from their due payments or Rs.2500/- per day will be recovered.

32. EMPLOYEES STATE INSURANCE ACT, 1948

- i. The contractor should adhere to the Employees State Insurance Act 1948 (34 of 1948)
- ii. The Tender shall be issued to the Contractor only if the contractor has registered under ESI Act 1948 and has obtained separate ESI Code.
- iii. If the contractors failed to comply with the ESI Act, it is the duty of Principle Employer i.e PORT AUTHORITY to recover from the contractors bill and make payment to ESI.

33.

EMPLOYEES PROVIDENT FUND (EPF) & MS ACT,1952

- i. The Contractor has to comply with all provision contained in EPF & MS ACT, 1952.
- ii. Rate quoted in BOQ (Price Bid) shall not include EPF component. The claim for EPF component shall be admitted as per actual on submission of documentary proof of payment made to EPF Authorities along with full details of manpower deployed and calculation of contribution.
- iii. Tender shall be issued only if the contractor has separate EPF Code.

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SECTION PART - B

SPECIAL CONDITIONS

1. GENERAL

- 1.1. The work under this Contract shall be carried out in accordance with particular specifications read in conjunction with the General Rules, Specifications, Conditions as approved by the Department. In case of Specifications for a particular item are not available in the Tender documents and All India Standard Specifications (AISS) relevant I.S. Specification shall apply.

Contract Drawings

The Drawings that will form part of the Contract are given under list of drawings attached. All further modified and additional drawing showing further details of work or otherwise issued to the Contractors by Chief Engineer from time to time during the currency of the Contract shall also be deemed to form part of the Contract.

2. GUIDELINES

Before submitting the Tenders, the Tenderer shall carefully go through the Tender documents and in particular the Tender schedules and the drawings and shall also inspect the places of work so as to gather full and first-hand knowledge of the site conditions on which they shall have their Tenders.

- a) The quantities given under the schedule are those upon which approximate estimated costs of the work are based. But they are subject to alterations, omissions, deductions and additions and do not necessarily show the actual quantities of the work to be done.
- b) The Description of the items of the work given in the Bill of quantities should be read along with the specification, drawings and conditions of the Contract.
- c) The Board shall not be held responsible for any loss to the Contractor arising from non-supply or any delays in the supply of materials, water, electric current etc., due to unforeseen circumstances.
- d) The bills for the work shall be prepared by the Contractor himself in the Authority's prescribed form and it shall be based on the actual measurements of works done by the Contractor irrespective of the Contract price.
- e) The competent staff / workmen shall be employed by the Contractor to ensure proper execution of the Contract.
- f) The site for the proposed Filling and development area is behind the North Cargo Berth II
- g) Laying X-Stones of size 10 to 70 Kg for creation of bund and to lay P.C.C Beam of size 2m x 2m for the entire length of the berth.
- h) Then the dredged materials (dredged materials will be provided by the Port) need to be filled as per the drawing above which Soling Stone

200mm Tk, P.C.C 1:4:8 @ 300mm Tk, Sand Filling 50mm Tk and Heavy Duty Pavement Block 100mm Tk needs to be laid.

- i) Further, in the inner side of X-Stone bund, IRC 50mm metal for a thickness of 300mm and Geo Fabric Filter layer 2.4mm to 3mm TK have to be executed.
- j) Further, the existing cable trench available at the road edge to the entire length of the berth of around 0.75m height above road level has to be dismantled to match the existing road and proposed development of backup area.
- k) The existing berths at SBW, NBW and central breakwater are under operation on all the 24 hours. There are considerable movement of ships, tugs and floating crafts in the dock basin. Under this condition, the Contractor has to execute the works covered under this Contract without any hindrance to the existing traffic. The Contractor shall take these site conditions into account and quote the rates accordingly.

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PART - C

GENERAL INFORMATION

1. SITE

V.O.Chidambaranar Port, fast growing Port situated on the South East coast of India adjoining the Gulf of Mannar at 8°47' 30" N, and 78°12' 15" E is one of the twelve Major Port of India. The V.O.Chidambaranar Port Authority was declared as a Major Port by the Government of India in July, 1974. The Port has two operational wings viz. Zone 'A' comprising the new port and Zone 'B' constituting the old anchorage port, situated about 9 km away from the new port. Presently, Zone 'A' has thirteen cargo berths including ten alongside berths, one oil jetty and two coal jetties. Zone 'B' has only three berths, including one north coal wharf, one sheet pile wharf and one RCC jetty.

The present cargo handling capacity of V.O.Chidambaranar Port is 81.50 Million Tonnes. Port handled 41.41 Million Tonnes of cargo during the year 2023-24.

Facilities available at V.O.Chidambaranar Port Zone 'A' (Major Port)

a) Berths at South Breakwater

i)	Alongside berths	9 Nos.
ii)	Shallow Draught Berth	1 No.
iii)	Coastal Berth	1 No.

b) At North Breakwater

i)	Oil Jetty	1 No.
ii)	Coal Jetty	2 Nos.
iii)	North Cargo Berths	3 Nos.

c) Draught

Maximum draught available	14.20 m.
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2.0. DATA

2.1. Meteorological Data

2.1.1. Atmospheric Pressure

Mean pressure reduced to MSD is 1010.7 millibars.

2.1.2. Temperature

The mean of the daily maxima and minima are about 38° C and 26 ° C in summer and 28 ° C and 20 ° C in winter.

2.1.3 Relative Humidity

The maximum humidity are 52% and 81% during South West Monsoon and North East Monsoon respectively. The highest and lowest values of humidity will vary from 81% in winter to 61% in summer.

2.1.4. Rainfall

Tuticorin experiences rain from both South-west and North-East monsoons. The major quantum of spell occurs over the period from September to March. The average annual rainfall observed over a period of 37 years is about 610 mm. However; V.O.Chidambaranar Port received the highest rainfall of about 1100 mm in 1997 which was not witnessed in the past 50 years.

2.1.5. Wind

Mean wind speeds of about 15 knots are quite probable from W and ENE and about 10 knots from SSE. Wind speeds of about 27 knots lasting for a few days have also been observed. But on a very few occasions like the year 1961 these speeds have been exceeded.

2.1.6. Cyclones

The months of November and December are the worst as far as cyclones in this area are concerned. The winds associated with the cyclones, especially these emanating from the Bay of Bengal may generate significant disturbances. Only two severe storms passed close to Tuticorin Port and other storms crossed further away. One of these severe storms passed directly over Tuticorin with a gust speed 113 k.m.p.h. during November 1992. Recently Tsunami waves attacked Tuticorin Port during December, 2004. Tuticorin Port can work normally throughout the year except during severe storms.

2.2. Marine Data

2.2.1. Deep Sea

The estimated wind speed exists around 25 km/hr in January, May and October, 15 km/hr in February, March and September, 5 to 15 km/hr in April and November, 35 km/hr in December, 25 to 55 km/hr in July and about 55 km/hr in June and August. Strong wind prevails during South West Monsoon as well as North East Monsoon. The wind direction predominantly vary between 60° - 90° during November to March 220° – 270° during May to September and 180 ° in April.

2.2.2. Shore

Morning wind prevailed about 10 knots during January – March, June, July, October and December and less than 5 knots during rest of the year. Evening wind was 10-15 knots throughout the year. Morning wind was from 20° in December to March and about 250° during rest of the year. Evening wind was 110° in December to March and 230° – 290° during the rest of the year.

2.2.3. Tides

The tide levels from Chart Datum at Tuticorin are given below.

Lowest Low Water Level	:	+ 0.11 m
Mean Lower low Water Springs	:	+ 0.25 m
Mean Low Water Springs	:	+0.29 m

Mean Low Water Neaps	:	+ 0.55 m
Mean Sea Level	:	+ 0.64 m
Mean High Water Neaps	:	+0.71 m
Mean High Water Springs	:	+ 0.99 m
Highest High Water Level	:	+ 1.26 m

2.2.4. Currents

The currents along the coast generally set with wind. Currents are weak ranging from 0.5 to 1.00 knot. The currents are southerly or northerly depending on the monsoon seasons.

2.2.5. Waves

National Institute of Ocean Technology has deployed one shallow water wave rider buoy to collect physical oceanographic information off V.O.Chidambaranar Port. Wave information collected by this buoy has been analyzed and a one year data has been prepared. The wave height, wave period and wave directions are shown in the Table 1 to 3.

1. The peak wave heights are observed during the mid of May and August of the order of 2.2 m and during December of the order of 1.5 m.
2. The peak wave period is 9s with the wave approaching from South of South East.
3. The Peak wave heights of 1.75 m and 2.25 m are observed from the waves approaching from East and South directions respectively.
4. The wave directions vary from about 45 ° (North east) to 225 ° (South West).

Table -1 Frequency analysis of Wave Height

Wave Height Range (m)	Number of Occurrences	% of Occurrences	Cumulative % of Occurrences
<0.2	0	0.0	0.0
0.2-0.4	5	0.2	0.2
0.4-0.6	158	5.6	5.8
0.6-0.8	817	28.7	34.5
0.8-1.0	646	22.7	57.2
1.0-1.2	621	21.9	79.1
1.2-1.4	266	9.4	88.5
1.4-1.6	228	8.0	96.5
1.6-1.8	77	2.7	99.2
1.8-2.0	20	0.7	99.9
>2.0	4	0.1	100.0

Table – 2 Frequency analysis of Wave Period

Wave Period (s) Range	No. of Occurrences	% of Occurrences.
<2.5	0	0.0
2.5-3.0	7	0.2
3.0-3.5	252	8.9
3.5-4.0	633	22.3
4.0-4.5	398	14.0
4.5-5.0	575	20.2
5.0-5.5	345	12.1
5.5-6.0	236	8.3
6.0-6.5	151	5.3
6.5-7.0	117	4.1
7.0-7.5	72	2.5
7.5-8.0	31	1.1
>8.0	25	0.9

Table – 3 Frequency analysis of Wave Direction from North

Wave Direction (°) Range	No. of Occurrences	% of Occurrences
<10	1	0.0
10-30	5	0.2
30-50	32	1.1
50-70	171	6.0
70-90	343	12.1
90-110	249	8.8
110-130	187	6.6
130-150	246	8.7
150-170	863	30.4
170-190	571	20.1
190-210	138	4.9
210-230	28	1.0
230-250	5	0.2
250-270	1	0.0
>270	0	0.0

2.3. Geological Data**2.3.1. Shore Area**

The general features of geological conditions of Port are indicated below.

1. Shore area is of very fine sand except for a thin layer of about 2 m of limestone occurring around – 6 to -7 m below CD.
2. Flat and Low with levels varying + 1.2 m to + 1.7 m.
3. GWL varies between 0.6 m to 1.2 m below ground level.

4. Water is saline in most areas.
5. Sea bed is shallow with depth of – 1 m below CD at 480 m and -10 m below CD at 3000 m from shoreline.
6. Thereafter the sea bed dips at a rate of one in 100 m. approximately and a depth of (-)10 mtrs. is noticed at about 3000 meters away from the coast line.

3. DATUM

The Datum to which levels and soundings have been reduced for the purpose of Drawings in Contract is the chart datum which is 2.36 metre below the G.T.S. Benchmark situated beside the path leading to the main entrance of the Holy Trinity Church of England at Tuticorin. The Contractor will be given, by the Engineer, the value of a Benchmark relative to the chart Datum located near the Green Gate of the Port which shall be used for all setting out, soundings etc.

4. BASELINE

The base line, the length and bearings of which are given, is indicated in the Drawings.

5. HIGH & LOW WATER

The levels of high and low water shown on the drawings are derived from information available. The actual water level may vary from the predicted level from day to day. The Contractor will not be entitled to any extra payment should such levels prove during the execution of the works to be either too high or too low or delay or damage, especially due to high tides or floods.

6. ORDER OF WORKS

The order in which the works are to be carried out shall be such to suit the detailed method of construction to be adopted by the Contractors. The work shall be carried out so as to enable the Contractors to work concurrently and in such a way as not to be interference with any other works.

7. MARKER BUOYS

The Contractor shall install and maintain such buoys as may be necessary to define the extent of the site and alignment.

8.0. SERVICES AND FACILITIES

The following services and facilities are available for use of the Contractors for construction.

8.1. Electricity

- a) The Contractor is to make his own arrangements at his cost to install tested meters at the respective points of supply at the harbour area and to draw only U.G. cable,

put up fittings required and take electrical energy for lighting and power required for use.

- b) The entire electrical installation shall conform to Indian Electricity Rules and as per general layout approved by the Chief Mechanical Engineer. But the Contractor shall be responsible for the details.
- c) No claim will be entertained by the Port for stoppage or failure of electric supply. In case of failure of electricity, the Contractor shall make arrangement for generator at his cost for uninterrupted power supply.
- d) Current consumption charges consumed by the Contractor including meter rent if any will be recovered as usual rates. The rate for current consumption will be paid by the contractor at the applicable service charges which is subject to revision from time to time. Further, the contractor has to lay cable and take current from the nearest point as directed by the department in-charge.

8.2. Water Supply

Water supply will be made available from the nearby available Port water supply line. The Contractor(s) shall make his / their own arrangements to draw water required for the work including cost of all materials and conveyance to the site of work and nothing extra will be paid for the same. The cost will be recovered from the Contractor at Rs 70.00 (Rupees Seventy only) per thousand liter of water supplied. The above water charge is subject to revision from time to time. The Contractor should fix the water meter at his cost at places required for him. Water shall be drawn through the meter only. If the Contractor fails to fix the water meter or if the water meter goes out of order water charges shall be recovered at 1% of the value of the work done during the period under consideration.

It should be clearly understood that the Department does not guarantee to maintain uninterrupted supply of water and it will be incumbent on the part of the Contractor(s) to make alternative arrangements for water at his / their own cost, in the event of any temporary breakdown in the Departmental water mains and whenever the Department is unable to supply water due to scarcity, so that progress on his / their work is not held up for want of water. No claim of damage or refund of water charge will be entertained on account of such breakdown, non-supply etc. and any delay in completing the work for want of water will not be considered as hindrance to the work.

8.3. Multipurpose of Workshop

Facilities for taking minor mechanical jobs are available in the Project neighborhood.

8.4 Availability of Materials

Diesel and petrol filling stations are available at Harbour Area and Tuticorin Town.

9. CONTRACTOR TO WORK TO OTHER CONTRACTOR'S DRAWINGS

The Contractor shall where so directed by the Engineer or Engineer's Representative be required to work to other Drawing where so ever that the Drawings for works not included in this Contract are related to particular details of work.

10. ATTENDANCE ON OTHER CONTRACTORS

The Contractor shall from time to time as the Engineer directs provide attendance on other Contractors and carryout minor works in connection with such Contract.

11. CONTRACTORS WORKING AREA

The contractor will be allowed to work in the area adjacent to the site of works and at the shore. He shall locate his office and other working areas for storage of plant and equipment and his site workshop in such a way that they do not interfere with the working of other contractors. The location area and the plan of such structures must be got approved by the Engineer and no such work shall be constructed before obtaining the written approval of the Engineer. Land rental charges as applicable will be charged for the area occupied for the above use. But these buildings are not to be used for residential purposes.

12. TELEPHONE FACILITIES

The Contractor shall make his arrangements for the provision of telephone facilities to the site as a contingency of the Contract. However, Public Call Office with STD & ISD facilities are available at Green Gate area.

13. SURVEYS AND LEVELS TO BE AGREED

Before the works or any part thereof are begun, the Contractor's agent and the Engineer or his Representative shall together survey and take levels of the site of the works both above and below water level and agreed to all particulars on which the survey is to be made and on which the measurements of the works are to be based. Failing such surveys and agreements being prepared and or signed by the Contractor's agent the surveys of the Engineer shall be final and binding of the Contractors.

14. NOTICE OF OPERATIONS

No important operation shall be commenced nor shall the work outside the working hours be carried out without the consent of the Engineer or his Representative or without full and complete notice also in writing being given to him sufficiently in advance of the time of the operation so as to enable him to make such arrangements as he may deem necessary for his inspection.

15. DIVERS

When Divers are employed, the Contractor is to arrange for competent linesmen to be in attendance at all times during diving operations. Complete equipment and standby diver must be ready for the use whenever operations by a single diver are in progress. Only Divers having License to dive will be allowed to do all diving operations.

16. INSPECTION OF UNDERWATER WORKS

All works done under water will be inspected by the Engineer or his Representative or Port Divers. The Contractor shall give all assistance including provision of diving equipments required for such inspections by the Engineer or his Representative and also provide a standby diver with independent equipment during the period of inspection.

17. SAFETY PRECAUTIONS

17.1. The Contractor shall take all possible precautions to prevent the outbreak of fire at the work site and quarry site and in all offices, stores, camps and other places and things connected therewith and especially with respect to the safe storage of petroleum products, explosives and other hazardous goods. He shall comply with all the rules, regulations and orders of any statutory authority and of the Engineer at no extra cost to the Port. The Contractor shall obtain from the Engineer details of any restricted areas in or around the site and shall have prominently and clearly displayed for the information of his staff and workers notice defining any such restricted area. Such notice shall be provided at his own expense. The Contractor shall give every facility to the authorized safety officers of the Port to inspect the works wherever required and shall observe and abide by any instruction given by the Engineer in regard to use of the plant and equipment and temporary works whether in respect of fire hazards or general safety and any instructions on smoking or the use of the naked light by persons employed by the Contractor in compliance with such requirements. All mooring buoys lighted buoys, flags or beacons, etc., for all submerged works and of any craft floating plant and stagings of such lines tugs or other mechanical appliances and other navigation lights as and when demanded by the Naval authority or the Port Authority or any other responsible authority for their efficient working, maintenance and use at any time of day and night shall be provided. The Contractor's floating craft should conform to provisions in the relevant acts of Mercantile Marine Department regarding safety at sea.

17.2. Fire Fighting Arrangement

- a) The Contractor shall provide suitable arrangements for firefighting in the plant and equipment. For this purpose, he shall provide requisite number of fire-extinguishers and adequate number of buckets, some of which are to be always filled with sand and some with water. This equipment shall be provided at prominent and easily assessable places as directed by the Engineer and shall be properly maintained.
- b) The Contractor may be subjected to periodic fire prevention inspections by local fire prevention authorities or Port's Fire Department. Deficiency or unsafe condition shall be corrected at the cost of the Contractor with the approval of the Engineer / Port's Fire Department.
These fire prevention inspections will include but are not limited to the following:
 - Proper handling, storage and disposal of combustible materials, liquids and wastes.
 - Work operations which can create fire hazards.
 - Access to firefighting equipment.

- Type, size, number and location fire extinguishers or other firefighting equipment.
 - Inspection and maintenance of records for extinguishers.
 - Type, number and location of containers for the removal of surplus materials and rubbish.
 - General house-keeping.
- c) While carrying out alteration works inside the Port area, the Contractor shall isolate the zone under his occupation in consultation with the Fire Department. Smoke from welding, etc., should be kept to minimum to ensure that false alarms are not raised.

18. ADVERTISING

No advertisement may be placed on any building fencing or scaffolding etc., erected in connection with this Contract without the written permission of the Engineer.

19. EXISTING SERVICES

Drains, pipes, cables, overhead wires and similar services encountered in the course of the works shall be guarded from injury by the Contractor at his own expense so that they may continue in full and uninterrupted use to the satisfaction of the owners 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.

Should any damage be done by the Contractor to any main pipes, cables or lines whether above or below the ground must make good such damage at his cost without delay to the satisfaction of the Engineer.

20. FILLING IN HOLES AND TRENCHES

The Contractor immediately upon completion of any work under the Contract shall at his own expense fill up all holes or trenches which have been made or dug, level or remove mounds of earth that may have been made and clear away all rubbish obtained in the execution of the work or temporary works.

21. KEEPING THE SITE CLEAN

The Contractor shall at all times keep the site free from all surplus excavated materials, rubbish offensive matter which shall be disposed off in a manner to be approved by the Engineer.

22. QUARRY MATERIAL & ROYALTY PAYMENTS, ETC.

The Contractor shall at his own costs and expenses obtain Quarry materials required for execution of works. The Contractor shall also bear all costs and expenses incurred by him for identification of sources, transport of material to the site of work, royalty, seigniorage fee and other expenses in connection with obtaining stone and other filter materials.

23. QUARRIES

For stone materials from any approved quarries, the Contractor has to make his own arrangements for obtaining permission from Revenue Department / Department of Mines / Department of Explosives / land Owners etc., for quarrying operation and also for payment of all charges like quarrying license, explosive license, Seigniorage etc. The Contractor shall also indemnify the Department from all liabilities in this regard. However, the above is subject to the condition that the quality of the material is acceptable to the Engineer.

The conveyance of stone materials from approved quarries will be resorted to with specific approval of Engineer after acceptance of suitability of stones materials for the work.

The Contractor shall arrange apparatus and facilities for the tests to be carried out for the quarry stones used for constructions as per the IS specification mentioned below at his cost.

I. CRUSHING TEST

The aggregate crushing value is a relative measure of resistance to crushing under gradually applied crushing load. Tests for determining the aggregate crushing value for the quarry stones to be used for construction of the rubble bund shall be conforming to the test standards specified in **IS: 2386 Part-IV**. The quarry stones brought to the site for construction shall possess a minimum crushing value which is sufficient as per the Engineer's representative and shall be approved by the Engineer's representative.

II. ABRASION TEST

Abrasion test is to be carried out to assess the hardness property of aggregates and to decide whether they are suitable for the rubble bund construction. Tests for determining the hardness property for the quarry stones for construction of the rubble bund shall be conforming to the test standards specified in **IS: 2386 Part-IV**. The maximum abrasion value of quarry stones brought to the site should be below the required value as per the engineer's representative and shall be approved by the Engineer's Representative.

III. SOUNDNESS TEST

The resistance and durability of aggregates to weathering action is to be checked using soundness test. Tests for determining the resistance and durability of the quarry stones for construction of the rubble bund shall be conforming to the test standards specified in **IS: 2386 Part-V**. The quarry stones brought to the site for construction shall possess a minimum loss in weight which is sufficient as per the engineer in charge and shall be approved by the Engineer's representative.

IV. DENSITY

Tests for determining the specific gravity and density for the quarry stones to be used for construction of the rubble bund shall be

conforming to the test standards specified in **IS 2386.PART-3.1963**. The density and sp. Gravity of the quarry stones brought at site shall be having a sufficient value as suggested by the engineer's representative.

General

The Contractor shall carry out the works in the quarries in conformity with all Rules and Regulations already laid down or that may be laid down from time to time in future by the Government under Indian Mines Act, Mines and Metalliferous Regulations, Maternity Benefits Rules, Minimum Wages Act, Indian Explosives Act, Mines Creche Rules and such other Acts, Rules and Regulations as applicable for the working of the mines. Any damage or costs incurred for non-compliance of the above rules shall be to the responsibility of the Contractor. The Engineer shall be given full facilities for inspection of the working of the quarry records, by the Contractor at all times, so as to enable him to check that the working records, etc., are all in accordance to relevant Rules etc. The Engineer or his Representative shall at any time be allowed to inspect the works, buildings and equipment at the quarry.

The Contractor shall maintain at his own cost the books, and registers required to be kept under Indian Mines Act, Mines and Metalliferous Regulations, Minimum Wages Act, etc., furnishing all information required therein. These books shall open to the Engineer or his Representative for inspection at all times and the Contractor shall furnish copies of the information, returns as and when required by the Government. To conform the Acts, Rules etc., the Contractor shall arrange necessary buildings for the creches, stores medical aid, periodical examination of works, magazine, etc., as envisaged in the Acts, Rules, etc., at his own cost. The Contractor shall also see that the rules framed under Indian Explosives Act as well as under Indian Mines Act with regard to the storage and handle of the Explosives are strictly adhered to. The Contractor shall at his own cost arrange for first aid attendants, first aid equipment, rest shelters, barricades, danger signals latrines, etc., as provided for in the various Acts and Rules.

Any stones which is in the opinion of the Engineer's Representative do not conform to the specifications will be rejected by him at any time. If the rejection is done after the stones are brought to the site, the rejected stones shall not be used on the works and such rejected materials should be removed from the site at the Contractor's cost.

All safety Rules and Regulations regarding the blasting operations such as road blocks, danger signals, posting guards, giving signals before blasting and all other safety precautions as per the rules should be observed. The Contractor is fully responsible for all damages to the property or human lives during the quarrying operations and shall indemnify the employer against any claim whatsoever from any party.

All quarrying operations should be carried out in an organized and expeditions manner, systematically and with proper planning. The Contractor should engage licensed blasters and adopt electrical blasting on the quarry face which should ensure perfect safety to the men engaged in the quarrying and achieve the out-turn required for completion of the work as per programme. Hand blasting may however

be done for secondary blasting at floor level such as breaking of boulders, etc. In addition to the blaster, the Contractor should have his technical Representative to inspect the quarry and arrange quarrying in a systematic manner. The Contractor should carryout the quarrying operations in such a manner that the minimum average daily out turn is maintained.

PART - D

MATERIALS

1.0. GENERAL

1.1. Indian Standard

All materials shall, as far as possible be of Indian origin and conform to latest editions of the Bureau of Indian Standards. Standards issued elsewhere may be used only if approved by the Engineer and for those materials only, for which appropriate Indian Standards do not exist.

1.2. Sampling and Testing

All materials used in the works shall be subjected to inspection and tests. Samples of all materials proposed to be employed in the Permanent Works shall be submitted to the Engineer for approval, before they are brought to the site for incorporating in works.

Samples provided to the Engineer or his Representative for their retention are to be in leveled boxes suitable for storage. Materials or workmanship not corresponding in character and quality with approved samples will be rejected by the Engineer or his Representative.

Samples required for approval and testing must be supplied in sufficient time to allow for testing and approval, due allowance being made for the fact that if the first samples are rejected further samples may be required. Delay to the works arising from the late submission of samples will not be acceptable as a reason for delay in the completion of the works.

Materials shall be tested before leaving the manufacturer's premises, where possible. Materials shall also be tested at the site and they may be rejected if found not suitable or not in accordance with the specification notwithstanding the results of the tests at the manufacturer's works or elsewhere or of test certificates or of any approval given earlier.

1.3. Dispatch of Materials

Materials shall not be dispatched from the Manufacturer's works or to the site without written authority from the Engineer or his Representatives.

1.4. Cost of Sampling and Testing

Sampling of materials for approval and testing as called for under the appropriate Indian Standard or other relevant Standard specification, and sampling and testing referred to in the preceding Sub-Clause and later in this specification, is to be done by the Contractor without charge to the Port and unless otherwise specified, the cost of all such tests and sampling shall be deemed to be included in the rates and prices quoted in the bill of quantities.

1.5. Test Certificates

All manufacturer's certificates of test, proof sheets, mill sheets etc., showing that the materials have been tested in accordance with the requirements of the appropriate Indian Standards, other relevant standard specifications or this specification, are to be supplied free of charges on request to the Engineer or his Representatives.

1.6. Names of Manufacturers and Copies of Orders

Before ordering any materials of any description for the permanent works the Contractor shall submit for the approval of the Engineer, the names of the makers and suppliers proposed and any other detail required by the Engineer and shall afterwards send to the Engineer copies in quadruplicate, of the orders given by the Contractor for the materials.

1.7. Storage of Materials

All materials used in the Permanent Works shall be stored on racks, supports, in bins under cover etc., as appropriate to prevent deterioration or damage from any cause whatsoever to the entire satisfaction of the Engineer, or his Representatives and as amplified in the succeeding clauses.

1.8. Records and Usage of Materials

The Contractor shall maintain a detailed record of all materials received used and balance quantity on the site or in his stores or storage and working areas in the vicinity of the site and shall make such records available to the Engineer at such times as the latter may reasonably require. Materials shall wherever possible and practicable be used in the order in which they arrive on the site and in the stores or storage and working areas in the vicinity of the site.

1.9. Notice for inspection of Materials

Where the Engineer or his Representative shall give notice to the Contractor that materials are to be inspected off the site, the Contractor shall, having regard to the location of the materials and the nature of the inspection, test or examination required, give to the Engineer or his Representative when such materials are ready for inspection, test or examination either during manufacture, fabrication etc., or on completion, such notice as the Engineer may reasonably require to enable the inspection, test or examination to be made.

Delay to the works arising from the later submission of such notice will not be acceptable as reason for delay in the completion of the works.

1.10. Removal of Improper Materials

The Engineer or his Representative shall during the progress of the works have powers to order in writing from time to time.

- (a) 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.
- (b) The substitution of proper and suitable materials.

2.0 CONCRETE AGGREGATE

2.1. Standards

Aggregate shall comply with the requirements of I.S.383 & 515 "Coarse and Fine Aggregate from Natural sources for concrete".

2.2. Quality

The aggregate shall be hard, strong, durable, clean and free from any adherent coatings or other deleterious matter and shall be obtained from an approved source. Aggregates which are chemically reactive with alkalis of cement shall not be used. Aggregates which are not perfectly clean shall be washed in clean fresh water to the satisfaction of the Engineer.

"The Contractor shall take away the rejected Materials and surplus materials (that are proclaimed to be his own) to the outside the Port premises between 8 AM and 6 PM on working days at site, after obtaining due permission of the Engineer's Representative in charge of work".

2.3. Testing

All aggregates shall be subject to inspection and testing sampling and Testing shall be carried out in accordance with I.S.2386 (Part I to Part VIII) "Methods of test for Aggregate for concrete".

2.4. Aggregates for Mass Concrete

Aggregate for mass concrete work shall be mechanically combined and shall be graded to the satisfaction of the Engineer.

2.5. Fine Aggregate for Structural Concrete

The grading of the fine aggregate for reinforced concrete shall be within the limits of grading zones I and II as defined in IS 383 "Coarse and Fine aggregate from Natural sources for concrete" Fine aggregate for use of concrete shall be washed, if ordered by the Engineer.

2.6. Fine Aggregates for Mortar and Grout

Fine aggregates for mortar and grout shall be obtained from an approved source. It shall comply with IS 383 and its grading shall be in accordance with grading zone III of Table III of IS 383.

2.7. Sand for Masonry Mortars

Sand specified for masonry mortars shall be natural sand, crushed stone sand or crushed gravel sand complying with IS 2116 "Sand for Masonry Mortars".

2.8. Sand for Plastering

Sand for use in mortars for internal wall and ceiling plastering and external plastering and renderings shall conform to class `A' grading of IS 1542 "Sand for Plaster".

2.9. Coarse Aggregate

Coarse aggregates for Reinforced concrete shall consist of hard broken granite stone metal free from flat laminated or elongated pieces and shall be within the limits of the relative grading in I.S. 383 Table II. Unless otherwise specified in the drawings, all coarse aggregates for reinforced concrete shall be graded aggregate of 20 mm nominal size.

2.10. Storage at Site

Aggregate shall be stored at the site on clean, well paved and drained areas which are not liable to flooding. The various sizes and types of aggregates shall be well separated and the layout and sitting of the storage areas shall be submitted to the Engineer for approval prior to start of construction.

2.11. Rejected Material

Any aggregate brought to the site which is not approved by the Engineer shall be immediately removed from the site.

3.0. CEMENT

3.1. Supply of Cement

The Contractor shall arrange for cement required for this work at his cost and quote the rates accordingly. Ordinary Portland Cement / PPC of the required grade viz. 43 or 53 grade conforming to I.S. Nos. 8112-1987, 12269-1987 and 1489 – 1991 respectively shall be procured by the Contractor at his cost. The Contractor shall produce to the Engineer a copy of the manufacturer's test certificate for each consignment of cement.

3.2. Tests

The Engineer may direct the Contractor to carry out such tests and analysis as he may consider necessary on each consignment of cement brought into the site. Cost of all such tests has to be borne by the Contractor. If such tests should lead to

rejection of the consignment, cement from the rejected consignment shall not be used in the works and the Contractor shall forthwith remove the entire consignment from the site.

3.3. Stock of Cement

In order to ensure due progress, the Contractor shall at all time maintain on the site at least such a stock of cement as the Engineer may from time to time consider necessary. No cement shall be used upon the works until it has been accepted as satisfactory by the Engineer.

3.4. Conditions for Cement

The Contractor shall procure OPC / PPC of 53 / 43 Grade, as required for the work, from reputed manufacturers of cement, such as ACC, Ultratech, India Cements, Madras Cements, Chettinad Cements, Birla Super and Cement Corporation of India, etc. or any other brand holding licence to use ISI certification mark for their product whose name shall be got approved from Engineer. Supply of cement shall bearing manufacturers name and ISI marking. Samples of cement arranged 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 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 of written order from the Engineer's Representative to do so. The cement shall be brought at Site in bulk supply.

If the supply of cement are in bags, the cement godown of the adequate capacity to store cement bags shall be constructed by the Contractor at Site of work for which no extra payment shall be made. Proper lock provision shall be made to the door of the cement godown. The Contractor shall be responsible for the Watch and Ward and safety of the cement godown. The Contractor shall facilitate the inspection of the cement godown by the Engineer's Representative at any time.

The Contractor shall supply free of charge the cement required for testing. The cost of tests shall be borne by the Contractor.

The actual receipt 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. 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.

Cement brought to site and cement remaining unused after completion of work shall not be removed from the site with written permission of the Engineer-in-charge.

Copy of manufacturer's test certificate confirm to BIS Codes for the particular consignment and invoice and bills shall be submitted by the Contractor for the supply of cement.

3.5. Storage of Cement

If the supply of the Cement in bags shall be unloaded under cover and stored (in accordance with the relevant BIS provision) in perfectly watertight and well ventilated building having a floor raised not less than 30 cm. from the ground. An air space shall be left between the floor and bottom layers of the bags. Each consignment shall be stacked separately therein to permit easy access for inspection and a record shall be kept so that each consignment may be identified by a serial number and date of delivery.

The store building shall be erected by the Contractor at his own cost near the site of work in such a manner that it is protected from all external agents which may damage it. The Contractor is fully responsible for the proper storage watch of materials.

3.6. Shuttering

All materials for shuttering shall be provided by the Contractor at his cost. The Contractor shall be entirely responsible for the sufficiency of the shuttering and for the safe removal of same. Before commencing the work he shall submit for the approval of the Engineer details of the shuttering he proposes to use, but such approval shall in no way relieve him of any of his responsibility for the sufficiency and efficiency of the shuttering.

4. WATER

Clean fresh potable water only shall be used for mixing and curing all concrete, grout and mortar. The water shall be free from any deleterious matter in solution or in suspension.

5. ADMIXTURES FOR CONCRETE

Admixtures to the cement shall be used only written approval of the Engineer. When permitted the Contractor shall furnish full details from the manufacturer and shall carryout such test as the Engineer may require before any admixture is used in the work.

6.0. SUPPLY OF STEEL

6.1. Procurement of Steel

The steel required for the work will not be supplied by the Port. The Contractor shall arrange to procure the steel for this work at his cost.

6.2. Steel Reinforcement

Steel reinforcing bars for concrete shall be round bars Fe 415 / 500 of Grade I quality complying to relevant IS code "Mild Steel and Medium Tensile Steel Bars and Hard Drawn Steel Wire for Concrete Reinforcement" or high yield strength deformed round bars conforming to BIS 1786 "Specification for Cold Twisted Steel Bars for Concrete Reinforcement". Steel reinforcements of TMT bars as per IS 1786 may be used for works in lieu of CTD bars as per BIS 1786.

The Contractor shall procure steel reinforcement bars conforming to relevant BIS codes from main producers or authorized dealers such as TISCO, SAIL, Vizag Steel, or any other brand containing IS / BIS codes and as approved by Engineer. The Contractor shall have to obtain and furnish test certificates to the Engineer in respect of all supplies of steel brought by him to the site of work. Samples shall also be taken and got tested by the Engineer's Representative as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the Contractor does not confirm to BIS codes the same shall stand rejected and shall be removed from the site of work by the Contractor at his cost within a week's time from written orders from the Engineer to do so.

The steel reinforcement shall be stored by the Contractor at site of work in such a way as to prevent distortion and corrosion and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.

- 6.3. For checking nominal mass tensile strength, bend test, re-bend test etc., specimen of sufficient length shall be cut from each size of the bar of random at frequency not less than that specified below:

<i>Size of Bar</i>	<i>For Consignment below 100 Tonnes</i>	<i>For Consignment above 100 Tonnes</i>
Under 10 mm dia.	One sample for each 25 tonnes or part thereof	One sample for each 40 tonnes or part thereof
10 mm to 16 mm dia.	One sample for each 35 tonnes or part thereof	One sample for each 45 tonnes or part thereof
Over 16 mm dia.	The sample for each 45 tonnes or part thereof	One sample for each 50 tonnes or part thereof

- 6.4. The Contractor shall supply free of charge the steel required for testing and cost of tests shall be borne by the the Contractor.

- 6.5.** The actual receipt and consumption of steel on work, shall be regulated and proper accounts maintained. The theoretical calculation of steel shall be worked out as per procedure prescribed below :

Theoretical quantity of steel shall be taken as the quantity required as per design or as authorised by the Engineer including authorised Lappages. The quantity of steel exceeding this theoretical requirement including the permissible variation will be borne by the Contractor and no additional payment will be made for this.

6.6. Structural Steel

Structural steel used in the works shall confirming to BIS 226 "Structural Steel" (Standard quality).

6.7. High Tensile Steel

High tensile steel, wherever specified, shall be in accordance with I.S. 961 "Structural steel (High tensile)".

6.8. M.S. Plates

M.S. Plates, wherever specified, shall be in accordance with I.S. 226.

6.9. Storage

Structural steel shall be kept in a clean condition until it is required to be used.

7.0 PAINT

7.1. General

All paints(anti-corporation paint – equivalent to deck guard primer and deck guard S paint) shall be of a quality approved by the Engineer and shall be obtained from only authorized suppliers/ directly from manufacturers like FOSROC, BASF, SIKA or equivalent.

8.0. General

All materials not herein fully specified and which may be offered for use in the works shall be subject to the approval of the Engineer, without which they shall not be used anywhere in the permanent works.

9.0. Lead for Materials

The lead statement furnished for the various materials are approximate only. No increase in rates shall become payable to the Contractor if the actual lead for any of the materials is found to be more than specified in the lead statement. If any materials found conveyed from Lesser lead the rate for the concerned items will be suitably revised.

PART - E
WORKMANSHIP

1.0. GENERAL

1.1. Standard

A high standard of workmanship in all trades will be required. The Contractor shall ensure that only skilled and experienced tradesmen are employed.

1.2. Plant

The Contractor shall be responsible for the supply, use and maintenance of all construction plant and equipment and he shall ensure that it is suitable for the work and is maintained in such a manner as to ensure its efficient working. The Engineer may direct that plant which is not efficient and is prejudicial to the quality of the work be removed from the site and replaced by plant to his satisfaction.

1.3. Temporary Works

Contractor shall make his own arrangement for all material, machinery, Tools & Plants. etc. required for temporary work at his cost. Where required, the Contractors shall furnish such details of his temporary works as may be called for by the Engineer and the Contractor shall satisfy the Engineer as to their safety and efficiency. The Engineer may direct that temporary works which he considers unsafe or inefficient shall be removed and replaced in satisfactory manner.

1.4. The Engineer shall have powers to order in writing for the removal of and proper re-execution of any work which in respect of workmanship or materials is not in the opinion of the Engineer in accordance with the Contract. In the case of default on the part of the Contractor in carrying out such order Engineer 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 shall be recoverable from him by the Engineer or may be deducted by the Engineer from any money due or which may become due to the Contractor.

The work under this contract which consist of the following items shall be carried out in accordance with the drawings, particular specifications read with in conjunction with general Rules, Specifications, Conditions as approved by the Port

- a) Laying X-Stones of size 10 to 70 Kg for creation of bund and to lay P.C.C Beam of size 2m x 2m for the entire length of the berth.
- b) Then the dredged materials (dredged materials will be provided by the Port) need to be filled as per the drawing above which Soling Stone

200mm Tk, P.C.C 1:4:8 @ 300mm Tk, Sand Filling 50mm Tk and Heavy Duty Pavement Block 100mm Tk needs to be laid.

- c) Further, in the inner side of X-Stone bund, IRC 50mm metal for a thickness of 300mm and Geo Fabric Filter layer 2.4mm to 3mm TK have to be executed.
- d) Further, the existing cable trench available at the road edge to the entire length of the berth of around 0.75m height above road level has to be dismantled to match the existing road and proposed development of backup area.

2.0. CONCRETE

2.1. Qualified Personnel

A equipped lab has to be installed by the contractor at site at his own cost to for conducting day to day tests. A fully qualified and experienced concrete quality control Engineer shall be employed by the Contractor and shall be available on site at all times when concreting is taking place. Prior to commencement of the works, Contractor should submit for the approval of the Engineer, details of qualifications and experience of the personnel to be engaged in the work of concrete quality control. Operators for mechanical vibrators and mixers and Foreman in charge of placing of concrete shall be fully trained and experienced for their class of work and they shall be named to the Engineer for approval and testing.

2.2. Strength of Concrete

a) Controlled / Design Mix

The grading and quality of aggregates shall be such that it shall give a minimum compressive strength on works tests for different mixes as given below, adopting I.S. 456-1978, I.S.10262-1982 and S.P.23 - Hand Book On Concrete Mixers by B.I.S. and also taking into consideration the water-cement ratio of prescribed I.S.4651 for Ports and Harbour structures. Wherever design mix not specified in the approved construction drawing volumetric mix shall be adopted.

Sl.	Component of work	Grade Designation	Characteristics 28 days cube strength (N/mm ²)	Minimum weight of cement per Cu.m. of concrete (Kg.)
1.	Pile, Pile muff and deck work [43 / 53 grade cement] etc	M 35	35	450
2	Concrete	1:2:4	15	320

Sl.	Component of work	Grade Designation	Characteristics 28 days cube strength (N/mm ²)	Minimum weight of cement per Cu.m. of concrete (Kg.)
3	Pavement block	M 40	40	400

2.3. Type of Concrete

Wherever the mix is indicated in volume in brackets there are volumetric mix, all others are design mix.

2.4. Proportion of Aggregate for Volumetric Mix

For volumetric concrete works, graded coarse aggregates shall be used in the proportions specified below. The proportions for fine aggregate and cement are also furnished for various mixes of concrete.

Sl. No.	Cement concrete mix (C.C.)	Nominal size of aggregate specified	For 1 Cu.m. of concrete		
			Course aggregate	Fine aggregate	Cement M.T.
1	1:2:4	20 mm	20 mm size 0.67 Cu.m. 10 mm size 0.22 Cu.m	Sand 0.445 Cu.m.	0.32
2.	1:3:6	20 mm	20 mm size 0.70 Cu.m. 10 mm size 0.24 Cu.m	Sand 0.47 Cu.m.	0.22
3	1:4:8	40 mm	40 mm size 0.65 Cu.m. 20 mm size 0.22 Cu.m	Sand 0.47 Cu.m.	0.17

2.5. Trial mixes and Preliminary Tests

The Contractor shall prepare trial mixes using the same type of plant and equipment as will be used for the Works. Trial mixes shall be made for concreting Grade of M35. From each trial mix 15 cm. concrete test cubes shall be made in sets of nine, three for test at 7 days and six for test at 28 days.

The preliminary cubes shall be made, cured and tested in accordance with IS 516. they shall be tested by the Contractor in a nominated laboratory or field laboratory and certified copies of the results of all tests shall be submitted to the Engineer. Preparation and testing shall be carried out in the presence of the Engineer if he so desires.

The appropriate strength requirements shall be satisfied if the average of the 28 day strengths of the six preliminary test cubes is at least 6 N/mm² above the specified characteristic strength and no cube fails to reach the characteristic strength. The

difference between the maximum and the minimum strength shall be not more than 20% of the said average.

A trial mix shall be acceptable with respect to strength when three sets of six preliminary test cubes (tested at 28 days) made from consecutive trial batches of a particular concrete satisfy the requirements described above.

Using the same trial mix as that from which the preliminary test cubes are made, the consistency of the concrete shall be determined by the compacting factor test in accordance with IS 1199 or other method approved by the Engineer.

The remainder of the trial mix shall be cast in a mould and compacted. After 24 hours the sides of the mould shall be struck and the surface examined in order to determine whether or not, in the opinion of the Engineer, an acceptable surface can be obtained using the mix.

When all tests mentioned above for strength, consistency and surface finish are satisfactory, the mix will be approved by the Engineer.

When a proposed mix has been approved, no variation shall be made in the mix proportions, or in the type, grading zone or source of any of the constituents without the consent of the Engineer. However, the minimum quantity of cement as prescribed in Cl. 2.2 above, shall be used in the concrete mix irrespective of cement quantity of design mix.

2.6. 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.

Frequent slump test shall be carried out in accordance with IS 1199 on samples of concrete taken immediately before placing to determine the consistency of concrete. The slumps of the trial mixes shall be recorded for identification purposes and for subsequent use as a routine check on workability.

However, slump shall not be used as an official measure of the workability of any concrete.

2.7. Weigh Batching and Mixing

The Contractor's arrangements for handling, batching, transporting and mixing of materials for concrete, together with all control procedures, shall receive approval in principle from the Engineer before any concreting work commences on site.

Before the commencement of concreting operations for any particular section of the works, the Contractor shall satisfy the Engineer that sufficient plant like Transit mixture, concrete pump, vibrator etc is in working order, including adequate stand-by equipment, in order to ensure the proper mixing, production of concrete, transporting and placing in the quantity required to complete the section of the works.

The capacity and location of the main batching and mixing plant(s) shall be such as to ensure a production rate sufficient for all the construction needs throughout the Contract.

Materials for all concrete classes shall be proportioned by weight in an approved weight-batcher and shall be thoroughly mixed in a batch mixer of an approved size and type so as to ensure a uniform distribution of the materials throughout the concrete.

2.8. Batching

Before commencement of work all weighing/measuring mechanism / Calibration shall be checked from the reputed lab and got approved from departmental officers.

Materials shall be weighed to an accuracy of +/- 2% apart from water which shall be weighed to an accuracy of +/- 1%.

The weighing mechanism shall be checked and adjusted monthly and the Contractor shall provide simple and convenient means for this. He shall supply to the Engineer on request, records of all checks tests to be made to the plant. The Engineer may, at any time, call for a check to be made.

The device for measuring water shall show accurately the quantity added and be so designed that the water supply will be automatically cut off while water is being discharged into the mix. Water shall not be added to the mixer until just prior to the time when the concrete is to be mixed.

Due allowance shall be made for the moisture content of the aggregates and the Contractor shall make readily available to the Engineer assistance and equipment as required to carry out moisture tests.

2.9. Mixing

If cement is delivered in individual bags or containers, the sizes of batches shall be such that only full bags or containers of cement area used.

The type of the mixer must be in accordance with the maximum nominal size of the aggregate. The materials shall be mixed for a period and at a drum speed specified by the manufacturer of the mixer.

Mechanical means shall be provided for recording the number of revolutions for each batch and automatically preventing the discharge of the mixer until the materials have been mixed the specified minimum time.

The maximum size of the batch shall not exceed the maximum rated capacity of the mixer as stated by the manufacturer and as stamped on the mixer. The batch size shall not be less than 75% of the rated capacity of the mixer.

Where small quantities of high class concrete or mortar or cement grout are required to be used for jointing and grouting of precast units, etc., the Contractor shall, if ordered by the Engineer, provide small portable covered pan mixers of approved type for this type of work.

The entire contents of the mixer shall be removed from the drum before materials for a succeeding batch are placed in it.

The first batch of concrete materials placed in the mixer shall contain a sufficient excess of cement, sand and water to coat the inside of the drum without reducing the required mortar content of the mix. Upon cessation of mixing for more than 20 minutes, the mixer shall be thoroughly cleaned and the process repeated.

The Engineer may, at his discretion, forbid the mixing of any concrete if he considers the ambient temperature too high. The Contractor may also be required by the Engineer to carry out frequent cleaning of equipment to remove deposits of hardened or dried concrete which accrete rapidly at high air temperatures.

The Contractor shall make allowance for all contingencies which he may consider necessary for ensuring the production of concrete complying fully with this specification under any climatic conditions at any time during the Contract and to the entire satisfaction of the Engineer. Mixing by hand will not be permitted.

2.10. Inspection and Testing

As the work progresses inspection of cement, aggregate, reinforcing steel and testing of the concrete strength will be done by the Engineer or Engineers Representative. The Contractor's concrete plant and material stores shall be made accessible to the Engineer at all times for inspection and taking samples. The Contractor shall

facilitate in all possible ways the inspection and testing or sampling by the Engineer. Labour shall be provided by the Contractor for testing.

2.11. Test Cubes

Test cubes shall be made in accordance with IS 516 except that all test cubes unless otherwise ordered by the Engineer shall be compacted by vibration. The Contractor shall provide suitable portable vibration tables for compaction of cubes. Test cubes shall be cured and stored as provided in IS : 516. "Methods of Tests for strength of concrete". Test cubes used for checking early strength of precast units shall be stored under the same conditions and in contact with the units to which they relate.

2.12. Works Tests

Not less than six test cubes shall be taken at each "section" of the work and/or each day's work on each class of concrete. For the purposes of this specification "Section" of the work shall be as defined by the Engineer or Engineer's Representative.

2.13. Concrete Testing

All sampling and testing of concrete shall be carried out in accordance with IS : 1199 "Method of sampling and analysis of Concrete" unless otherwise specifically provided in the specification.

2.14. Testing

Testing of concrete shall be done in accordance with the relevant I.S. Codes.

2.15. Cost

The cost and charges for sampling and making concrete cubes and delivering the same to the office of the Engineer's Representative and/or other places including all incidentals in connection with the same as directed by the Engineer's Representative, shall be borne by the Contractor and shall be deemed to be included in the rates and prices quoted in the bill of quantities.

2.16 Testing Laboratory

The contractor has to establish laboratory at site for regular testing's like cube compressive strength testing, sieve analysis, silt content and weighing machine etc with approved calibrated certificate. The testing of concrete cubes shall be done in the contractor laboratory in presence of department representatives. If it is not possible to conduct testing due to machine repair or any other reasons, the Contractor has to make their own arrangements for testing concrete cubes at any Authorised Laboratory approved by the Engineer at his cost. The Contractor has to supply concrete, labour for collecting the concrete for cubes and making the cubes.

2.17. Measurement of Ingredients

The proportioning of ingredients and concrete for batch of concrete, shall be performed by volume. Water shall be added to the required quantity determined for each class of concrete. Due allowance shall be made for the weight of water carried by the aggregates, the actual amount added at the mixer being reduced as necessary. For this purpose the moisture content of coarse and fine aggregate shall be ascertained daily and at any other times when alteration of the moisture content may be expected due to new deliveries of aggregates inclement weather or any other reasons.

2.18. Mixing

Concrete shall be thoroughly mixed to uniform consistency in approved type span or drum mixer. The use of continuous mixer will not be allowed. If the Contractor should find it expedient to use small type mixers for special or outlying portions of the work rather than to supply from the main batching plant or plants, he may, subject to the approval of the Engineer, use smaller approved concrete producing units of the weigh batch type. In such cases, the mix shall be adjusted to whole bags of cement and no splitting of bags will be allowed.

2.19. Discharge from Mixer

The concrete shall be discharged from the mixer on to a level, clean, watertight platform or floor or into watertight containers. The area surrounding the mixer shall be paved and kept clean.

2.20. Transporting of Concrete

The concrete shall be transported from the mixer to its place in the works as rapidly as possible and in such a manner that there shall be no separation or loss of its ingredients. In no circumstances shall more than half an hour lapse between the time water is added to the mix and the time when the concrete is finally compacted in position. No concrete shall be permitted to be used, in the works after initial set has taken place. The use of concrete distributing chutes at an angle of more than 45 degrees from the horizontal will not be permitted without the sanction of the Engineer. Transit mixers or concrete pumps shall be used wherever the distance of transportation is likely to cause settlement of concrete during transportation.

2.21. Authorization to Pour

Authorization to pour concrete shall be obtained from the Engineer or Engineer's Representative before pouring the concrete.

2.22. Depositing of Concrete

The arrangements for depositing concrete shall be subject to the approval of the Engineer. In no case shall the concrete be dropped or thrown from a height of more than 2 metres. Concreting of beams, slabs and similar members shall be carried out in one continuous operation to the full depth of the members and the sequence of placing shall be so arranged as to avoid disturbance of partially set concrete.

Freshly laid concrete shall not be wheeled over or otherwise disturbed. When depositing concrete adjacent to a construction joint special care shall be taken not to disturb the dowels or other reinforcing bars projecting from the existing concrete.

In foundations, walls, and columns where the full height is not being poured in one continuous operation the surface of each lift shall be finished horizontal and any laitance removed between the period of initial and final set.

2.23. Compaction of Concrete

The Contractor shall agitate the placed concrete thoroughly into place by means of sufficient number of approved mechanical vibrators of adequate power and having a frequency of not less than 6000 impulses per minute. The vibrator shall be allowed to sink freely of its own weight until enters the previous lift. It shall be withdrawn immediately at the same rate and used at a new location. Concrete once vibrated shall not be vibrated again. The Contractor shall ensure that the concrete is thoroughly worked around the reinforcement and against external shutters so that all entrained air is expelled and the concrete surface when exposed is found good and free from air pockets, honey-combing or other defects.

2.24. Concreting in Inclement Weather

In the event of rain storm or any other severe conditions arising, concreting shall be stopped and appropriate temporary stop ends, vee grooves, etc., placed as may be necessary. During wet weather the concrete shall be adequately protected as soon as put into position. The Contractor shall always have in readiness approved framed sheeting, tarpaulins, etc., for the protection of newly placed concrete during inclement weather. Should any concrete be damaged due to rain storms or other weather conditions, the Engineer may order the cutting out and replacement of the damaged concrete, all at the expenses of the Contractor.

2.25. Concrete Underwater

Where the concrete is to be deposited underwater greatest care shall be taken to prevent the cement being washed out. The concrete may be placed underwater through a tremie pipe provided with suitable hopper. Great care shall be taken that no segregation of the concrete takes place and the method of placing shall be approved by the Engineer who may direct which method is to be used. For underwater concreting the provision in IS code 456 / 2000 shall apply.

2.26. Stop Ends

The position of temporary stop ends for vertical joints shall be as approved by the Engineer.

2.27. Construction Joints

Construction joints shall be in the position shown on the drawings or as approved by the Engineer.

The Contractor shall, wherever practicable, strip shutters as soon as possible after pouring, subject to the approval of the Engineer. Any skin or laitance should be removed and the tops of the large stones exposed by means of brushing and washing.

At horizontal construction joints, removal of laitance and exposure of the tops of the larger stones shall be accomplished, whenever practicable, by means of washing and brushing spotly after pouring, care being taken to obviate undue erosion of the mortar. After cleaning, excess water shall be removed immediately to limit absorption by the cement. In cases where the concrete has set but not set hard the removal of laitance and roughening shall be accomplished by wire brushing and washing, great care being taken not to damage the underlying mass.

Where, at either vertical or horizontal, joints, the concrete has set hard, any skin or laitance shall be removed and the surface roughened by hammering with an approved power operated "bush" hammer followed by wire brushing to remove all loose particles. When using this procedure, great care shall be taken to avoid breaking off the joint face and stunning the stones.

Whichever of the above treatments has been given to the exposed surface, foreign matter shall be cleaned off that surface by further wire brushing, if necessary before depositing fresh concrete. It shall then be thoroughly washed with clean fresh water and surplus blown off. The surface while still moist shall be covered evenly with a layer not less than 4 mm. thick of 1:1 cement mortar of medium consistency, which must be vigorously stippled into the surface by means of a suitable stiff brush the depositing of the fresh concrete following on closely.

It is of the utmost importance that the fresh concrete shall be forced hard on to the mortar layer and the set faces. To this end the compacting tools and vibrators, where appropriate, shall be worked right upto the old faces and into angles and corners formed between them and the shutters and the damping effect on vibration in such positions shall be allowed for.

2.28. Joints Between Precast Deck Unit

All surfaces of precast units which will eventually be joined to other precast units or in-situ concrete or mortar shall be treated as previously specified under construction joints. However, joints specified to be filled with dry packed concrete shall not have their surface coated with mortar.

2.29. Cable Ducts, Holes, Etc.

Cable ducts, holes, etc., shall be moulded in the concrete as may be required to the details and the positions on the drawings or as directed by the Engineer.

2.30. Curing

All concrete shall be protected during hardening from the harmful effects of sunshine, moisture and drying winds. All exposed faces of concrete shall be kept continuously moist for a period of 21 days.

In the case of slabs or other pours of large surface area, timber frames, designed to the approval of the Engineer, and covered with two thickness of damp Hessian, shall be placed over the concrete immediately after pouring. When the concrete has set, the frames shall be removed and the covering laid directly on the concrete. For 21 days thereafter concrete shall be kept continuously damp by spraying the cover with clean fresh potable water or by covering it with not less than 25 mm. thickness of wet sand and kept continuously damp or by ponding where practicable.

2.31. Screeding

All the surfaces of slab or other members not required to be shuttered are to be screeded in an approved manner and within a tolerance of plus or minus 3 mm. of true level and grade. In making such finish care shall be exercised not to work in excess fines to the top. Care is to be taken to ensure that the concrete is properly closed and for this purpose vibrator screed boards or plates will normally be required.

2.32. Concrete Below Specified Crushing Strength

Should the test cubes fail to meet the minimum specified crushing strength for each class of concrete, the Engineer may take one of the following decision.

- a) Instruct the Contractor to carryout such additional tests and/or works to ensure the soundness of the structure at the Contractor's expenses.
- b) The Engineer may accept the work. Any decision to accept the work shall be entirely at the discretion of the Engineer who may make a reduction in the rate of the appropriate item.

- c) Reject the work and instruct the section of the works to which the failed cubes relate shall be cut out and replaced at the Contractor's expense.

2.33. Faulty Work

Concrete defective from any cause whatsoever shall, if so directed by the Engineer be cut out and the work reconstructed at the Contractor's cost. Concrete thus cut out shall not be used again. No reconstruction or repairs to faulty work shall be done without the permission of the Engineer, and in such a manner as he shall direct or approve.

3.0. SHUTTERING

3.1. General

All shuttering and supports included under the Contract shall be designed by the Contractor and relevant drawings together with calculation for strength and deflection shall be submitted to the Engineer for approval before commencement of the work, but such approval shall in no way relieve the Contractor of any of his responsibilities for sufficiency and efficiency of the shuttering.

3.2. Fixing

The Contractor shall fix all the form work in perfect alignment. The form work shall be securely braced so as to be able to withstand, without displacement / deflection or movement of any kind, weight of the construction or any movement of persons, material and plant. All the joints should be watertight to prevent leakage of cement slurry from the concrete. Wedges and clamps are to be used wherever practicable.

3.3. Removing

Forms or shutters shall not be disturbed until the concrete has sufficiently hardened. The proper time should be as per IS 456 and as determined by the Engineer.

3.4. Special Provisions

Wherever the concreting of narrow members is required to be carried out within shutters of considerable depth, temporary openings in the sides of the shutters shall, if so directed by the Engineer, be provided to facilitate the pouring and compaction of the concrete. Small temporary openings shall be provided as necessary at the bottom of shutters of columns, walls and deep beams to permit the expulsion of rubbish, etc. All arises and returns to beam columns and slabs shall unless otherwise shown on the drawings, be provided with chambers of 20 x 20 mm. or as directed by the Engineer.

3.5. Preparation for Concreting

Before any concreting is commenced shutters and centering shall be carefully examined and the space to be occupied by the pour thoroughly cleaned out. The inside of the shutters shall be treated with a coating of an approved substance to obviate adhesion and where necessary to prevent absorption from the concrete, the shutters shall be thoroughly wetted shortly before concreting is commenced.

3.6. Contractor's Responsibility

Any damage resulting from premature/removal of shutters or from any other cause shall be made good by the Contractor at his own expense.

4.0. REINFORCEMENT

4.1. General

The following clauses shall be read in conjunction with the section relating to concrete.

4.2. Storage

The reinforcing bars shall be stored on the site on timber or concrete supports suitably spaced and of sufficient height to keep the steel clear off the ground and should be covered with polythene / tarpaulin sheets.

4.3. Bar Bending Schedule

Bar Bending schedule will be prepared by the Contractor and shall be submitted to the Engineer, in triplicate, for approval atleast two weeks before bars are to be bent. The Engineer will check and return one copy for the Contractor's use, with amendments noted, if any. Any approval given by the Engineer shall, in no case, relieve the Contractor from being responsible for the accuracy and correctness of the bar bending schedule.

4.4. Bending Reinforcement

Bends, cranks or other labours on reinforcement shall be carefully formed in exact accordance with the drawings or bar bending schedule, otherwise all bars shall be truly straight. Bends shall be made cold, round a former having a diameter of four times the diameter of the bars. Stirrups and binders shall be bent to the radius of the bars against which they are to be in contact. Bending shall be in accordance with IS 2502 "Code of practice for Bending and fixing of bars for concrete reinforcement". Heating of the bars will not be allowed. Bars incorrectly bends shall be used only if means for straightening and rebending have been approved by the Engineer. No

reinforcement bar shall be bent when in position without the Engineer's approval, whether or not it is partly embedded in the hard concrete.

4.5. Binding Wire

All bars shall be bound tightly, together where they cross with 16 gauge annealed G.I. Wire/welding as per standard specification. The free ends of the binding wire shall be bent in-wards.

4.6. Placing and fixing

The number, size and form of all reinforcement shall be in exact accordance with the Drawings. The reinforcement shall be placed, fixed and maintained in the forms within a tolerance of 5 mm. during the placing and compaction of the concrete. Horizontal bars shall be suspended or supported with concrete blocks to prevent them from sagging.

Such spacer blocks shall have dimensions not exceeding 50 mm. and shall be precast from concrete of the same grade as the concrete in which they are to be embedded except that the largest size of aggregate shall be 10 mm. Each block shall be cured for 10 days or more. Each block shall be secured to the reinforcement with wire or spring clip embedded on the centre of the block so that it shall not be in contact with the shuttering or subsequently cause much marks on the concrete. Where necessary, spacer bars, supporting stools and distance pieces shall be supplied and fixed by the Contractor to maintain the reinforcement rigidly in the correct position and to the satisfaction of the Engineer. Any ties or stirrups connecting the bars shall be taut so that the bars are properly braced, inside of their curved parts in actual contact with the bars round which they are intended to fit. The cost of providing tying wire as well as stools and concrete spacer blocks shall be deemed to be covered in the reinforcement steel.

4.7. Splicing Reinforcement

Where splicing and / or overlapping in reinforcement are required, the bars shall be provided with such splices or overlaps as are shown on the drawings and / or as directed by the Engineer

4.8. Butt Welding of Reinforcement

Butt welding of reinforcing bars steel shall be used wherever required. Where butt welding is carried out the ends of the bars shall be prepared with single 450 V and a backing plate shall be used. The minimum rect face will be one quarter of the bar diameter.

4.9. Reinforcement to be Clean

All steel reinforcement before the concrete is deposited shall be clean, free from dust, loose scales, oil, rust, grease or any other deleterious material. Particular care shall be taken to avoid contamination of reinforcement with mould oil.

4.10. Depositing Concrete

No concrete shall be deposited until all concrete and reinforcement have been inspected and approved by the Engineer. There shall be in attendance on each concreting gang and competent steel fixer who shall ensure that the reinforcement and other embedded fittings are kept in position during placing and compaction of the concrete.

5.0. PRECAST CONCRETE:

5.1. General

Precast concrete shall comply with IS : 456 and with the following requirements:-

- ¥ All precast units shall be cast on a suitable bed or platform with firm foundations and free from wind.
- ¥ Contractor shall be responsible for the accuracy of the level of shape of the bed of platform. A suitable serial number and the date of casting shall be impressed or painted on each unit.

5.2. Moulds and Surface Finish

i) The form work for moulds shall be constructed of well seasoned timber or steel sheets such as to give a form finished surface. All component parts of form work shall be so hold that during concreting, there is no deformation of the form resulting in the units not conforming to dimensions and there is no leakage of cement slurry, while steel sheets with rigid steel frames may be used, surfaces with plywood backing and plastic or formica lining is preferred for form finish. However, where linings are not used, special form oils approved by the Engineer's Representative shall be used. The oils which give stains to the surfaces shall not be permitted. There should be no visible offset, bulges or misalignment of concrete.

ii) Precast concrete beams, slabs and similar other units shall be cambered where shown in the drawing or directed by the Engineer's Representative.

5.3. Platforms

- 5.3.1. All precast units shall be cast on suitable yard, beds or platforms with firm foundation and free from wind. The platforms shall have smooth plaster finish. The yard shall be fenced and shall have a curing tank of adequate size. The Contractor shall be responsible for the accuracy of the level or shape of the bed or platforms. Each unit

shall be cast in one operation and proper serial number and date of casting shall be impressed or painted on it.

When units are cast directly on to concrete floor slab, Contractor shall ensure that the parts of the floor on which the units rest are sufficiently smooth and level or are made so by laying temporary screeding which must be removable without damage to the floor surface. In all cases a membrane of waxed paper or other approved material shall be carefully laid on the floor underneath the moulds to prevent the concrete adhering to the floor.

5.3.2. Holes for Fixing, Service etc.

i) Holes shall be formed at the positions shown in the drawing or directed by the Engineer Representative, using steel or wooden cores, card bards tubes or other approved forms fixed in positions prior to concreting.

ii) Holes for fixing precast units shall be cored accurately in the positions shown in the drawings and at right angles to the surfaces from which they are cored unless otherwise shown or as directed by Engineer's Representative.

iii) Holes which to receive fixing bolts which bear on the surface of the holes shall be permanently cores with galvanised steel tube, the ends of which must finish flush with the surface unit.

iv) No holes shall be made in the hardened concrete without the permission of the Engineer's Representative.

5.4. Cast in Items

Fittings and items of embedments which are to be set in position before the surrounding concrete is deposited shall be protected by painting or otherwise, as directed by Engineer's Representative against the defects of the water in and chemical action of concrete. Particular care shall be taken to ensure that concrete completely surrounds and is in intimate contact with all cast in items and is properly compacted there-about.

5.5. Striking Shutters

The method and time, after casting of units, of striking the side shutters shall be in accordance with Cl.16.3.2. of National Building Code of India -1970 - Group-II, and subject to approval of the Engineer. In the event of any damage resulting from premature removal of shutters or from any other cause, the unit or units concerned will be liable to rejection and to replacement by the Contractor at his own cost.

5.6. Curing

All precast work shall be protected from the direct ray of the sun for atleast 7 days after casting and during that period each unit shall be kept constantly watered or preferably be completely immersed in water curing shall be atleast for 15 days. The units shall be built in to their positions not earlier than 21 days after the date of casting.

5.7. Dimension of Precast Units

a) The Contractor shall before commencing manufacture of precast units, check all dimensions on the detail drawings governing accuracy of fit and assembly in accordance with the general arrangement and assembly drawings. Any errors / omissions shall be brought to the notice of the Engineer's Representative well in advance of starting the job and subsequently, the instructions of the Engineer's Representative shall be followed.

b) The dimensions of precast units must not vary by more than the tolerance specified and any unit, which shall not comply with the same, shall be rejected at the directions of the Engineer. Any loss of material / labour on account of rejection shall be borne by the Contractor.

5.8. Casting Tolerance

The casting tolerances, unless otherwise ordered or directed, shall be within 3 mm. of true dimensions. Deflection due to pre-stress shall be allowed for while checking dimensions.

5.9. Lifting and Stacking

Lifting and stacking of precast units shall be undertaken without causing shock, vibration or undue stress to or in the units. Precast units shall not be lifted, transported or used in the works until they are sufficiently matured the crushing test on the test cubes which are to be kept with the precast units will be used to assess the maturity of the units. The Contractor shall satisfy the Engineer that the methods he proposes for lifting, transporting and setting precast units will not over-stress or damage the units in any way.

In the event of over-stress or damage due to whatever cause, the unit or units concerned will be liable for rejection and if so rejected shall be immediately broken up and removed from the site. The Contractor shall replace such rejected units at his own cost.

5.10. Marking

The Contractor shall ensure that all precast units are properly marked in clean and legible manner with the reference number and the date of casting which information

shall be clearly visible where the units are stacked. Reinforced precast members shall be clearly marked to indicate the top face as well as the points of supports of lifting.

5.11. Precasting records

Full and accurate records are to be maintained of all precast work. Every unit shall have a reference number, date of casting, date of removal from bed, and date and position of placing shall be recorded together with test cube results.

SECTION - III

PARTICULAR SPECIFICATIONS

GENERAL

The work under this Contract which consists of the following two major items of works shall be carried out in accordance with the drawings particular specification read in conjunction with the general Rules, Specifications Condition as approved by the Port.

RESPONSIBILITY FOR CARRYING OUT WORKS

Responsibility for carrying out the works in terms of the Contract shall rest fully with the Contractor. The methods to be adopted under this Contract shall also rest solely with the Contractor subject always to the approval of the Engineer. Such approval shall not, however, relieve the Contractor in any way of his responsibility for the proper execution of works in accordance with the Contract. The Contractor's attention is specially directed to the fact that the requirement of the specifications and descriptions are not necessarily repeated for each separate section of work and they shall be held as referring to every part of the work as applicable.

FORMATION OF RUBBLE BUND

1. All stones to be used in the formation of rubble bund shall be of an approved quality, clean, sound tough, durable and free from earth and other soft or decomposed and injurious materials. The stones shall be supplied from the quarries approved by the Engineer.
2. Stones will be dumped or placed to form the rubble protection bund to levels and slopes as indicated in the drawing.
3. The conveyance of stone material will be resorted with specific approval of Engineer after acceptance of stability of stones. The Contractor shall arrange for the tests such as soundness test, abrasion test, crushing test in accordance with the I.S. Specification at his cost.
4. The Contractor shall be responsible for carrying out the works strictly in accordance with the cross section furnished in the drawing. However for making good of settlement of bund due to normal sinking, action caused by waves or settlement or any other reasonable cause till the completion of the contract including maintenance period an allowance of upto 5% separately for 10-300 Kg stones over the theoretical quantity calculated to the cross section of the core shall be permitted. Conversion factor from volumetric quantity to the weight is 1.59. Payment for the above category of stone will be for the actual quantity executed restricted to the limit of 5% over the theoretical quantity mentioned above after deducting 40% for voids. The Contractor shall be responsible for making good at his cost in settlement beyond this limit either during construction or during maintenance period.

5. The Contractor shall ensure that the stones are deposited in the position and to the slopes indicated in the drawing. The Contractor shall arrange for taking initial soundings before commencement of work and final soundings after completion of work at 5 m intervals in the presence of the Engineer's Representative and submit the final section in graph sheet before submission of final bill. The Contractor is responsible to take such action that is necessary to protect the works in progress in time before on-set of the monsoon or at any other time. Any damage during construction due to natural causes shall be made good by the Contractor at his cost.

6. **Method of Construction of Rubble Bund**

The Contractor shall arrange to convey the required quantity of X stones of size 10 to 70 kg, 50mm metal layer and Geotextile layer as per the cross sectional drawings for the construction of rubble bund, engaging adequate number of dumpers / tippers, plant and equipments etc. required for completion of work so as to complete the work within the period of contract. The Contractor shall submit details regarding method for placing the stones, the plant which he intends to use in the formation of rubble bund and programme for approval.

The proposed Rubble Bund will be formed using X stones of size 10 to 70 kg, 50mm metal layer and Geotextile layer. The stones required for the Rubble Bund will be brought from any approved quarries.

Filter Layer

The rubble bund has dredged materials for reclamation for which filter layer has to be laid over the slope of the bund and 300mm layer of 50mm metal as shown in the drawing. The Contractor shall obtain in advance the approval for the method of placement of filter media from the Engineer / Engineer Representative. It is brought to the notice of the tenderers that the formation of the filter layer is very important and specialized item of work which has to be carried out with extraordinary care, correct to the measurements and specifications. The placing of filter materials should be proceeded from bottom upwards in layers and it must be ensured that the materials is not dropped or rolled down the slope from top. The filter layer shall be packed closely to ensure minimum voids.

The profile shall be checked at every 5m intervals before and after variations corrected. The Contractor shall arrange men and materials for checking the correct formation of the filter. For 50mm metal in gunny bags are to be effectively screened.

Method of measurement of filter layer

The following procedure shall be adopted for measuring X stones of size 10 to 70 kg and 300mm layer of 50mm metal in the filter layer for the purpose of payment.

- a) Payment for the various grades of stones for the filter layers shall be made on the basis of weight of materials as delivered at site of work and placed in position to form the filter layer.
- b) The stone materials weighing 10 to 70 kg and 50mm metal should satisfy the specification of tender. If the materials received at site is found to be substandard / under specification in a particular load, the entire load will not be allowed to be dumped / used in the work. No payment will be made for the rejected material. The contractor has to remove the rejected material at his cost.

Geo-fabric Filter layer

Geo-fabric filter layer shall be laid on the inner slope of the rubble bund on the top of the filter layer. The geofabric filter layer shall be laid in proper manner by engaging experienced divers or qualified tradesmen, in this line and divers to the specifications of the Engineer. Geotextile sheets of standard length and quality, suitable thickness, tensile strength and weight suited to reclamation back fill, preferably of non-woven type resistant to piping, clogging UV resistant and resistance to puncture shall be used.

The technical specifications of the Geotextile shall be as follows:

SI No	Description	Unit	Minimum
1	Weight	G/Sqm	350 to 360
2	Thickness	Mm	2.4 to 3.00
3	Elongation at break	%	50 to 60
4	CBR-TEST Newton force	N	3610 to 4150
5	Tensile Strength	KN/m	NA
6	K value (Kn) permeability	cm/Sec	0.30 to 0.40
7	Flow at 100mm W.C	1/Sqm/Sec	57 to 75
8	Retention of Finesse 95%	Microns	100 to 150
9	U.V. Resistance 500 hrs	%	70%
10	Grab Tensile Strength	KN/m	1.10 to 1.50
11	Grab Tensile Elongation	%	50 to 60

The test methods shall conform to the relevant standards of DIN/ASTM. The contractor shall get test certificate from the supplier beforehand and produce the sample for approval of the Engineer well in advance of using the same in the work. The method of laying either from the shore or from the seaside suited to the equipment available with the Contractor and suppliers specification. In case of laying from the shore, the Geotextile will be unrolled downward on the slope of quarry run filter with minimum overlap of 12" (0.30M) with the proceeding sheet and bottom to be held with the stones /weight (concrete cubes etc.) the length of the roll shall be curtailed suitable to the slope length of the rubble bund/quarry run filter. The measurement will be taken from end to end without the overlap portion. The contractor shall include suitable provision for the overlap portion in his rate.

7.0 METHOD OF MEASUREMENT FOR FORMATION OF RUBBLE BUND

The following procedures shall be adopted for measuring the stones placed in the rubble bund for the purpose of payment.

- 7.1** Payment for 10-70 Kg stones and 50mm metal required for formation of rubble bund shall be made on the basis of weight of materials as delivered at the site of work in lorries or tippers after weighment at Harbour site provided the materials conform to the specifications and they are placed in position as indicated in the drawing. No payment will be made for any part of the stones which does not conform to the specifications or placed incorrect position. The Weight of such stones and quarry run rejected will be assessed by the Engineer-in-charge or his Representatives at quarry site or Harbour site. Such rejected stones shall be removed from the work site by the Contractor at his cost. The decision of the Engineer's Representative regarding the portion of stones which are not placed and assessment of weights thereof will be final and binding. No claim in-respect of such rejected materials will be entertained and the Contractor shall quote his rates accordingly.
- 7.2.** The contractor shall arrange own weigh bridge with stamping of authorized agency with weighment print out facility for weighment. The Departmental staff / authorized representative of Port will maintain the records of serial number of trip, invoice number, time of trip, weighment of each load, grade of materials, log book, etc. The Contractor shall provide to the Engineer's Representative free of cost necessary registers, forms etc., for maintaining such records.
- 7.3.** At the Weigh Bridge, the laden weight of the tipper / dumper load will be prepared in quadruplicate copies and three copies will be taken to dumping spot along with the lorry. After unloading and placing the stones on the alignment of bund as per specification, the dumping certificate will be given by the Departmental authorized staff on all the three copies of invoices, and taken back to the weigh bridge and then, empty weight of the lorry will be entered on all the three copies. This would give the net weight of the stones unloaded at the work site. After noting this, the third copy will be handed over to the Contractor's Representative at the weigh bridge and one copy will be handed over to the Department. The one copy left over will be collected and all the copies collected for the day with abstract of the number of trips made, have to be sent to the Division office the same day. The particulars of vehicles and weight of stones will be entered simultaneously in the Department Day Book which will be duly signed and dated by the Contractor and the competent Engineer's Representative at the end of every day.
- 7.4.** The Contractor shall arrange to furnish the Engineer the list of vehicles along with the Registration Numbers which he proposes to deploy for transporting the stones. A photo copy of the R.C. Book of those tippers / dumpers proposed for use shall also be submitted to the Port. The Contractor should see that the vehicles brought by him for the work should have proper permits or Licenses from competent authorities. If any default arising on this account, Engineer / Engineer's Representative is no way responsible.

7.5. Final payment of Armour Units in the profile will be for the actual quantity or theoretical quantity plus tolerance whichever is less.

* * * *

SPECIMEN FORM OF BANK GUARANTEE FOR PERFORMANCE SECURITY

In consideration of the Chairman representing the Board members of V.O.Chidambaranar Port (herein after called "the Port") having agreed to exempt _____ (hereinafter called the "said Contractor(s)" from the demand, under the terms and conditions of Contract awarded in No. _____ dated _____ made between _____ and _____ for _____ (hereinafter called "the said Agreement") of Performance Security for the due fulfillment by the said Contractor(s) of the terms and conditions contained in the said Agreement, on production of Bank Guarantee for Rs. _____ (Rupees only).

2. We* _____ (hereinafter referred to as the Bank) at the request of _____ Contractor(s) do hereby undertake to pay to the Port an amount not exceeding Rs. _____ against any loss or damage caused to or suffered or would be caused to or suffered by the Port by reason of any breach by the said Contractor(s) of any of the terms and conditions contained in the said Agreement.

3. We* _____ do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on a demand from the Port stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Port by reason of any breach by the said Contractor(s) of any of the terms and conditions contained in the said Agreement or by reason of the Contractor(s) failure by perform the said Agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However our liability under this Guarantee shall be restricted to an amount not exceeding Rs. _____.

4. We undertake to pay to the Port any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) in any suit or proceedings before any Court of Tribunal relating thereto our liability under this present being absolute and unequivocal.

5. The payment so made by us under this bond shall be valid discharge of our liability for payment there under and the Contractor(s) shall have no claim against us for making such payment.

6. We* _____ further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the Port under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till the Civil Engineering Department, VOC Port Authority certified that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this Guarantee. Unless a demand or claim under this Guarantee is made on us in writing within three months from the date of expiry of Bank guarantee. we shall be discharged from all liability under this Guarantee thereafter provided further that the Bank shall at the request of the Port but at the cost of Contractor(s) renew or extend this Guarantee for such further period or periods as the Port may require.

7. We* _____ further agree with the Port, that the Port shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Port against the said Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said Contractor(s) or for any forbearance, act or omission on the part of the Port, or any indulgence by the Port to the said Contractor(s) or by any such matter or thing whatsoever which under the Law relating to sureties would but for this provision, have effect of so relieving us.

8. This Guarantee will not be discharged due to the charge in the constitution of the Bank or the Contractor(s).

9. We * _____ lastly undertake not to revoke this Guarantee during its currency except with the previous consent of the Port in writing.

10. This guarantee is valid upto _____ (period)

Dated the day of 2024 for.....

* Indicate here the name of the Bank.

** Indicate here the period

* * * *

E- PAYMENT

To
The Financial Advisor & Chief Accounts Officer,
V.O.C. Port Authority,
Tuticorin-628004.

Sir,

We hereby give particulars for payment of the Works bill / Advance etc

SI No	Particulars	
1	Name of the Contractor	
2	Address of the Contractor	
3	Name of the work for which payment is made	
4	Agreement dated: Work order No.	
5	Name of the bank in which Contractor operating account. Either with IOB or SBI or Any other bank (If it is other than IOB or SBI, bank commission plus postage will be deducted)	
6	Address of the Bank	
7	Branch Code No	
8	Type of Account (Whether SB A/c or Current A/c)	
9	Account No	
10	Pan No.	
11	GST No.	
12	Tax Payer Identification Number (TIN)	
13	IFSC- Code of the Bank No	

Yours Sincerely

(Signature of Contractor)

STATEMENT SHOWING THE CONTRACTS EXECUTED BY THE TENDERERS AND OTHER RELATED DOCUMENTS FURNISHED IN TECHNICAL BID.

NIT NO: No. 01/NCB II Backup yard / PD / 2024-25 / D.

Dated:12.07.2024

NAME OF THE WORK:“ Filling and development of area behind the North Cargo Berth II”**Estimate Amount: Rs. 3,17,24,696/- Name of Tenderer :.....**

SL. NO	DOCUMENTS REQUIRED AS PER THE PROVISION IN THE TENDER	Proof of document with page no.	EXPERIENCE DOCUMENTS FURNISHED BY THE TENDERERS																								
1	The Tenderer shall furnish Earnest Money Deposit as per clause 6.2 of Section II.																										
2	The tenderer should have successfully completed similar work as detailed below during the last Seven years ending June 2024 with either of the following:- Three works, each costing not less than Rs.1.27 Crores (or) Two works, each costing not less than Rs.1.59 Crores (or) One work costing not less than Rs2.54 Crores. “ Similar work means Construction of offshore / shore Rubble protection Bund / breakwater / revetment and / or development of yard”		DETAILS OF INDIVIDUAL SIMILAR WORK EXPERIENCE CERTIFICATE ISSUED BY THE COMPETENT AUTHORITY AGAINST THE ELIGIBILITY CRITERIA SHALL CONTAIN THE FOLLOWING: <table border="1"> <thead> <tr> <th>Sl. No</th> <th>Client with address</th> <th>Description of the work order No./Agt. No.</th> <th>Value of contract (Rs.)</th> <th>Executed value of Contract</th> <th>Completion time as stated in the tender (months)</th> <th>Actual completion of time (week)</th> <th>Year of completion</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>							Sl. No	Client with address	Description of the work order No./Agt. No.	Value of contract (Rs.)	Executed value of Contract	Completion time as stated in the tender (months)	Actual completion of time (week)	Year of completion	Remarks									
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3	Average annual Financial Turnover of the Tenderer during last three financial years (i.e) 2020-21,2021-22 & 2022-23 shall be at least Rs.0.95 Crores.						<table border="1"> <thead> <tr> <th>Year</th> <th>Financial Turn over in Rs.</th> </tr> </thead> <tbody> <tr> <td>2020-21</td> <td></td> </tr> <tr> <td>2021-22</td> <td></td> </tr> <tr> <td>2022-23</td> <td></td> </tr> <tr> <td colspan="2">Average Annual Turnover</td> </tr> </tbody> </table>	Year	Financial Turn over in Rs.	2020-21		2021-22		2022-23		Average Annual Turnover											
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4	Latest Assessment of Income Tax Return filed with IT department.																										
5	PAN Number																										
6	EPF Registration Number																										
7	ESI Registration Number																										
8	GST Registration No.																										
9	TIN Number																										
10	Power of Attorney																										

Note:

- Only a format in which the information is to be given is indicated above. The contractor shall attach additional sheets to accommodate the necessary information, if required.
- Only the document stated above, will be considered for verification. Any other document endorsed but not stated above shall not be considered for evaluation also the above referred document enclosed shall have the realized page no.

LETTER OF APPLICATION

Registered Business Name :

Registered Business Address :

Telephone :

Telex :

Fax :

E-Mail :

Internet :

To

The Chief Engineer,
V.O.C. Port Authority,
Tuticorin – 628 004,

Sir,

1. We hereby apply to be qualified with the V.O.C.Port Authority as a Tenderer for the work of "Filling and development of area behind the North Cargo Berth II".
2. We authorize V.O.C. Port Authority or its authorized Representatives to conduct any investigations to verify the statements, documents and information submitted and to clarify the financial and technical aspects of this application. For this, we hereby authorize (any Public Official, Engineer, Bank, Depository, Manufacturer, Distributor, etc.) or any other person or firm to furnish pertinent information deemed necessary and requested by VOC Port Authority to verify statements and information provided in this application or regarding our competence and standing.

3. The names and positions of persons who may be contacted for further information, if required, are as follows:
 - a) Technical :
 - b) Financial :
 - c) Personnel : and
4. We declare that the statements made and the information provided in the application are complete, true and correct in every detail.
5. We understand that VOC Port Authority reserves the right to reject any application without assigning any reasons.

Respectfully,

(Authorized Representative of applicant)

Date :

Encl: 1.
 2.
 3.

GENERAL INFORMATION

1. Head Office Address :

Telex No. :

Telephone No. :

Fax No. :

E-mail :

Cable Address :

2. Regional Office Address (if any)

Telex No. :

Telephone No. :

Fax No. :

E-mail :

Cable Address :

3. Local Office Address (if any)

Telex No. :

Telephone No. :

Fax No. :

E-mail :

Cable Address :

Country and Year incorporated *

Main lines of Business:

1. Since:

2. Since:

3. Since

4. Since:

5. Since:

6. Since

7. Since:

8. Since:

9. Since

* Attach Notary certified copy of certificate of registration and ownership.

NOTICE INVITING e-TENDER FOR THE WORK “Filling and development of area behind the North Cargo Berth II”

TENDER ACCEPTANCE LETTER
(To be given on Company Letter Head)

To

The Chief Engineer,
V.O.Chidambaranar Port Authority,
Tuticorin – 4.

Sir,

Subject: Acceptance of Terms & Conditions of Tender for “Filling and development of area behind the North Cargo Berth II” –Reg.

Tender reference No. 01/NCB II Backup yard / PD / 2024-25 / D.

Dated:12.07.2024

1. I / We have downloaded / obtained the tender document(s) for the above mentioned Tender/Work from the web site(s) namely: _____ as per your advertisement, given in the above mentioned website(s).

2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents from Page No. _____ to _____ (including all documents like annexure(s), schedule(s), etc.), which form part of the contract agreement and I / we shall abide hereby and agree the terms / conditions / clauses contained therein.

3. The corrigendum(s) issued from time to time by V.O.Chidambaranar Port Authority for the above subject work has also been taken into consideration, while submitting this acceptance letter.

4. I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.

5. I / We do hereby declare that our firm has not been blacklisted/ debarred by any Govt. Department/Public sector undertaking.

6. I / We certify that all information furnished by me/ us is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then V.O.Chidambaranar Port Authority shall without giving any notice or reason therefore, summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full earnest money deposit absolutely.

Yours Faithfully,

(Signature of the Tenderer, with Official Seal)

FINANCIAL DATA

- A. Summary of assets and liabilities on the basis of the audited financial statement* of the last three financial years.

Annual Turnover

2020 – 21 : Rs.

2021 – 22 : Rs.

2022 – 23 : Rs.

- * Attach Notary certified copies of the Audited Financial Statement consisting of Annual Turnover, Profit and Loss Account, Balance Sheet, Income Tax return and Profit Loss Statement etc.

FORM – III

1. List of all Contracts related to Construction of Rubble bund / revetment & filling / levelling of yard / land of Rs.1.27 Crore or above each executed during the last seven years (1st July 2017 to 30th June 2024).

Nature of works	Value of work executed	Contract period		Scheduled period of completion	Owner's Name & Address
		Commencement	completion		

EQUIPMENTS PROPOSED FOR THE PROJECT

Description, (Type, Model & Make)	No. of Each	Year of Manufacture	Owned or leased	Capacity / Performance / Size
(i) Quarrying Equipment's : Air Compressor, Pneumatic drilling machine, Jackhammer Stone Crusher Excavator Trucks Crane Dust Prevention Screen (ii) General Equipments : Batching Plant Concrete mixer Vibrators & needles Crane Generator Pontoons				

Note : The Contractor should own atleast 2 items under (i) and (ii) and can have tie-up with other owners for the balance requirements. Only a formal in which the information is to be given is indicated above. The bidder shall attach additional sheets to accommodate the necessary information, if required

FORM – V

PROPOSED PERSONNEL FOR EXECUTION OF THE WORK

A. HEAD OFFICE:

Sector	Name (s)	Age, Qualification and experience	Date of appointment with the company	Previous employment, designation, Employer & period of service	Proposed Designation & nature of duties	Remarks
General Management						
Administration						
Technical Management (including design office)						
Site supervision						

NOTE: A summary of the work experience of each key personnel shall be attached. The proposed person on the respective field should have minimum of five years experience with post graduate qualification (or) ten years experience with graduate qualification and executed.

PROPOSED PERSONNEL FOR EXECUTION OF THE WORK

B. SITE:

Sector	Name (s)	Age, Qualification and experience	Date of appointment with the company	Previous employment, designation, Employer & period of service	Proposed Designation & nature of duties	Remarks
General Management						
Administration						
Technical Management						
Others						

NOTE: A summary of the work experience of each key personnel shall be attached. The proposed person on the respective field should have minimum of three years experience with Graduate qualification (or) eight years' experience with Diploma qualification and executed.

C. PROPOSED SITE ORGANIZATION

a) Preliminary site organization chart

b) Narrative description of site organization chart

c) Description of relationship between head office and site management *

* Indicate clearly which responsibility and what authority will be delegated to Site Management.

* * * *

POWER OF ATTORNEY

Dated :

TO WHOMSOEVER IT MAY CONCERN

Mr.[Name of the person(s)], domiciled at
..... (Address), acting as
.....(Designation and name of the company), and whose signature is
attested below, is hereby appointed as the authorized signatory and.
.....(Name of the applicant) to provide information and respond to as
may be required by the Engineers or Employer for the project of (project title)
..... and is hereby further authorized to sign and file relevant
documents in respect of the above.

(Attested signature of Mr.....)

For

(Name & Designation of Authorized Signatory)

- * Individual power of attorney for signing the Joint venture/ Consortium shall be submitted in the above format separately by each applicant.

* * * *

PROFORMA OF INTEGRITY PACT

General

This pre-bid pre-contract Agreement (hereinafter called the Integrity Pact) is made on ____ day of the _____ (month and year) between, on one hand, the President of India, acting through Shri _____, [designation of the officer], V.O.Chidambaranar Port, Government of India (hereinafter called the "PORT", which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the First Part and M/S _____ represented by Shri _____, (hereinafter called the "BIDDER/Seller" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS the PORT proposes to execute the work "**Filling and development of area behind the North Cargo Berth II**" and the BIDDER/Seller is willing to offer/has offered the stores and WHEREAS the BIDDER is a private company/public company/Government undertaking/partnership/registered export agency, constituted in accordance with the relevant law in the matter and the PORT is a Ministry of the Government of India performing its functions on behalf of the President of India.

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 entered into with a view to:

Enabling the PORT to obtain the desired said work 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 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 PORT will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereby agree to enter into this Integrity Pact and agree as follows:

Commitments of the PORT

1.1. The PORT undertakes that no official of the PORT, 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, either for themselves or for any person, organisation 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.

1.2. The PORT will, during the pre-contract stage, treat all BIDDERS alike, and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to other BIDDERS.

1.3. All the officials of the PORT will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.

2. In case any such preceding misconduct on the part of such official(s) is reported by the BIDDER to the PORT with full and verifiable facts and the same is prima facie found to be correct by the PORT, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the PORT and such a person shall be debarred from further dealings related to the contract process. In such a case while an enquiry is being conducted by the PORT the proceedings under the contract would not be stalled.

Commitments of BIDDERS

3. The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following:

3.1. The Bidder will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the Port, 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.

3.2. The BIDDER 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 other advantage, commission, fees, brokerage or inducement to any official of the PORT or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract with the Government for showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with the Government.

3.3. BIDDERS shall disclose the name and address of agents and representatives and Indian BIDDERS shall disclose their foreign principals or associates.

3.4. BIDDERS shall disclose the payments to be made by them to agents/ brokers or any other intermediary, in connection with this bid/contract.

3.5. The BIDDER further confirms and declares to the PORT that the BIDDER 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 PORT or any of its functionaries, whether officially or unofficially to the award of the contract to the BIDDER, 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.

3.6. The BIDDER, 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 PORT 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.

3.7. The BIDDER 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.

3.8. The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.

3.9. The BIDDER shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the PORT as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The BIDDER also undertakes to exercise due and adequate care lest any such information is divulged.

3.10. The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.

3.11. The BIDDER shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.

3.12. If the BIDDER or any employee of the BIDDER or any person acting on behalf of the BIDDER, either directly or indirectly, is a relative of any of the officers of the PORT, or alternatively, if any relative of an officer of the PORT has financial interest/stake in the BIDDER's firm, the same shall be disclosed by the BIDDER 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.

3.13. The BIDDER 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 PORT.

4. Previous Transgression

4.1. The BIDDER 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 hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify BIDDER's exclusion from the tender process.

4.2. The BIDDER agrees that if it makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

5. Earnest Money Deposit (EMD)

5.1. While submitting commercial bid, The tenderer shall furnish a Earnest Money Deposit (EMD) made receipt. Earnest Money Deposit (EMD) shall cease to be valid after the tenderer becomes unsuccessful Bidder, upon the earlier of (i) the receipt of Port's notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid. The Earnest Money Deposit (EMD) shall be valid till submission of Performance Guarantee as per cl 10.2 (Section II) of Tender document for the successful bidder.

5.2. The Security Deposit shall be valid as per cl 10.3 (Section II) of Tender document or the complete conclusion of the contractual obligations to the complete satisfaction of both the BIDDER and the PORT, including warranty period, whichever is later.

5.3. In case of the successful BIDDER a clause would also be incorporated in the Article pertaining to Performance Bond in the Purchase Contract that the provisions of Sanctions for Violation shall be applicable for forfeiture of Performance Bond in case of a decision by the PORT to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

5.4. No interest shall be payable by the PORT to the BIDDER on Security Deposit for the period of its currency.

6. Sanctions for Violations

6.1. Any breach of the aforesaid provisions by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle the PORT 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. However, the proceedings with the other BIDDER(s) would continue.

(ii) The Bid Securing Declaration (in pre-contract stage) condition shall be imposed and / or Security Deposit/Performance Bond (after the contract is signed) shall stand forfeited either fully or partially, as decided by the PORT and the PORT shall not be required to assign any reason therefor.

(iii) To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.

(iv) To recover all sums already paid by the PORT, and in case of an Indian BIDDER with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a BIDDER from a country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the BIDDER from the PORT in connection with any other contract for any other stores, such outstanding payment could also be utilised to recover the aforesaid sum and interest.

(v) To encash the advance bank guarantee and performance bond/warranty bond, if furnished by the BIDDER, in order to recover the payments, already made by the PORT, along with interest.

(vi) To cancel all or any other Contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to the PORT resulting from such cancellation/rescission and the PORT shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.

(vii) To debar the BIDDER from participating in future bidding processes of the Government of India for a minimum period of five years, which may be further extended at the discretion of the PORT.

(viii) To recover all sums paid in violation of this Pact by BIDDER(s) to any middleman or agent or broker with a view to securing the contract.

(ix) In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the PORT with the BIDDER, the same shall not be opened.

(x) Forfeiture of Performance Bond in case of a decision by the PORT to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

6.2. The PORT will be entitled to take all or any of the actions mentioned at para 6.1 (i) to (x) of this Pact also on the Commission by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), 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.

6.3. The decision of the PORT to the effect that a breach of the provisions of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the BIDDER can approach the Independent Monitor(s) appointed for the purposes of this Pact.

7. Fall Clause

7.1. The BIDDER 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 Government of India or PSU and if it

is found at any stage that similar product/systems or sub system was supplied by the BIDDER to any other Ministry/Department of the Government of India or a PSU 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 to the PORT, if the contract has already been concluded.

8. Independent Monitors

8.1. There shall be Independent Monitors (hereinafter referred to as Monitors) appointed by the PORT for this Pact in consultation with the Central Vigilance Commission. The Independent External Monitors appointed by Port are as follows:

1. Shri. Trivikram Nath Tiwari, ILS (Retd.),
301-B, Black – 3B, HIG DDA Flats,
Rani Jhansi Road, DDA complex, Moti Khan,
New Delhi – 110 055.
Phone No: +91 9871788277
Mail id: trivikramnt@yahoo.co.in

2. Shri. Hermanprit Singh, IPS (Redt.),
12, Bevedre Road, Alipore
Kolkata – 700027
Phone No: +91 9830197103
Mail id: hermanprit@gmail.com

8.2. 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.

8.3. The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.

8.0. Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings.

8.5. 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 PORT.

8.6. The BIDDER(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the PORT including that provided by the BIDDER. The BIDDER 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/Subcontractor(s) with confidentiality.

8.7. The PORT 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 parties. The parties will offer to the Monitor the option to participate in such meetings.

8.8. The Monitor will submit a written report to the Foreign Secretary, Ministry of External Affairs, within 8 to 10 weeks from the date of reference or intimation to him by the PORT / BIDDER and, should the occasion arise, submit proposals for correcting problematic situations.

9. Facilitation of Investigation

In case of any allegation of violation of any provisions of this Pact or payment of commission, the PORT or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

10. Law and Place of Jurisdiction

This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat of the PORT

11. 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.

12. Validity

12.1. The validity of this Integrity Pact shall be from the date of its signing and extend upto 5 years or the complete execution of the contract to the satisfaction of both the PORT and the BIDDER/Seller, including warranty period, whichever is earlier. In case BIDDER is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract.

12.2. 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.

13. The parties hereby sign this Integrity Pact at _____ on ____

PORT

BIDDER

Name of the Officer.

CHIEF EXECUTIVE OFFICER

Designation

V.O.Chidambaranar Port

Tuticorin

Witness

Witness

1. _____

1.

2. _____

2.

SECTION-IV

1. PREAMBLE TO BILL OF QUANTITIES

- 1.1 This Bill of Quantities must be read with the drawings, conditions, of Contract and the specifications and the Contractor shall be deemed to have examined the drawings, specifications, conditions of Contract and to have acquainted himself with the detailed descriptions of the works to be done and the way in which they are to be carried out. The tender drawings are indicative only. Detailed drawings will be issued for each and every part of the work during the actual execution of the work.
- 1.2 Notwithstanding that the work has been sectionalized every part of it shall be deemed to be supplementary to and complementary of every other part and shall be read with it or into it so far as it may be practicable to do so.
- 1.3 The detailed descriptions of work and materials given in the specification are not necessarily repeated in the Bill of Quantities.
- 1.4 The quantities given in the Bill of Quantities and the Contract Price mentioned in the Tender are approximate only and are given to provide a common basis for tendering. Payment will be made according to the actual quantities of work ordered and carried out as measured by the Engineer and valued at the rates and prices quoted in the Bill of Quantities, irrespective of Contract Price.
- 1.5 The Contractor shall be deemed to have visited the site before preparing his tender and to have examined for himself the conditions under which the work will proceed and all other matters effecting the carrying out of the works and the cost thereof.
- 1.6 The Contractor shall provide sufficient men and materials to the Engineer's representative for taking measurements of work done and recording the same in the measurement books as and when needed.
- 1.7 Each individual item in the Bill of Quantities is to be priced or if any items are not priced it is to be indicated under which item or items the value of the work has been included. Items the prices of which are the same shall not be bracketed. If the Contractor omits to price an item the cost of the work of such item will be held to be spread over and included in the prices given for other items. He is not to mark items 'included' when the rate is asked for.

2. RATES AND PRICES TO BE INCLUSIVE

Rates and prices set against items are to be the full inclusive value of the finished work shown in the drawings and / or described in the specification or which can reasonably be inferred there from and are to cover the cost of provision of plant, labour supervision, materials, erection insurance, maintenance, overhead, and profits and every incidental sales tax, general tax and every kind of temporary work executed or used in connection with except those items in respect of which provision has been separately made in the Bill of Quantities 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 specifications are intended to cover the supply of material and the execution of all work necessary to complete the works. **In the event of non-availability of specification for certain items in the technical specifications, the MORT&H Specification / AISSR as applicable shall be followed.** Should there be any details of construction or materials which have not been referred to in the specification or in the Bill of Quantities and Drawings, but the necessity for which may reasonably be implied or inferred there from or which are usual or essential to the completion of all the work in all trades, the same shall be deemed to be included in the rates and the prices named by the Contractor in the Bill of Quantities. The rates or Prices are to cover the items as described in the Bill and if there is inconsistency between the Bill of Quantities specifications or drawings, the description in the Bill of Quantities shall prevail. If a particular item is available in the specification or drawings and not available in the Bill of Quantity that has to be carried out by the Contractor. For this the rates will be regulated as per the provisions contained in Clause 11 of "General Conditions of Contract" of Volume-1 (Technical Bid) (i.e.) Alteration, Addition and Omission.

3. UNDERWATER AND TIDAL WORKS

The Contractor will be deemed to have ascertained for himself the extent to which the work has to be carried out under water or in tidal conditions and his rates and prices shall include for all costs and charges whatsoever arising out of such working.

4. METHOD OF MEASUREMENTS

4.1 Standard method

Unless stated or billed otherwise quantities shall be measured in accordance with the 'Standard Method of Measurement' and are not 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.

5. CURRENCY

All Monetary reference herein and the bill of quantities shall be priced in Indian Rupees currency.

ABBREVIATIONS

The following abbreviations are used in specification and bill of quantities.

IS	-	Indian Standard
B.S.C.P.	-	British Standard Code of Practice
mm	-	Millimetres
cm	-	Centimetres
m	-	Metres
km	-	Kilometres
l.m.	-	Linear metres
gm	-	Grams
T	-	Tonnes
R.M.	-	Running Metres
B.S.	-	British Standard
Sq.cm/cm ²	-	Square centimetres
Sq.m/m ²	-	Square metres
Cu. cm /cm ³	-	Cubic centimetres
Cu.m./ m ³	-	Cubic metres
kg.	-	Kilograms
dia	-	Dia metre
wt.	-	Weight
no.	-	Number
Drg. No.	-	Drawing number
max.	-	Maximum
min.	-	Minimum
Conc.	-	Concrete
PC	-	Concrete precast concrete (Reinforced unless specified otherwise)
E.O	-	Extra over (Previous sum unless specified otherwise)
P.C.	-	Price Cost
P.S.	-	Provisional Sum
L.S.	-	Lump sum
Rs.	-	Rupees
P.	-	Paise
R.H.	-	Rig hours
Approx.	-	Approximately
do	-	Ditto
n.e.	-	Not Exceeding
incl.	-	Including
circ.	-	Circular
R.C.	-	Reinforced Concrete
M.S.	-	Mild Steel
AISS	-	All India Standard Specification brought out by National Building Organization.
HBG	-	Hard Broken Granite (Metal)
CI	-	Cast Iron
BIS	-	Bureau of Indian Standard

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SECTION - V

LIST OF DRAWINGS

Sl. No.	Description of Drawing
1.	Layout of VOC Port
2.	Plan of the berth along with backup yard development
3.	Cross Sections of Proposed Bund & Backup yard development

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