

V.O.CHIDAMBARANAR PORT AUTHORITY
TUTICORIN



வ.உ.சி துறைமுக ஆணையம்
வீ.ஓ.சி பத்தன ப்ராடிகரண
V.O.C Port Authority

TENDER DOCUMENT FOR
DEVELOPMENT OF MULTI CARGO BERTH NO.10 AT
V.O.CHIDAMBARANAR PORT ON ENGINEERING,
PROCUREMENT AND CONSTRUCTION CONTRACT
(EPC) BASIS.”

VOLUME – I: TECHNICAL BID



FEBRUARY, 2025

V.O.CHIDAMBARANAR PORT AUTHORITY

DEVELOPMENT OF MULTI CARGO BERTH NO.10 AT V.O.CHIDAMBARANAR PORT ON ENGINEERING, PROCUREMENT AND CONSTRUCTION CONTRACT (EPC) BASIS.

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

NOTICE INVITING TENDER
(Only through E-Tendering Mode)

VOCPA E-Tendering Website : <https://etenders.gov.in/eprocure/app>

Tender No:E(C)/F.59/PD/MULTI CARGO BERTH NO.10-EPC/2025/D.461 Date:19/02/2025

Electronic Tenders (Online tender) is invited in “Two bid system” on behalf of V.O.Chidambaranar Port Authority, Tuticorin from experienced, reputed contractors fulfilling minimum qualifying criteria as stipulated in the tender document for the following work.

i	Name of work	Development of Multi Cargo Berth No.10 at V.O.Chidambaranar Port on Engineering, Procurement And Construction Contract (EPC) Basis.
ii	Estimate cost put to tender	Rs.89,52,21,869/- (Rupees Eighty-Nine Crores Fifty-Two Lakhs Twenty-One Thousand Eight Hundred and Sixty-Nine only)
iii	Earnest Money Deposit (EMD)	Rs.1,14,52,000/- (Rupees One Crore Fourteen Lakhs and Fifty-Two Thousand Only). Mode of payment as under: <ul style="list-style-type: none">• Rs.25 Lakhs shall be paid in the form of RTGS/NEFT through CPP Portal.• Rs.89.52 Lakhs in the form of irrevocable Bank Guarantee.
iv	Cost of tender document	Nil
v	Downloading of Tender from VOCPA online e-tendering website.	21.02.2025 to 13.03.2025 upto 15:00Hrs.
vi	Pre-bid meeting	06.03.2025 at 11:00 hrs (IST) through Video conference (Link will be sent to the bidders who show interest via mail)
vii	Last Date and Time for submission of Tenders online.	13.03.2025 upto 15:30 Hrs.
viii	Online Technical bid opening date and time.	14.03.2025 at 15:30 Hrs.
ix	Period of completion	Sixteen Months
x	Validity of Tender	150 Days from the date of opening of technical bid.

2. Minimum qualifying criteria (MOC):

Firm /Company (hereinafter referred to as “The Tenderer”) shall meet the Minimum Qualifying Criteria as follows:

A) Work Experience: The Tenderer shall have successfully completed the similar work during the last seven years ending up to **31st of JANUARY, 2025**, with either the follows;

a) Three completed similar works, each similar work costing not less than –
Rs.35,80,88,748 /-

(Or)

b) Two completed similar works, each similar work costing not less than –
Rs.44,76,10,935 /-

(Or)

c) One completed similar work costing not less than - **Rs.71,61,77,495/-**

Note: Similar Work means: Tenderer is to have successfully completed Construction of any type of concrete pile structures in Marine area such as Construction of jetties, berths, dolphins, bridges.

B) Plant & Equipment

Tenderer should have own piling equipments, batching plant and lab testing equipments.

C) Financial Position: Average Annual Financial Turnover of the Tenderer during last three financial years (i.e) **2021-22, 2022-23** and **2023-24** shall be atleast – **Rs. 26,85,66,561 /-**.

3. General Conditions:

1. The tender documents and other relevant documents are required to be submitted only through e-tender mode offered on the website <https://etenders.gov.in/eprocure/app>.
2. The EMD payment should made only through online payment gateway mode in CPP Portal and scanned copy of Bank Guarantee made towards Earnest Money Deposit to be uploaded along with technical bid. The original BG should be submitted within five days from the date of opening of Technical Bid. Port is not responsible for postal delay (or) what so ever in this regard. The Bank Guarantee should be sent to the Port directly by the Issuing Bank under Registered Post (AD).

3. The Ports 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.
4. The tenderer while uploading their document shall also upload the undertaking as **Annexure-A** instead of uploading of signed tender documents.
5. This Notice Inviting Tender shall form part of the contract agreement.
6. The tenderer shall furnish the GSTIN, PAN, ESI, EPF registration code document.
7. The evaluation will be done only based on the information, evidence documents, Records, particulars furnished by the tenderer and hence the tenderer are requested to furnish adequate relevant information along with requisite documentary evidence without any omission.
8. If any information furnished by the tenderer is found to be concealed or false at 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 in further VOC Port tenderers for three years period.
9. Criteria regarding satisfactory performance of works, personnel, establishment, etc., shall also be uploaded according to the requirement of the project in the relevant format given in the Tender Document (Technical Bid).
10. The Tender document is open to firms / companies / voluntarily formed Joint Ventures / Consortia meeting the Minimum Eligibility Criteria as stipulated herein above. In case of Joint Venture / Consortium, criteria can be fulfilled collectively by the associated groups. Party who has participating in E-Tender must be a member of Joint Venture / Consortium. The lead member of the JV / Consortium must have completed at least one work costing not less than Rs.35.81 Crores (Rupees Thirty five Crores and Eighty-One Lakhs Only). The average annual turnover of only those members of the JV / Consortium should be aggregated who meet such experience criteria. There must be a legally binding agreement clearly stipulating the responsibilities and liabilities of the members of the JV / Consortium.

11. The Price Bid of those Bidders who have qualified technically and commercially shall be opened at a later date which will be intimated to all concerned.
12. A pre-bid meeting will be held on **06.03.2025 at 11.00 Hrs (IST)** through Video conference (Link will be sent to the bidders who show interest via mail), to answer clarifications, if any, on the Tender document. The tenderers are advised to examine the Tender document carefully and if there be or appear to be any ambiguity or discrepancy in the documents, or any clarifications needed in the Tender documents, shall be referred to the Chief Engineer, V.O.Chidambaranar Port Authority, through E-Mail (Details given in the Tender Document) on or **before 03.03.2025**. Oral or Telephonic queries are not entertained. It is to be noted that no queries, clarifications will be entertained after the above said time.
13. The e-tender document will not be considered who had litigation against the interest and causing disturbance to the development activity of the VOCPA, questioning the Authority of the Port or blacklisted contractors, If such tenderers submit the tender document downloaded from the website, the same will not be considered.
14. 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.
15. For further details and for issue of the tender document, interested applicants may contact the Chief Engineer, VOCPA 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**

-Sd/19.02.2025-

**CHIEF ENGINEER
V.O.CHIDAMBARANAR PORT AUTHORITY**

DEVELOPMENT OF MULTI CARGO BERTH NO.10 AT V.O.CHIDAMBARANAR PORT ON ENGINEERING, PROCUREMENT AND CONSTRUCTION CONTRACT (EPC) BASIS.

Tenders for the Work are invited in two-cover system from the experienced reputed and financially sound Contractors “**DEVELOPMENT OF MULTI CARGO BERTH NO.10 AT V.O.CHIDAMBARANAR PORT ON ENGINEERING, PROCUREMENT AND CONSTRUCTION CONTRACT (EPC) BASIS**”.

2. Tender Document will consist of:

VOLUME - I - TECHNICAL BID

Section - I

- i)** Form of Tender
- ii)** Instruction to Tenderer
- iii)** General guidelines to e- tender
- iv)** Appendix to Tender
- v)** Form of Agreement

Section - II

- vi)** Part ‘A’ - General Conditions
- vii)** Part ‘B’ - Special Conditions
- viii)** Part ‘C’ - General Information Special Conditions
- ix)** Part ‘D’ – Scope of Work
- x)** Part ‘E’ – Materials
- xi)** Part ‘F’ - Workmanship

Section - III

- xii)** Particular Specifications
- xii)** Specimen forms of EMD & Bank Guarantees
- xiii)** Qualification forms

Section - IV

- xiv)** Drawings

Section - V

- xv)** Preamble

VOLUME - II

PRICE BID

- i)** Bill of Quantities

SECTION – I

I. FORM OF TENDER

(Note: This Memorandum form part of the Tender)

To
The Chief Engineer,
V.O.Chidambaranar 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 “**Development of Multi Cargo Berth No.10 at V.O.Chidambaranar Port on Engineering, Procurement and Construction Contract (EPC) Basis**” in conformity with the said drawings, conditions of Contract, Specifications, Schedules and Bill of Quantities for a sum quoted in this tender of the bill of quantities is to be executed.
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 / Scheduled Bank having its branch at Tuticorin and payable at Tuticorin to be bound in a sum equivalent to 5% of the accepted Tender value approved by the Employer of the Contract.
4. We agree to abide by this tender for a period of 150 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 three calendar months or such extended period as mutually agreed upon, the Port shall be at liberty to forfeit the Earnest

Money Deposit paid 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 amounting to **Rs.1,14,52,000/- (Rupees One Crore Fourteen Lakhs and Fifty-Two Thousand Only) Out of which Rs.25 Lakhs to be paid through online payment gateway mode in CPP Portal and Rs.89.52 Lakhs in the form of irrevocable Bank Guarantee** in verbatim to the specimen enclosed from a Nationalized / Scheduled Bank with net worth of at least Rs.100 Crores and having its branch at Tuticorin. The Bank Guarantee should be sent to the Port directly by the issuing bank under Registered Post (A.D). The original Bank Guarantee should reach within Ten days from the date of opening of technical bid. However, the copy of Bank Guarantee should be uploaded along with the tender document by the bidder while uploading though e-tender. 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. The EMD furnished in the form of Bank Guarantee in respect of successful Tenderer will be discharged upon the Tenderer executing the contract and furnishing the required Performance Guarantee for the performance of the contract under para **6.2.1** of the tender document. EMD furnished in the form of RTGS/NEFT shall be adjusted against Security Deposit in case of successful Tenderer.

We agree for forfeiture of EMD:-

- a) If we withdraw our tender within the validity period
or
- b) If we make any modification in the terms and conditions of our tender before expiry of 150 days from the last date of submission of tender or such time as may be extended by the Board to which we have agreed in writing
or
- c) In the event of our tender being accepted by the Board we fail to enter into a contract
or
- d) In the event of tender being accepted by the Board we fail to furnish Performance Guarantee as per the terms of contract.

- 9. We further agree that in addition to the Performance Security, Security Deposit as described in Sub-Clause 6.2.2 of the General conditions of Contract with good and 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 5% of the Contract sum is realized.
- 10. 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

II. INSTRUCTIONS TO TENDERERS

- 2.1. E-Tenders are invited by V.O.Chidambaranar Port Authority in two Bid system (i.e,) Bid-I (Technical Bid), Bid-II (Price Bid) from resourceful, experienced and bonafide Contractors/ reputed firms for the work **“Development of Multi Cargo Berth No.10 At V.O.Chidambaranar Port On Engineering, Procurement And Construction Contract (EPC) Basis”**. The tender documents and other relevant documents are required to be submitted only through e-tender mode offered in the website <https://etenders.gov.in/e procure/app>.
- 2.2. **The e-tender will be opened as per NIT in the Office of Chief Engineer in Civil Engineering V.O.Chidambaranar Port Authority.**
- 2.3. The Tenderer is advised to acquaint himself with the job involved at the site, examine soil conditions, hydrological conditions, climatic conditions, availability of labour, quarry materials, equipments, means of transport, 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.
 - 2.3.1 **Bidders shall submit their Pre-Bid queries on or before 03.03.2025** and the pre-bid meeting will be held on 06.03.2025 at 11:00 hrs (IST) through Video conference (Link will be sent to the bidders who show interest via mail)
- 2.4. The Tenderer shall bear all the costs of visiting the site, collecting the information and for preparing and submitting the Tender.
- 2.5. 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 injury (whether fatal or otherwise) to himself or his workers and agents or for any loss or damage to property or for any other loss, damage, costs and expenses whatsoever caused which but for the granting of such permission would not have arisen. 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.

- 2.6.** The Tender prepared by the Tenderer, 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.
- 2.7.1.** The Tenderer shall examine carefully, all instructions, General Conditions of Contract, Specifications, Bill of quantities, Scope of work, Drawings etc. and all documents issued along with and for the purpose of Tender, any amendments made thereto from time to time, conditions, nature of the ground and substrata, quantity and nature of work, materials necessary for the completion of work, the surface conditions, the hydrological and climatic conditions, means of access to the site, the existing roads and other means of communication, required pollution control measures in the working areas, and in general shall be deemed to have been examined and obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect his Tender. Failure to comply with the requirements of the Tender documents will be on Tenderer's own risks. Tenders which are not substantially responsive to the requirement of the Tender documents are liable to be rejected. The contract price shall not be subject to any adjustment in respect of raise or fall in the cost of labour, materials, fuels or any other matter affecting the cost of execution of the contract.
- 2.7.2.** 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.
- 2.8.** 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.

- 2.9. No Tender shall be considered which is not accompanied by an Earnest Money Deposit. **EMD payment shall be made by the bidders as per Cl:6.2 of the Tender document.** Otherwise his/her/their tender will be rejected. In the event of Tenderer withdrawing his Tender before the expiry of 150 days from the last date of submission of Tender, the Tender shall be cancelled and the amount payable by an Earnest Money Deposit shall become forthwith payable to Employer and decision of the Employer shall be final in that behalf. **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.** The Earnest Money Deposit in respect of successful Tenderer will be forfeited, if he fails to enter into a contract or furnish necessary performance security within 15 days from the date of award of contract. No interest shall be payable by the Employer on the EMD mentioned above.
- 2.10 The Tenderer shall furnish his Permanent Account Number (PAN), GST registration number if any along with the Tender. Xerox copies shall be furnished.
- 2.11. The Tenderer must use metric units in the specifications and on all the drawings.
- 2.12. The Tenderer shall quote realistic rates in respect of works to be executed by him. The rates shall be firm and final and no increase or decrease in prices will be allowed as mentioned in the General Conditions of Tender document. It must be clearly understood that the rates quoted in the tender are to include everything required to be done in the Notice inviting Tender, Instruction for Tendering, Tender Conditions of Contract, Specification, Bill of Quantities, Schedules and Drawings referred to therein and also for all such work as in 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, hire charges of Tools & Plant ladder, scaffolding and incidentals necessary for carrying out the works.

- 2.13.** The Employer reserves the rights to reject all or any Tender or to accept any Tender in part or to annual the tendering process at any stage without assigning any reason & do not bind themselves to accept the lowest or any other Tender. No reasons will be assigned for the rejection of any Tender.
- 2.14.** The Tender documents will not be issued to the Tenderers who have ongoing litigation against the V.O.Chidambaranar Port Authority. If such Tenderers submit the Tender documents downloaded from Port website, the same will not be considered and the amount paid towards cost of EMD will not be refunded.
- 2.15.** The Tender shall remain valid and open for acceptance for a period of **150 days** from the last date fixed for receiving the same. The Employer reserves the rights to extend the period of validity for a specific time. The request and the response thereto shall be made in writing or by telegram or telex. The Tenderers will have an option to refuse the request without forfeiting his EMD. However, in the event of the Tenderer agreeing to the request, he will not be permitted to modify his Tender.
- 2.16 Documents to be submitted by the bidder**
- 2.16.1.** The Tenderer shall also submit the following information.
- a) Copies of Registration of Firm defining the constitution or legal status, place of registration and principal place of business of the company or firm or partnership.
 - b) Details of the experience and past performance of the Tenderer on works of a similar nature works during the past seven years ending upto **31st of JANUARY, 2025** and other contractual commitments in the format prescribed in Form-III of the Tender Documents.
 - c) Qualifications and experience of the key personnel proposed for administration and execution of the contract both on & off site, in the format prescribed in Schedule-E of the tender document.
 - d) List of Equipment of construction plant and equipment in the format prescribed in Form-IV.

- e) Reports on the financial standing of the Tenderer including profit and loss statements, balance sheets and auditor's reports for the past three years in Form-II.
- f) Information regarding any current litigation in which the Tenderer is involved.

2.16.2. For determination of eligibility and responsiveness the Tenderer shall, in addition to satisfying the requirement of sub clause 2.16 also satisfy the following criteria.

A) Work Experience: The Tenderer shall have successfully completed the similar work during the last seven years ending up to **31st of JANUARY, 2025**, with either the follows;

a) Three completed similar works, each similar work costing not less than – **Rs.35,80,88,748/-**

(Or)

b) Two completed similar works, each similar work costing not less than – **Rs.44,76,10,935/-**

(Or)

c) One completed similar work costing not less than - **Rs.71,61,77,495/-**

Note: Similar Work means: Tenderer is to have successfully completed Construction of any type of concrete pile structures in Marine area such as Construction of jetties, berths, dolphins, bridges.

B) Plant & Equipment

Tenderer should have own piling equipment's, batching plant and lab testing equipment's.

C) Financial Position: Average Annual Financial Turnover of the Tenderer during last three financial years (i.e) **2021-22, 2022-23** and **2023-24** shall be atleast – **Rs.26,85,66,561/-**.

2.17. At any time prior to the last date for submission of tenders, the Employer may for any reason whatsoever, change or modify the Tender documents by amendments. The amendments so carried out will be forwarded to all the prospective Tenderers who have obtained the Tender documents. 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.

2.18. The Tenderer shall submit the entire content of the Tender and shall be without any alterations, erasures except those to accord with the instructions issued by the Employer or as may be necessary to correct errors made by the Tenderers. All such cancellations, alterations or amendments shall be signed / attested by person or persons signing the Tender.

2.19. The completed Tender shall be submitted only through e-tender mode offered in the website <https://etenders.gov.in/eprocure/app>.

Bid No. I & II

2.20 **Name of work:** “**Development of Multi Cargo Berth No.10 in VOCPA**” Both these BIDS shall be put together through e-tender not later than the prescribed time and date as per NIT. The Tender (Technical Bid) will be opened on the next day of last date of submission of bid and the date of opening of Bid-II of qualified Tenderers will be intimated later. If necessary, additional sheets may be added to the forms. Tenders are liable to be rejected if relevant details are not furnished as per enclosed formats and which do not meet the pre-qualification requirement as specified in the Tender notice.

The Tenderer may furnish along with his e-Tender any additional information which in his opinion will highlight his capability to perform and a covering letter declaring the offer to be unconditional confirming its validity for 150 days and a list of all documents submitted in the Bid I & II.

(A) Bid – I (Technical Bid)

It shall contain the following general information and Technical Proposals:

- i. EMD payment shall be made by the bidders as per Cl.6.2 of the Tender document.

- ii. Scanned Copies of original document 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.
- iii. Details of experience and past performance of the Tenderer of works of similar nature works within the past 7 years and details of current works on hand and other contractual commitments in the prescribed Forms respectively.
- iv. The qualifications and experience of key personnel proposed for administration and execution of this contract, both on and off site, in the prescribed forms.
- v. Major items of plant and equipment proposed for use in executing the contract is mentioned in the prescribed form.
- vi. Reports on the financial standing of the Tenderer including profit and loss statement, balance sheets and auditor's report for the past three years in the prescribed form.
- vii. The Tenderer may furnish Scanned copy of latest assessment of Income Tax return filed with IT Department.
- viii. Construction schedule/Equipment schedule/Employment schedule: The Tenderer should give construction schedule keeping in view the overall time period, requisite equipments and labour to accomplish the job in the stipulated period.
- ix. Information regarding any current litigation in which the Tenderer is involved.
- x. The Tenderer has to meet all the minimum qualifying criteria. Relevant information supported by documentary evidence regarding fulfillment of the minimum qualifying criteria as stipulated in Notice Inviting Tender should be submitted along with the e-Tender.
- xi. Scanned copy of Power of attorney for the person who is authorized to sign the Tender and carrying out the works when awarded.
- xii. **Technical Proposal:**
The Tenderer should give the technical proposal indicating.

1. Detailed method of statement for carrying out the work inter-alia, indicating, the plant and equipment owned by them and plant and equipment they propose to arrange for this work.-
 - (i) **Full Lab facilities to be provided adjacent to the Hot mix/Concrete Batching plant sites with lab assistant.**
 - (ii) The Batching Plant of adequate capacity not less than 30 Cum/Hour shall be installed after award of work by the firm in the Port premises at contractor's own cost. Required area for installation will be allotted by the Port at free of cost. After completion of the work, the contractor should be removed the same within 30 days from the date of completion. Failing which, the port will take over the plant and the same will be disposed by any auction method.
 2. Tenderers own quality control management plan & details of testing equipment available with the Tenderer. Details of the field laboratory and back up facilities for testing should be specified.
 3. If the Tenderer has carried out any work as specified in the eligibility criteria of NIT with Private Organizations, the tenderer has to produce certificate of deduction of Income Tax at source.
- xiii) Covering letter declaring the offer to be unconditional confirming its validity for **150 days** and list of all the documents submitted in the Bid 1 & 2.

(B) Bid –II (Price Bid)

The project has to be executed on Lump Sum Turn Key basis (LSTK) (EPC Mode). Hence bidder has to quote the rate on Lump Sum. The quoted rate shall exclude GST. The Tenderer should quote for the work as per the Technical Specifications and scope of the work as specified in the e-Tender document.

**(C) The Tenderer should note the following before submission of offer:
Regarding work experience of Tenderer:**

- i. The work experience as for as a main contractor is acceptable and not as a sub-contractor.

- ii. If the contractor has executed the work directly with any Government/Public Sectors, such executed works are considered as main contractor. If the contractor has executed the works in Private Sector, then they have to submit Tax Deduction at Sources (TDS) certificate.
- iii. If the tenderer executed the work in private organization TDS deducted the percentage equivalent main contractor. Such cases are considered as main contractor. Work executed as Sub-Contractor will not be considered for evaluation of bids.
- iv. The completed works only is considered for qualification. Partly completed works or works in progress shall not be considered for evaluation of bids.
- v. Experience of the Tenderer for the completed works including material and workmanship shall be considered with respect to work order and respective work completion certificate issued by the concerned authority.
- vi. If the tenderer have successfully completed the work (date of completion of work i.e physically / actually completion irrespective of maintenance period) during last 7 years ending last day of month previous to the one in which applications are invited irrespective of date of commencement / start of work. Such experience of work is also considered for evaluation in work experience.
- vii. Once after submission/ uploading of the bid by the tenderer, it will not be permitted to withdraw the same. If any instructions are received from the tenderer to withdraw the submitted bid on or before the scheduled date and time of tender opening, their bid shall be opened and Earnest money submitted shall be forfeited. Subsequently their offer shall be treated as non-responsive and disqualified.
- viii. Any instructions received from the tenderer after opening of the bids such as withdrawal of bid / modification of bid etc. Such instructions shall not be considered and their bids shall be evaluated as per tender conditions.
- ix. Individual work experience certificate issued by the competent authority against the eligibility criteria shall be submitted along respective work , work order, If the tenderer has executed “similar works”

- x. Tenderer has to submit all copies of documents enclosed along with Bid No.1 (Technical Bid) with the attestation of Notary Public.

2.20 Opening of Tender:

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

2.20.1 Bid -I (Technical Bid)

Bid-I of all the Tenderers will be opened by the Chief Engineer or his representative **as per NIT** .

The Tenderer's name, contents of the forwarding letter, the availability of requisite Earnest Money Deposit, and such other details as the Employer at its discretion, may consider appropriate, will be announced at the time of e-Tender Opening for which Tenderer's authorized representative can be present.

2.20.2 Bid No.-II (Price Bid)

The Bid No.-II 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. The Bid No -II shall be opened if the Tenderer's submission in Bid No.-I satisfies / includes all requirements and the same are found acceptable to the Employer, V.O.Chidambaranar Port Authority.

2.20.3. Conditional e-Tender will be rejected outright considering it as non responsive offer and the e-Tender will be liable to be rejected outright if it is found that:

- i. The Tenderer proposes any alteration in the work specified in the e-Tender or in time allowed for completing the works or indicate any other condition.
- ii. Disclosure / indication of the price in the technical bid shall render the e-Tender disqualified and rejected.

2.21. After the opening of e-Tenders, information relating to the examination, clarification evaluation and comparisons of Tenders and recommendation concerning the award of contract shall not be

disclosed to Tenderers or any other(s) any efforts by the Tenderer to influence the Employer, in the process of examination, clarification, evaluation and comparison of tenders and decisions concerning award of contract may result in the rejection of the Tender.

- 2.22.** To assist in the examination, evaluation and comparison of tenders, the Employer may ask Tenderers, individually for clarifications of their tenders. The request for clarification and the response shall be in writing or by cable or by telex, but no change in price or substance of the Tender shall be sought, offered or permitted nor the Tenderer be permitted to withdraw his Tender before the expiry of the Tender validation period.
- 2.23.** The Employer will determine whether the Tender is substantially responsive to the requirements of the Tender documents. For the purpose of this clause a substantially responsive Tender is one which inter-alia confirms to all the terms, general conditions and specifications of the Tender documents and Technically suitable.
- 2.24.** Tenders determined to be responsive will be checked by the Employer for any arithmetical errors in computation and summation as under:
- (i) Where there is discrepancy between amounts in figures and words, the amount in words will govern and-
 - (ii) Where there is a discrepancy between the unit price and total amount derived from the multiplication of the unit price and the quantity, the unit price as quoted will govern.
- 2.25.** Prior to the expiration of the prescribed period of Tender validity or such extended period the Employer will notify the successful Tenderer, by cable or telex, fax confirming in writing by registered letter that his Tender has been accepted. The notification of award will constitute the formation of the contract. Upon the furnishing by the successful Tenderer of a performance security in accordance with the provisions of clause 6.2.1 of General conditions of contract, the Employer will promptly notify the unsuccessful Tenderers that their tenders have

been unsuccessful.

- 2.26.** All cost, charges and expenses including stamp duty in connection with contract as well as preparations and completion of agreement shall be borne by the Tenderers.
- 2.27.** The Contractor shall, in accordance with the requirement of the Employer, afford all reasonable opportunities for carrying out their work to any other Contractors employed by the Employer and their workmen and to the 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.
- 2.28** The Technical Bids of the Tenderers will be evaluated based on the whole work stipulated in Bid -II.

III. GENRAL GUIDLINES TO E- TENDER

A.GENRAL

Electronic Tenders (Online) are invited on behalf of **V.O.CHIDAMBARANAR PORT AUTHORITY (VOCPA)** from reputed and experienced contractors for the work of **DEVELOPMENT OF MULTI CARGO BERTH NO.10 AT V.O.CHIDAMBARANAR PORT ON ENGINEERING, PROCUREMENT AND CONSTRUCTION CONTRACT (EPC) BASIS** The tender shall remain valid for acceptance for a period of **150** days from the date fixed for opening of the tender. The period of completion of work is **16 months** from the date of award of contract.

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.

VOC Port Tender Form: The tender documents can be downloaded from VOC Port Website www.vocport.gov.in through "E-tendering link: <https://etenders.gov.in/eprocure/app>" and while uploading tender.

IMPORTANT INSTRUCTIONS AND GUIDELINES TO TENDERERS FOR E-TENDRING

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

- 1) VOCPA 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 VOCPA 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) VOCPA E-TENDER WEBSITE:
<https://etenders.gov.in/eprocure/app> or go to VOCPA 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 EMD 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.

DOWNLOADING OF TENDER FROM VOCPA ONLINE E-TENDERING

WEBSITE:

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 21.02.2025 to 13.03.2025. The instructions for submitting e-tender is given in the e-tendering website <https://etenders.gov.in/eprocure/app>.

- i. 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.
- ii. 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 have to be uploaded in the online tender process on or before **13.03.2025 upto 15:30 hrs.**
- iii. **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.

- iv. The tenders will be submitted through online up to **13.03.2025 till 15:30 hrs** and the same will be opened on **14.03.2025 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. VOCPA and e-tendering website will not take any liabilities and claims for failure of Network and problem arise submission of the tender forms online.
- v. The Tenderer is advised to acquaint himself with the study and related with hydrological conditions, climatic conditions, availability of manpower, 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.
- vi. The Tenderer shall bear all the costs of visiting the site, collecting the information and for preparing and submitting the Tender.
- vii. 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.
- viii. 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.
- ix. 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.
- x. 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.

- xi. 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, If 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.
- xii. 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.
- xiii. 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.
- xiv. The completed Tender shall be submitted through online as per general guideline instruction given.
- xv. The Tender (Main Bid and Bid -I) will be opened on the **14.03.2025** at 15:30 hours. Date of opening of price bid of qualified Tenderers will be intimated later.

B In addition to the required documents for tender, the following scanned copy documents to be uploaded while submitting tender in online:

- 1) The tenderer has to upload scanned copy of RTGS payment or any E-Mode payment made towards Earnest Money Deposit and scanned copy of Bank Guarantee made towards Earnest Money Deposit.

2) Copy of Income tax permanent account number card for assessing the income tax.

3) The scanned copy of Work experience certificate (work order and Work completion 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 shall be attested by notary public and should be uploaded and the same only taken into consideration for evaluation.

(A) Cover - I

It shall contain the following general information and Technical Proposals:

- i. Letter of Submission (Form of Tender)
- ii. Scanned copy of RTGS payment or any E-Mode payment made towards Earnest Money Deposit.
- iii. The qualifications and experience of key personnel proposed for administration and execution of this contract, both on and off site, in the prescribed forms.
- iv. Reports on the financial standing of the Tenderer including profit and loss statement, balance sheets and auditor's report for the past three years in the prescribed form.
- v. The Tenderer may furnish copy of latest three years assessment of Income Tax return filed with IT Department.
- vi. Information regarding any current litigation in which the Tenderer is involved.
- vii. The Tenderer has to meet all the minimum qualifying criteria. Relevant information supported by documentary evidence regarding fulfillment of the minimum qualifying criteria as stipulated in Notice Inviting Tender should be submitted along with the Tender.

The qualification questionnaire contains five forms as follows:

Form – I	: A - Letter of Application
	: B - General Information
Form – II	: Financial Data

Form – III : Experience Record

Form – IV : Equipment available with the bidder

Form – V : Technical personnel available with the bidder

~~ The qualification of Tenderer is based on the 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

~~ If necessary, additional sheets may be added to the forms. Each page of each form should 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.

~~ Tender submitted by a **Joint Venture** / consortium must meet the following requirements:

~~ Each partner of the joint venture / consortium must submit the complete documentation, or portions applicable thereto, required for a firm to apply for eligible for Tendering.

- ~~ In case of Joint Venture / Consortium, Criteria can be fulfilled collectively by the associated groups. The lead Member of the JV / Consortium must have completed atleast one work costing not less than the amount equal to **Rs.35.81 Crores (Rupees Thiry five Crores and Eighty-One Lakhs Only)**. The average turnover of only those Members of the JV / Consortium shall be aggregated who meet such experience criteria. There must be a legally binding agreement clearly stipulating the responsibilities and liabilities of the Members of the JV / Consortium. However, Lead partner is whole responsible to complete the work in scheduled time in order to meet the requirement of MQC, clubbing of cost of the works executed by different JV partners shall not be permitted when the cost of the individual works executed is failing Short to meet the MQC requirement. However cost of completed individual works of each partners which meets the MQC shall be considered.
- ~~ The applicant(s) shall confirm that if he / they is / are awarded the project, the tender submitted shall be legally binding on all partners jointly and severally.
- ~~ A joint venture/consortium agreement providing for the joint and several liability of all partners in respect to the contract shall be submitted along with the tender.
- ~~ The application shall include a full description of the proposed participation and responsibility of each partner of the joint venture
- ~~ The application shall designate one of the partners as the partner in charge (Lead member) through whom

correspondence between the applicant and the Employer shall be channeled and shall be authorized to incur liabilities and receive instruction for and on behalf of any and all partners of the Joint Venture / Consortium till entire execution of the contract including payment.

~~ Each firm shall submit only one application in response to this Tender. Multiple applications through subsidiaries shall not be entertained.

~~ Each firm can participate only in one joint venture/consortium. In case a firm's name appears in more than one consortium / joint venture, then both applications may be rejected.

~~ Joint venture agreement shall be on stamp paper valuing Rs.500/- & the same should be notarized or legally registered.

~~ 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 following documents shall be enclosed with Tender.

- i. Power of Attorney (in original) in favour of signatory/s to the Tender, duly authenticated by Notary Public.
- ii. 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.

- iii. A copy of the certified latest Balance Sheet in case the Tenderer is a firm or a company.
- iv. Independent Provident Fund Code Registration with Regional Provident Fund Commissioner.
- v. 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.
- vi. The CPM / PERT / GANTT chart indicating the programme of work and material planning chart for all the works indicated in the Tender.
- vii. The programme showing the order of procedure and method in which he proposes to carry out the works.
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.
- viii. Details of main plants, crafts and equipments available with the Tenderer.

Technical Proposal:

The Tenderer should give the technical proposal indicating, Detailed method of statement for carrying out the work inter-alia, indicating, the plant and equipment owned by them and plant and equipment.

- i) Tenderers own quality control management plan & details of testing equipment available with the Tenderer. Details of the field laboratory and back up facilities for testing should be specified.
- ii) Covering letter declaring the offer to be unconditional confirming its validity for **150 days** and list of all the documents submitted in the Cover I & II.

(B) Cover –II

The project has to be executed on Lump Sum Turn Key basis (LSTK) (EPC Mode). Hence bidder has to quote the rate on Lump Sum. The quoted rate shall exclude GST.

(C) The Tenderer should note the following before submission of offer:**Regarding work experience of Tenderer:**

- i. If the contractor has executed the works in Private Sector, then they have to submit Tax Deduction at Sources (TDS) Certificate.
- ii. In case bidder executed the works in outside India by Indian or foreign firms in such case proof of work executed certified by the approved government auditors or any other Authorized body of Respective government shall be submitted duly attested by Gazetted officer/ Notary public.
- iii. The completed works only is considered for qualification. Partly completed works or works in progress shall not be considered for evaluation of bids.
- iv. Experience of the Tenderer for the completed works including material and workmanship shall be considered with respect to work order and respective work completion certificate issued by the concerned authority.

- v. If the tenderer have successfully completed the work (date of completion of work) during last 7 years irrespective of date of commencement/start of work. Such experience of work is also considered for evaluation in work experience.
- vi. Once after submission/ uploading of the bid by the tenderer, it will not be permitted to withdraw the same. If any instructions are received from the tenderer to withdraw the submitted bid on or before the scheduled date and time of tender opening, their bid shall be opened and Earnest money submitted shall be forfeited. Subsequently their offer shall be treated as non-responsive and disqualified.
- vii. Any instructions received from the tenderer after opening of the bids such as withdrawal of bid / modification of bid etc. Such instructions shall not be considered and their bids shall be evaluated as per tender conditions.
- viii. Individual work experience certificate issued by the competent authority against the eligibility criteria shall be submitted along with respective work order.

Tenderer has to submit all signed copies of documents enclosed along with Cover No.1 (Technical Bid). However the copies related to MQC should be attested by the gazette officer/ Public Notary.

(D) Opening of Tender:

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

1 Technical Bid

Technical bid of all the Tenderers will be opened by the Chief Engineer or his representative, **on 14.03.2025 at 15:30 hours by E-Mode**. The Tenderer's name, contents of the forwarding letter, the availability of requisite Earnest Money Deposit, and such other details as the Employer at its discretion, may consider appropriate, will be announced at the time of Tender Opening for which Tenderer's

authorized representative can be present.

2 Price bid

The price bid of the qualified bidder shall be opened by E-Mode 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.

3 Conditional Tender will be rejected outright considering it as non responsive offer and Tender will be liable to be rejected outright if it is found that:

- iii. The Tenderer proposes any alteration in the work specified in the Tender or in time allowed for completing the works or indicate any other condition.
- ii. Disclosure / indication of the price in the technical bid shall render the Tender disqualified and rejected.

4 After the opening of Tender, information relating to the examination, clarification, evaluation and comparisons of Tenders and recommendation concerning the award of contract shall not be disclosed to Tenderers or any other(s) any efforts by the Tenderer to influence the Employer, in the process of examination, clarification, evaluation and comparison of tenders and decisions concerning award of contract may result in the rejection of the Tender.

5 To assist in the examination, evaluation and comparison of tenders, the Employer may ask Tenderers, individually for clarifications of their tenders. The request for clarification and the response shall be in writing or by cable or by telex, but no change in price or substance of the Tender shall be sought, offered or permitted nor the Tenderer be permitted to withdraw his Tender before the expiry of the Tender validation period.

- 6** The Employer will determine whether the Tender is substantially responsive to the requirements of the Tender documents. For the purpose of this clause a substantially responsive Tender is one which inter-alia confirms to all the terms, general conditions and specifications of the Tender documents and Technically suitable.
- 7** Tenders determined to be responsive will be checked by the Employer for any arithmetical errors in computation and summation as under:

 - (i) Where there is discrepancy between amounts in figures and words, the amount in words will govern and-
 - (ii) Where there is a discrepancy between the unit price and total amount derived from the multiplication of the unit price and the quantity, the unit price as quoted will govern.
- 8** Prior to the expiration of the prescribed period of Tender validity or such extended period the Employer will notify the successful Tenderer, by cable or telex, fax confirming in writing by registered letter that his Tender has been accepted. The notification of award will constitute the formation of the contract. Upon the furnishing by the successful Tenderer of performance security in accordance with the provisions of clause 6.2.1 of General conditions of contract, the Employer will promptly notify the unsuccessful Tenderers that their tenders have been unsuccessful.
- 9** All cost, charges and expenses including stamp duty in connection with contract as well as preparations and completion of agreement shall be borne by the Tenderers.
- 10** The Contractor shall, in accordance with the requirement of the Employer, afford all reasonable opportunities for carrying out their

work to any other Contractors employed by the Employer and their workmen and to the 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.

- 11** The Technical Bids of the Tenderers will be evaluated based on the whole work.

INSTRUCTION TO TENDERERS

1. Each Tenderer shall submit with his Tender along with a program 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.
2. 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 methods proposed to be used to complete the work.
3. All accompaniments to the Tender shall be with Notary attestation.
4. 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.
5. 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(ie) of the Tender shall be signed, scanned document to be uploaded.
6. No alteration shall be made in any of the Tender documents or in the Bill of Quantities and the Tender shall comply strictly with the terms and conditions of the Tender document. The Employer / Engineer may, however, ask any Tenderer for clarifications of his Tender if required. Nevertheless, no Tenderer will be permitted to alter his Tender price after opening of the Tender.
7. 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.

8. Any time prior to the opening of the tenders, the Engineer may modify the Tender document by issuance of addendum, which shall be displayed in tendering web site.
9. Permission to visit the Site will be given during the Tender period on prior application to the Chief Engineer, V.O.Chidambaranar Port Authority. Clarification if any required, in connection with the work to be executed may be obtained from the Chief Engineer.
10. 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 access 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 – sand for mortar and sand for filling 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.Chidambaranar 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 therefrom. The cost of visiting the site shall be at Tenderer's own expense.

11. All recipients of the Tender documents for the purpose of submitting a Tender shall treat the contents of the document as private and confidential. Those who are not participating in the Tender shall return the document to the Engineer, before the date fixed for opening of Tender along with the forwarding letter.
12. 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.
13. Bore hole detail's nearby area are enclosed herewith. However, bidder has to make their own assessments before quoting. No claims on this ground is entertained.
14. Any further information may be obtained on application in writing to :
 - i. The Chief Engineer,
 - ii. V.O.Chidambaranar Port Authority,
 - iii. Tuticorin - 628 004, India.
 - iv. Telephone : 91-0461-2352252
 - v. Fax : 91-0461-2354270
 - vi. Email : ce@vocport.gov.in
15. 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 and without any liability. No representation whatsoever will be entertained on this account.
16. 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.

17. 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.
18. No foreign exchange is available for this work. All payments will be made only in Indian Rupees only.
19. The 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.
20. 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.
21. 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.
22. Canvassing in connection with the Tender is strictly prohibited and the Tender submitted by the Tenderer who resort to canvassing will be liable for rejection.
23. Tenderer should not indicate his cost offer anywhere directly or indirectly in Technical Bid. If so such bidders offers are outright rejected.
24. In case of any contract having material and labour components are controlled at different heads, in such cases the value of work indicated in work order and respective completion certificates only considered

for experience.

25. Marine structure work” means any marine related structure works with pile foundation (cast-in-situ) executed in marine area including allied civil work in that particular contract such as construction of berths, mooring dolphins, Jetties.
26. If any bidder has completed the work with JV prior to submission of bid. In such case, bidder has to submit the JV agreement showing percentage of sharing pattern with attested by Notary. Accordingly proportionate value of the work will be considered for evaluation of work.
27. All the documentary evidence uploaded in respect of MQC shall be attested by the Notary / Gazetted Officer/Special Executive Officer.
28. If the work is completed successfully and contract is under maintenance period, such works are considered as a completed works for evaluation purposes.
29. If the tenderer has executed “Marine structure works” in any contract / project/BOT project/Turnkey project etc. In those particular projects/contracts, if the cost of marine structure works (separately or combined) meets the requirement of MQC, such experience shall also be considered for evaluation.
30. Submission of tender by making new Joint Venture between two or more firms / companies to fulfill the required pre-qualification are acceptable for the subject work. If tenderer participating the bid in Joint Venture, the evaluation shall be carried out as under.
 - a) The each Joint Venture should not have less than 26% share.
 - b) The tender, and, in the case of successful tender, the Form of Agreement shall be signed so as to be legally binding on all partners.

- c) One of the partners shall be nominated as being in charge, and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the partners.
- d) The partner in charge shall be authorized to incur liabilities and receives instructions for and on behalf of any and all the partners of the joint venture and the entire execution of the contract including payment shall be carried out exclusively through the partner in charge.
- e) All partners of the joint venture shall be liable jointly and severally for the execution of the Contract in accordance with the contract terms and a relevant statement to this effect shall be included in the authorization mentioned under (ii) above as well as in the Tender and the Form of Agreement (in case of a successful Tender).
- f) In the event of default by any partner in the execution of his part of the contract, the partner in charge will have the authority to assign the work to any other party acceptable to the Employer to ensure the execution of that part of the contract.
- g) A copy of the agreement entered into by the joint venture partners shall be submitted with the Tender.

31. In JV the lead partner is fully and severally responsible for execution and complete the work in stipulated time.

32. After opening of Technical bid, VOCPA may call the bidder along with original documents for verification of the credential's / documents submitted for the work by communicating the exact date and time.

33. Conditional Tender will be rejected outright considering it as non-responsive offer and Tender will be liable to be rejected outright.
34. The employer may ask tenderers, individually for clarifications of their tenders. The request for clarification and the response shall be in writing or by cable or by telex, but no change in price or substance of the tender shall be sought, offered or permitted nor the tenderer be permitted to withdraw his tender before the expiry of the tender validation period.
35. No Bidder shall submit more than one Bid Proposal for the Project. A Bidder applying individually or as a member of a Consortium shall not be entitled to submit another Bid Proposal either individually or as a member of any Consortium, as the case may be.

* * * *

IV. APPENDIX TO TENDER - IMPORTANT CLAUSES

Description	Clause No.	Data
Earnest Money	6.2	Rs.1,14,52,000/- (Rupees One Crore Fourteen Lakhs and Fifty-Two Thousand Only). Mode of payment as under: <ul style="list-style-type: none"> • Rs.25 Lakhs shall be paid in the form of RTGS/NEFT through CPP Portal. • Rs.89.52 Lakhs in the form of irrevocable Bank Guarantee.
Performance Security	6.2.1	5% of accepted tender value
Security Deposit	6.2.2	10% deducted in each running bill after adjusting the EMD subject to maximum of 5% of contract price.
Minimum amount of third party Insurance	6.15.2	Rs.10 Lakhs 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 their own cost
Cost of Tests	8.1.3.	To be borne by the Tenderer
Commencement of work	9.1.	Within 30 days from the written order to commence the work.
Time of completion & Incentive/Bonus	9.3.	16 Months from the date of issue of work excluding one month mobilization period.
		In case, the contractor completes the work ahead of scheduled completion time, a bonus @ 1% (One

		percent) of the tendered value per month computed on per day basis, shall be payable to the contractor, subject to a maximum limit of 5%(five percent) of the tendered value.
Liquidated Damages	9.7.1.	1% per week or part thereof the total value of the contract subject to a maximum of 10%.
Period of Maintenance	10.1.1.	The period of maintenance is 24 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 certification of bill by Engineer-in-charge	15.1.1.	75% of the net amount of Interim Certificate within 10 days and balance within 30 days.
Minimum Interim payment	15.1.1	Monthly once based on completion of stage activities
Pre final and Final amount	15.1.1	Any amount
Release of Security Deposit	15.1.2.1.	50% will be released on substantial completion and balance 50% after the maintenance certificate has been delivered to the Employer.
Dispute between the Contractor and Employer	20.1. 20.2. 21.0.	Engineer - in - charge 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.

Price Escalation on material and Labour	24.0.	
Validity of tender	NIT	150 (Hundred and fifty) days from the last date of receipt of tender.
Goods & Service Tax	6.2.5	Applicable Tax shall be reimbursed on production of paid receipt as documentary evidence.
Jurisdiction	21.1.1.	Tuticorin

* * * *

V. FORM OF AGREEMENT

THIS AGREEMENT is made this _____ day _____ 2025 (Two thousand and Twenty Five) between the Board of Authorities of the V.O.Chidambaranar Port, a body corporate under Major Port Authority Act, 2021 (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 of Authorities of the Port of Tuticorin is desirous of executing the Work **“Development of Multi Cargo Berth No.10 at V.O.Chidambaranar Port on Engineering, Procurement And Construction Contract (EPC) Basis”**

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 the Contractor has furnished a Sum of as per tender clause 6.2. As Earnest Money Deposit at the time of tendering, which will be adjusted against the Security Deposit as per Clause 6.2.2 and Performance Security as per Clause 6.2.1 for the due fulfilment of all the Conditions of Contract.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents shall be deemed to form and be read and construed part of this Agreement, viz.
 - a) The Letter of Acceptance - Work Order
 - b) Notice Inviting Tender, Form of Tender, Instruction to Tenderers, Form of Agreement, Memorandum, the

General Conditions, General Information, Particular Specifications and Environmental Management Plan (Technical Bid)

- c) The Drawings (Technical Bid)
 - d) Preamble, Form of Tender and Bill of Quantities (Price Bid)
 - e) Correspondences with contract firm before the letter of acceptance.
3. The Contractor hereby covenants with the Board of Authorities of V.O.Chidambaranar Port to dredge and complete the Work in all respects in conformity with the provisions of the Contract.
4. The Board of Authorities of V.O.Chidambaranar Port hereby covenants to pay the Contractor in consideration of such dredging and completion 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 Authorities of V.O.Chidambaranar Port was hereunto affixed and

The Chairman thereof
has set his hand in the
presence of

CHAIRMAN OF THE BOARD OF
AUTHORITIES OF
V.O.CHIDAMBARANAR PORT
AUTHORITY.

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) **“Board”** The Board means the Board of Trustees of the Port of Tuticorin, a body Corporate under the Major Port Trusts Act 38 of 1963 represented by the Chairman, and as amended from time to time also Employer herein after called “Board”.
- b) **“Contractor”** means the person or persons or firm or company whose tender has been accepted by the Board and the legal personnel representatives or the successors of such firm or company and the permitted assigns of such persons or firm or company.
- c) **“Engineer”** means the Chief Engineer of the VOC Port Trust and his successors.
- 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) **“Work” or “Works”** means the work by virtue of the contract to be executed in accordance with the contract under the relevant schedule whether temporary or permanent and whether original, altered' substituted or additional.
- f) **“Contract”** means the documents forming the tender and acceptance thereof and the format agreement executed between the Port Trust and the contractor

together with the documents referred to therein including the General conditions, special conditions of contract, specifications designs Drawings. Priced Bill of Contractor quantities and instruction issued from time to time by the Engineer – in-charge and 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 therefrom 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 temporary works of every kind required in the execution completion or maintenance of the works and which do not form an item of the work or works.
- k) "Drawings"** means the drawing referred to in the contract agreement and any modifications of such drawings approved in writing by the Chief Engineer and such other drawings as may from time to time be furnished or approved in writing by the Chief 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) **"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.
- p) **"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. **(Deleted)**
- q) **"Schedule (s)"** referred to in these conditions shall mean the relevant schedule(s) annexed to the tender papers issued by the Employer.
- r) **"A Week"** means, seven days without regard to the number of hours worked in any day in the week.
- s) **"A Day"** means a day of 24 hours from midnight to the next midnight irrespective of the number of hours worked in that day.
- t) **"A Month"** means month according to Gregorian calendar.
- u) **"A Year"** means Contract year commencing from 30th day after the date of the written order to commence the work.

v) **"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%.

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. (Engineer-In-charge)

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 in 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.

5.1.3.1 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.

5.1.3.2 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 one copy thereof shall be furnished to the Contractor at free of cost. The Contractor shall provide and make at his own expense any further copies required by him. At the completion of the contract the Contractor shall return to the Engineer 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 enclosed drawing's are tentative. However, employer will issue construction drawings accordingly quantity will be measured and paid.

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 power 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 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

The Tender shall be accompanied with EMD of **Rs.1,14,52,000/- (Rupees One Crore Fourteen Lakhs and Fifty-Two Thousand Only)** Out of which **Rs.25 lakhs** through online payment gateway mode in CPP Portal and **Rs.89.52 Lakhs** in the form of irrevocable Bank Guarantee from any Nationalised Bank/Scheduled Bank or Non Nationalised/Scheduled Bank having its branch at Tuticorin with net worth of atleast Rs.100 Crores as per format prescribed by the Port. The Bank Guarantee should be sent to the Port directly by the Issuing Bank under Registered Post (AD). However, the Bidder shall be permitted to upload a scanned copy of Bank Guarantee issued by Bank along with tender. The tender without EMD will not be considered. EMD in any other form will not be accepted. EMD will not bear any interest. The refund of EMD to the unsuccessful Tenderers will be intimated/released after issue of work order to the successful bidder but not later than 30 days after the date of award of contract. The successful bidder EMD in the form of Bank guarantee shall be returned, after producing performance bank guarantee to the Port. The EMD of successful bidder made through E-mode shall be adjusted against security deposit.

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 D.D. or Bankers Cheque 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.

6.2.2. Security Deposit

Security Deposit at 10% will be deducted from each Running Bill of the Contractor till the sum along with the sum already deposited as EMD will amount to Security Deposit of 5% of the contract value. Half of the above sum will be refunded to the Contractor, if he so desires, on substantial completion and / or 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 24 months after the date of completion of works. If during this period of 24 months any defects are notified 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 falling to do this within a notified time, the Engineer may arrange for such repairs to be carried out and deduct 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 24 months from the date of completion of work certified by the Engineer. The amounts as stated above will not bear any interest.

6.2.3 Taxation

The price bid by the contractor shall include all customs duties, import duties, business taxes, and income and other taxes duties, levies, royalties, etc. that may be levied in accordance with the laws and regulations in the Employer's country on to the last date for submission of the tender, on the Contractors equipment and supplies (temporary and consumables) acquired for the purpose of the contract and on the services performed under the contract. Nothing in the contract shall relieve the contractor from his responsibility to pay any tax that may be levied in the Employer's country on profits made by him in respect of the contract.

The Contractor's staff and labour will be liable to pay personal income taxes in the employer's country in respect of such of the salaries and wages as are chargeable under the laws and regulations for the time being in force, and the contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such laws and regulations.

The contractor shall obtain all relevant information regarding procedures for the import and export of his equipment and materials from the Chief Controller of Imports and Exports, and the Ministry of Port's, Shipping & Waterways, New Delhi and shall have informed himself on the details of customs charges and drawback regulations applicable to items of equipment. The Contractor shall provide the necessary guarantee bonds where these are required by Customs Authority.

New direct taxes or increase in tax rates (other than Income Tax, Customs duties, Import duties, additional / counter veiling duties etc.,) commencing from 14 days prior to the date for submission of bids will be reimbursed by the Employer subject to production of documentary evidence of remittance of the said new taxes or increase in tax rates to the Departments concerned. The benefit on account of withdrawal of taxes or decrease in rate of existing taxes mentioned above will be passed on to the Employer.

Any new Taxes if to be payable by VOCPA as per rules if applicable shall be reimbursed on production of documentary evidence/adherence for the relevant rules, Terms and Conditions of the said Act.

6.2.4 Income Tax

The Contractor and his staff shall be responsible for payment of all personal income taxes or any other taxes to the concerned authorities as per the law in force in India from time to time.

Deduction of Income Tax shall be made by the Employer from each Certificate of Payment to the Contractor at the rates specified by the Central Government under the provisions of IT Act, 1961 or the authority concerned from time to time, on the gross amount of the Contractor's Bill for payment.

6.2.5 Goods & Service Tax (GST)

The GST shall be paid by the Port at the rates applicable from time to time on submission of bills / invoices as prescribed under GST rules mentioning the full details regarding the Name, Address, GST Registration Number of the bidder along with the description, classification and value of taxable services and GST payable thereon. The GST shall be reimbursed by the Port to the Contractor on his making available the GST claimed by him in GSTR2A against the Port GST number.

6.2.6 Permanent Account Number (PAN)

The Tenderer shall furnish his Permanent Account Number (PAN) and his VAT / Sales Tax Registration number, and Service Tax 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 conversant himself with the scope of work, site condition and nature of job 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.

6.6.1. Program to be furnished

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 and videos

The Contractor shall arrange to take Progress Photographs and videos 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

of A4 size in albums. The contractors also submit soft copy in the form of CD/DVD of the photos and videos in every month. Prints may not be reproduced without the approval of the Engineer.

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

The total project video programme of about 30 minutes duration shall be arranged to be taken covering the main features of the project, stage wise execution showing each activities from time to time and two copies of CD/DVD of the video programme shall be submitted to the Engineer at the end of Contract.

6.6.5. Contractor has to submit progress photographs along with interim bill.

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 Superintendency

The Contractor shall give or provide all necessary superintendency 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 superintendency 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 Contractor compliances

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 V.O.Chidambaranar Port Authority Class-I Employees (Acceptance of Employment after Retirement) Regulations, 1979.

6.8.4. Employment of Technical Staff

The Contractor shall employ the minimum technical staff as stated in form v during the execution of this work. However contractor has to access the site requirement additional staff shall be placed. The technical personnel should have sufficient experience in such nature of works.

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. Bore-holes and Exploratory excavation:

If at any time during of the works the Engineer shall require the Contractor to make boreholes or to carryout exploratory excavation, such requirement shall be

ordered in writing and shall be deemed to be an addition ordered under the provisions of Sub-Clauses 11.1.1 and 11.1.2. hereof unless a provisional sum on respect sum in respect of such anticipated work shall have been included in the Bill of Quantity.

6.11.1. 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.

6.11.2. 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.

6.12.1. 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.

6.12.2. 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 (all of which are herein collectively referred to as "The Excepted Risks").

6.13. Insurance of Works Etc.

Without limiting his obligations and responsibilities under clauses 6.12.1. and 6.12.2. 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.

6.14. 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 (Limit as stated in appendix).

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 lakhs 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 insure 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 3% above the prevailing 'Bank Rate', as announced by the Reserve Bank of India from time to time under Section 6.17.49. of R.B.I. Act,1934) 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 therefor.

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 etc., 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 authorised 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 or any other 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

- a)** 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.
- b)** 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.

- c)** 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.

- d)** 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 demolition or 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 without levy charges. The Contractor shall not lay such moorings so as to interfere with traffic in the water ways and such moorings shall be removed if and when required by the Engineer. The boat, pontoons and other floating are not liable to all the Port dues while work/stationed at project site during the contract period subject to certified by the Engineers. Contractor has to provide one small boat with operator for inspection of employer during execution of work. Failing which Rs 2000/ day will be deducted. The cost for the same is deemed to be included in the quoted rates.

6.28.1. Registration with the Boards regarding 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 life saving 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 thereunder from time to time.

6.32. Deleted

6.33. Use of Explosives

No explosives will be allowed inside the Port premises for execution of the project.

6.34 Use of Port Authority Lands

Port will allot an open area of about 20,000 m² within Port premises for working space for the purpose of laying out his work yard, setting up of Batch Mix Plant, casting yard site, Project related offices, stores, etc. to the extent required to be decided by the Engineer at free of any rental charges. If additional land is used such additional area land rent, shall be recoverable as per Port's prevailing rates. 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 level/sounding 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:

Subject to availability, Port will permit to draw water from the near available supply line at applicable charges. The Contractor shall make their own arrangements for taking water from port water supply line. Port is not responsible for quantity/quality of supply of water. The contractor has to make their own arrangements for any additional demand. In case any demand/scarcity of water, the contractor as to make their own arrangements for the water supply. The port is not responsible for the supply of water.

7.1.3. Alcoholic Liquor or Drugs:

The Contractor shall not, otherwise than in accordance with the Statues, 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 there under 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.

7.1.13.3 Employees State Insurance Act 1948 (34 of 1948)

- i. The Contractor should adhere to the Employees State Insurance Act 1948(34 of 1948). contractor should submit the ESI code number and confirm the payments made to them.
- ii. The quoted rates inclusive of applicable ESI amount for the project.

7.1.13.4 Employees Provident fund Act 1952:

The contractor has to comply with all provision contained in EPF & MP Act 1952. Rate quoted in Price bid (Prescribed) shall exclude EPF component.

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 by 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:

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 area 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.

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 or supplied by the Employer 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 Removal of Material

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 (notwithstanding any previous test thereof or interim payment therefor) 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 Suspension of Work

8.6.1.1. 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 in 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 recover 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 30 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. Work Advance

No work advance is payable.

9.2.1. 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 despatch 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.

9.2.2. 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. If land required same shall be allotted on temporary basis during contract period on chargeable basis as time to time notified rate of Port.

9.3 Time of Completion

Completion period of total contract is **16 Months** from the date of issue of work order.

Incentive/Bonus

In case, the contractor completes the work ahead of scheduled completion time, a bonus @ 1% (One percent) of the tendered value per month computed on per day basis, shall be payable to the contractor, subject to a maximum limit of 5%(five percent) of the tendered value. The amount of bonus, if payable, shall be paid along with final bill after completion of work.

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 apply for extension of time within 15 days of the hindrance 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. 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.

9.7.1. 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 or part thereof the total value of the Contract subject to a maximum 10% as liquidated 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 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

- a) Maintenance period for **DEVELOPMENT OF MULTI CARGO BERTH NO.10 AT V.O.CHIDAMBARANAR PORT ON ENGINEERING, PROCUREMENT AND CONSTRUCTION CONTRACT (EPC) BASIS** is Two year from the date of issue of substantial completion certificate of work by Engineer in charge.

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 is 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.

The contractor shall guarantee successful performance of work for 2 year completion of projects. Any defects like peeling off, discoloration, blistering, effervescence, delamination, cracking etc, spalling of concrete, appearance of rust streaks etc on the structure observed during the guarantee period shall be made good by the contractor at no extra cost to the VOC Port Authority. Based on the findings of the inspection, the contractor shall carry out the necessary repair/rectification measures, as suggested by EIC, within 2 months for the date of joint inspection without any cost to VOC Port Authority.

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 Contractors 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 been 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 proceeding 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 6.12.1., 6.12.2. 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 before hand from the money that become due to the Contractor at a later date then the amount so paid is recoverable with interest at 2% above the prevailing prime lending rate of SBI 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:

Measurements shall be taken jointly by the Engineer's Representative or his authorized Representative and by the Contractor. 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.

The Contractor has to submit reconciliation statement along with each running bill along with the submission of bills.

14.0. PROVISIONAL AND PRIME COST SUMS (DELETED)

15.0. CERTIFICATES AND PAYMENTS

15.1.1. Payment of Monthly Bills (Interim/Running)

The Contractor shall submit the monthly bill on or before the 10th of each month to the Engineer In-charge. Contractor has to take joint measurement along with VOCPA representatives and signed by the both parties based on the stage wise completion of work as stated in schedule of payment. The bill shall be certified by Engineer In-charge. Payment shall be made after deducting TDS, income tax and other applicable taxes from time to time.

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 through 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 may, if so desired by him 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 herein contained shall operate to create in favour of the bank any rights or equities vis-a-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 claim on this account.

The Engineer 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) Canara Bank, Harbour Branch

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) If the Payee's account is with any of the computerized & net worked branches of the above named banks, the amount due to the payee will be credited to the Payee instantly without payment of bank charges.
- iv) In all other cases, payment will be arranged through Banker's Cheque / D.Ds. by State Bank of India through "Speed Post" or "Courier Service", for this the Bank charges at the appropriate rates will be payable by the Payee.
- v) The specimen Form of "E-payment" is given in Annexure-III.

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 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 deduction to be made for the sums loaned and other sums deductible under the Contract the balance outstanding shall be paid by the Contractor in cash 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 *exparte* 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 be come 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 unruped power, civil war or (otherwise than among the Contractor's own employees) riot, commotion or disorder (hereinafter comprehensively referred to as "the said Special Risks")

17.2. 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 endeavors to complete the execution of the works provided always that the Employer shall be entitled at any time after such outbreak of war to terminate this Contract by giving notice in writing to the Contractor and upon such notice being given this Contract shall save as to the rights of the parties under this 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. no claim is entertained in this regard.

17.6. Payment if Contract 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 16 thereof if the Contract had been terminated under the provisions of Clause 16 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 therefor 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. A Committee under the chairmanship of Chairman with Chief Engineer, FA& CAO and Deputy Port Conservator of the Port may examine the dispute and give its recommendation and the Board for taking a view on the dispute. If the dispute is not settled amicably, the same shall be settled by Arbitrations. 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) Amicable settlement has not been reached within the period stated in Sub-Clause 20.2 shall be finally settled under the Rules of Indian Arbitration and Reconciliation Act, 1996 and the rules made thereunder 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 Notices 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.
Mail id:ce@vocport.gov.in

23.0. 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.

24.0. PRICE ESCALATION ON MATERIAL AND LABOUR

- 1) The base date for working out such escalation shall be the last date on which tenders were stipulated to be received.
- 2) The cost of work on which escalation will be payable reckoned as 85% of the cost of work as per the bills, running or final and from this amount the value of materials supplies under this contract or services rendered fixed charges under the terms of the contract shall be deducted and amount of compensation for escalation is worked out. In case of materials brought to site for which any secured advance is not included in the bill the full value of such materials as assessed by the Engineer's – in – charge (and the reduced amount for which secured advance has been paid), shall be included in the cost of work done. Similarly, when such materials are incorporated in the work and the secured advance is deducted form the bill, the full assessed value of the materials originally considered for operation of this clause should be deducted from the cost of work shown in the bill, running or final. Further, the cost of work shall not include any work for which payment is made under the terms of the contract at prevailing market rates.

The Compensation for escalation for materials, and labour shall be worked out as per the formula given below :

$$i) V_M = W \times \frac{X}{100} \times \frac{MI - MI_0}{MI_0}$$

V_M : Variation in material cost i.e increase or decrease in the amount in Rupees to be paid or recovered

W : Cost of work done worked out as indicated in sub para 2 above

X : Component of materials is 53 % of the total value of work

MI & MI_0 : All India whole Sale Price Index for all commodities for the period under reckoning as published by the Economic Adviser to Government of India, Ministry of Industry and Commerce for the period under consideration and that valid at the time of receipt of tenders, respectively.

$$ii) V_L = W \times \frac{Y}{100} \times \frac{LI - LI_0}{LI_0}$$

V_L - Variation in labour cost i.e increase or decrease in the amount in rupees to be paid or recovered

W - Value of work done worked out as indicated in sub para 2 above

Y - Component of labour is 47 % of the total value of work

LI - All India average consumer Price Index for industrial workers (General Index x 2001 = 100) published in the Indian Labour Journal by the Labour Bureau Ministry of labor, Government of India for the quarter under consideration.

LI_0 - Average of Index Nos for three months of all India Average consumer Price Index for industrial Workers General Index published by the Labour Bureau, Ministry of Labour, Government of India at the time of submission of Tender.

Note:

“The compensation for escalation in prices shall be payable only for the work done during the stipulated period of the contract including such period for which the contract validity is extended under the provisions of the contract. During such period of extension the values of MI , LI shall be the All India whole sale index for all commodities, All India average consumer Price Index for industrial workers (General Index x 2001 = 100) published in the Indian Labour Journal by the Labour

Bureau Ministry of labor, Government of India for the quarter under consideration respectively prevailing on the due date of completion as per original stipulated completion period or the actual index referred to which is lower”.

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 / Yellow Gate/red 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 License fee will be collected for the entry of construction equipments to be stationed in the work spot such as concrete mixer, batching plant, excavator, transit mixer, road roller, tractor and any other necessary equipments depending on the type of work to be certified by the Engineer.

*However contractor has to pay the pass cost as per notified / Rules / approved by the Port time to time.

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.

- 32.** Contractor shall provide an Air Condition four-wheeler 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. Necessary fuel / oil / driver /maintenance etc., will have to be born by the contractor.

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.

a) Contract Drawings

VOC Port has given tentative drawings, Contractor has to prepare detailed design, calculations, Construction/Fabrication drawings, Testing as per relevant IS/BIS codes. The prepared design shall be proof checked by the IITM Chennai before submission for approval of EIC before starting of work.

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.

- i)** The quantities identified under the schedule are those upon which approximate estimated costs of the work are based on preliminary design. But the contractor has to prepare and submit the detailed design and drawings along with quantity of the work to be done.
- ii)** The Description of the of the work given in the Price bid should be read along with the specification, drawings and conditions of the Contract.
- iii)** 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.

- iv) The bills for the work shall be prepared by the Contractor himself in the Authority prescribed form and it shall be based on the actual measurements of works done by the Contractor irrespective of the Contract price.
- v) The competent staff / workmen shall be employed by the Contractor to ensure proper execution of the Contract.
- vi) The site for the proposed "**DEVELOPMENT OF MULTI CARGO BERTH NO.10 AT V.O.CHIDAMBARANAR PORT ON ENGINEERING, PROCUREMENT AND CONSTRUCTION CONTRACT (EPC) BASIS**" is on the Southern Breakwater side. The jetty will be of 442.5 m long, 16.9 m wide and piled with RCC deck. The port is 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 without any hindrance to the existing traffic no claim in this regard is acceptable. Contractor shall take these site conditions into account and quote the rates accordingly. The work site is in Port operation area Hence, contractor have to adjust and re-adjust the programmed works without affecting the day to day Port operation. Such incidental expenses are deemed to be included in the quoted cost.

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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 seventeen cargo berths including eleven alongside berths, one oil jetty and five Dry Bulk Jetties. Zone 'B' has only three berths, including one north coal wharf, one sheet pile wharf and one RCC jetty.

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 Cargo Berth | 1No. |

b) At North Breakwater

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

c) Depth

Maximum depth available	14.1 m CD.
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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 varies 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

0	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 m is noticed at about 3000 metres 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 the proposed Dredging work.

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. SUB SURFACE PROFILE

Soil investigation report nearby area to the MULTI CARGO BERTH NO.10 is enclosed for ready reference. In case, bidder needs to assess the subsurface profile they have to do in their own cost.

8.1. Laboratory Tests on Samples

The laboratory tests have been carried out as per the standard procedures laid down by the Government and relevant I.S Codes and the borehole investigation details and laboratory results are attached in this document.

9.0. SERVICES AND FACILITIES

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

9.1. Electricity

During execution of the work, if excess power is available, VOCPA may allow the contractor to take power supply from nearby sub-station or other points as directed by Mechanical Engineering Department of Port on chargeable basis on prevailing rates. However, contractor has to make their own arrangement for fixing of Meter, cables to take power connection. In case of non-availability of electric power supply at VOCPA, Contractor has to make their own arrangement by installing Generator etc. In such cases, no claim will be entertained.

9.2. Water Supply

The Contractor shall make his own arrangements for drawal of 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. However, water required for the execution of work and for drinking purpose may be supplied to the Contractor subject to availability and at the discretion of the Engineer of the work from the nearest existing Departmental point of supply and cost will be recovered from the Contractor at Rs.70.00 (Rupees Seventy only) per Kilo Litre of water supplied. The above water charges is subject to revision from time to time whenever the Tamil Nadu Water Supply and Drainage Board (TWAD Board) revises the rates. The Contractor shall make his 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 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 that period.

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 to make alternative arrangements for water at his 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 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.

9.3. Multipurpose of Workshop

Facilities for taking minor mechanical jobs are available in the Project neighborhood. Contractors are assess for the same and necessary charges should be borne0 by the contractor directly. Port is not responsible whatsoever.

9.4. Facilities for Housing Labour

The Port may at its discretion allow use of vacant Quarters to the workmen of the Contractor subject to availability & approval on payment at Market Rent and water charges and electricity charges as per the Port Scale of Rates. Otherwise, the Port does not take any responsibility for provision of any facility to the workmen of the Contractor.

9.5. Availability of Materials

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

10. CONTRACTOR TO WORK TO OTHER CONTRACTOR'S DRAWINGS

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

11. 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.

12. CONTRACTORS WORKING AREA

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. No rent will charged for the area allotted/occupied for the above use by VOCPA. But these buildings are not to be used for residential purposes. The allotted area shall be properly fenced with suitable material. After completion of work this area should be vacated and handed over to port.

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.

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

Based on need basis works done under water will be inspected by the Engineer or Representative. 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, 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 staging's 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 fire fighting in the plant and equipments. 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. These 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:

- i) Proper handling, storage and disposal of combustible materials, liquids and wastes.
 - ii) Work operations which can create fire hazards.
 - iii) Access to firefighting equipment.
 - iv) Type, size, number and location fire extinguishers or other firefighting equipment.
 - v) Inspection and maintenance of records for extinguishers.
 - vi) Type, number and location of containers for the removal of surplus materials and rubbish.
 - (vii) General 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.
 - d) Welding / hot works in close proximity of Oil jetty is prohibited and the fire safety regulations of the Port shall be strictly followed.

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 and 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.

PART - D
SCOPE OF WORK

VOCPA proposed to construct “**Development of Multi Cargo Berth No.10 at V.O.Chidambaranar Port on Engineering, Procurement And Construction Contract (EPC) Basis**”. Detailed Location Plan is enclosed. The scope of work is as follows:

1. The contractor has to visit the site understand the scope of work, Specification, Tender condition, available soil data, nature of job etc before quoting.
2. VOCPA has given tentative drawings, however contractor has to prepare detailed design, calculations, Construction/Fabrication drawings, Testing as per relevant IS/BIS codes. The prepared design should be proof checked by the IITM Chennai before submission for approval of EIC before starting of work.
3. Work has to be executed as per approved drawing by EIC and payment shall be released as per Terms of payment.
4. VOCPA may appoint third party for monitoring and supervision day to day work including quality control. Contractor has to obey the instructions given by Third party on behalf of VOCPA. This work may also be inspect by any authorized Government agencies / Vigilance Department etc., and they may order for certain testing / inspection of executed work etc. Contractor has to bear the expenses for such testing and results are binding on the contractor. Such incidental costs are included in the quoted rate.
5. The construction of Multi Cargo Berth No:10 including development of backup area for an area of about 7.40Hec. The piled wharf comprises of Bored Cast In-Situ RCC Piles, RCC Deck slab, beam, Cast Iron Bollards, cell fenders with accessories Anti carbonation Coating, Lane marking and vertical G.I ladders (atleast 4 Nos) etc complete.
6. Contractor has to procure all the required materials as per specification laid down in the tender including labours, using necessary machineries, plant and equipments, Erecting necessary gantries, Pile rigs, platforms, shuttering, cranes etc complete. The procurement of each Material shall be done only on prior approval of EIC. Rejected material shall be removed from the site within 24 hrs.

7. Any defects observed during execution shall be rectified by the contractor at his own cost.
8. Required testings shall be got it approved before starting of work.
9. During execution any additional testing are required the same has to be done by contractor at free of cost.
10. The salient features of the structure shall be considered while engineering design,

Procurement of material and construction of work (EPC) is as follows:

- I. Size of Berth : 442.5m x 16.9m
- II. Berth Piles (Min 190 Nos of each 1200mm dia), Pile Muffs, Deck Slab (Min thick 500mm), Beam, Kerb walls (wherever required) etc are with cast in situ using M 35 grade concrete. EIC may permit Pre cast units wherever required however no extra payment shall be given. However fender beam, crane rail beam shall be as per design.
- III. The size of structures such as precast and cast in situ units should not be less than in dimensions as shown in the tentative tender drawings.
- IV. Founding level of piles- Min (-) 24.80m(from CD)
- V. Cut of Level- (+)0.95m for front row(Sea side) Others are (+)1.1 m.
- VI. Top of Deck slab including wearing coat- (+) 3.65m.
- VII. Anti carbonation paint coating for exposed concrete surface for bottom of deck slab, beam and sides including pile muff for deck slab and approaches (Excluding top surface of Dec slab).
- VIII. In addition to regular testing Manufactures certificates for each lot should be submitted.
- IX. Procurement challans, MTC for all material should be submitted along with bill.
- X. High Strain Dynamic test for piles shall be carried out before completion of 20 % of total no of piles.
- XI. Wearing coat thickness should not be less than 100 mm at M 35 grade concrete.
- XII. Vertical ladders(4 Nos) shall be G.I coated with ISMC 125 mm Channel with 25 mm G.I coated rods with anchor G.I bolts as per approved EIC.

- XIII. The expansion joints, inserters, railings, filling the expansion joint with joint filler manufactured by FOSROC, BASF, SIKA or equivalent.
- XIV. Contractor has to maintain the Total work executed in this contractor shall be maintained for 24 months from the date of taking over of berth for quality and Workmanship if any noticed. Same shall be rectified at his own cost.
- XV. After completion of work contractor has to clean the site and hand over the same to Port.
11. Contractor has to execute the work without disturbing the regular Port operation. Contractor has to take proper safety precautions and hot works for the activities such as welding, gas cutting etc., from the competent authorities/bodies before execution of work.
12. The tentative drawings are enclosed with the tender is only for references for dimension and location. The waterfront alignment of the berth should be the line joining North West Corner of existing Shallow Berth and Western edge of the existing Berth No:9 as shown in the enclosed layout of Berth No:9. However, contractor has to carry out the detailed Engineering design, Procurement of materials and execute the work as per the approved design and drawing by the competent authority.
13. The available sub-soil strata are enclosed. However, Contractor has to carry out a detailed survey if required for the sub-soil strata, location and other required information by visiting the site before quoting. Contractor has to study in detail independently to assess the quantum and scope of work etc. if required.
14. Contractor has to make their own independent arrangement for construction of piles, deck slab, approaches etc. Contractor has to make their own arrangement for driving the piles, concreting etc by suitable methodology. .
15. Contractor has to make their own arrangements such as removal of any existing temporary installation wherever required for execution of the project at their own cost. No extra claims are entertained in this regard.

16. Contractor has to provide site office 6 X 3 m portable cabin with furniture, A/c for the use of Employer and consultant during the at the site area for the use of employer, consultant etc., with necessary electrification, furnitures and storage cupboard etc. contractor shall also place separate portable cabin at pre-cast yard as per the direction of Engineer-in-charge. The space provided for office for the use for employer as well as contractor is at free of cost. However, cost of power consumption and suitable wiring, fixing meter etc shall be borne by the contractor for both the cabins.
17. During execution of the work, if excess power is available, VOCPA may allow the contractor to take power supply from nearby sub-station or other points as directed by Engineering Section on chargeable basis as per Port's prevailing rates. However, contractor has to make their own arrangement for fixing of Meter, cables to take power connection. In case of non-availability of electric power supply at VOCPA, Contractor has to make their own arrangement by installing Generator etc. In such cases, no claim will be entertained.
18. During execution of work the contractor has to arrange a boat for inspection of the work to the employer as and when required. The berthing of this boat at Port premises shall be at free of cost. However, Contractor has to take all statutory approvals from the concerned department/agencies before deployment of boat by producing required documents of boat.
19. Contractor has to make proper platform to remove the bored material from the piles and shift the same to the designated location as per direction of Engineer In-charge.
20. As the work has to be carried out in Custom bound area, Contractor has to fulfill all the formalities of Customs, CISF as applicable and wherever required.
21. Contractor has to coordinate with other department officials of Customs, CISF, dredging contractors and other related departments to avoid disturbance of day to day operation of the Port and smooth execution of the proposed work.

22. After completion of work, Contractor has to remove and clean all the debris, waste materials, site office, temporary structures etc from site before handing over to VOCPA.
23. Contractor has to abide all rules and regulations of VOCPA and time to time instructions of the employer.
24. The work may be allowed to be execute around the clock depending upon the requirement. However the contractor has to take full responsibility of safety, security and formalities of custom bound area etc. for all the shifts.
25. For execution of work, any chipping, dismantling, chiseling or any shall be carried out by the contractor and such incidental charges are included in the quoted cost.
26. Contractor has to make their own arrangement for laying of access platform, surface preparation, Shuttering for proposed works such as protective coating etc.
27. Contractor shall provide an Air Condition four-wheeler 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. Necessary fuel / oil / driver / maintenance etc., will have to be born by the contractor.

PART - E
MATERIALS

1.0. GENERAL

1.1. Indian Standard

All materials shall, as far as possible be of Indian origin and conform to be latest editions of the 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 exists.

1.2. Sampling and Testing

All materials used in the works shall be subjected to inspection and test. 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.

Samples provided to the Engineer or his Representatives for their retention are to be in levelled 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. Despatch of Materials

Materials shall not be despatched 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 Standard, other relevant standard specification 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 later 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 is 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 confirms 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 portable 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

Contractor shall procure admixtures from only authorized suppliers/ directly from manufacturers like FOSROC, BASF, SIKA or equivalent. 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 TMT bars for concrete shall be Fe500 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, RINL, Vizag Steel, JSW 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 conform 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>Frequency</i>
Under 10 mm dia.	One sample for each 40 tonnes or part thereof
10 mm to 16 mm dia.	One sample for each 100 tonnes or part thereof
Over 16 mm dia.	One sample for each 100 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 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 authorized by the Engineer including authorized 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 conforming to BIS 226 "Structural Steel" (Standard quality).

The Contractor shall procure structural steel conforming to relevant BIS codes from main producers or authorized dealers such as TISCO, SAIL, RINL. Vizag Steel, JSW or any other brand containing IS / BIS codes and as approved by Engineer.

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/ Krishna conchem 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.

Note:

Contractor shall procure chemicals or factory made materials for this project from only authorized suppliers/ directly from manufacturers like FOSROC, BASF, SIKA or equivalent conforming with IS/BIS standards. The products shall be used only after written approval of the EIC. When required the Contractor shall furnish full details from the manufacturer and shall carryout such test as the Engineer may require before any products is used in the work.

* * * *

LEAD STATEMENT

Sl. No.	Description of materials	Source	Distance in K.M.
1	Cement	Tuticorin	14
2	Sand for mortar	Authoor	27
3	12.5 mm. to 20 mm. metal (machine crushed)	Vallanadu	76
4	2 mm. to 10 mm. metal (machine crushed)	Vallanadu	76
5	40 mm. HBG Metal (Hard Broken)	Thattaparai	27
6	'X' stones, quarry run & above 50 mm. Metal	Thattaparai	27
7	Tor steel / mild steel, M.S. Plates, angles & Binding wire	Tuticorin	14

Note: The above distance and sources all indicative. However, contractor has to asses their own before quoting. No claims are entertained in this regard.

PART - F
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. Default of Contractor in Compliance

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.

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. No.	Component of work	Grade Designation	Characteristics 28 days cube strength (N/mm ²)	Minimum weight of cement per Cum. of concrete (Kg.)	
1.	Pile, Pile muff and deck work etc	M35 53	M 35	35	450
2	Concrete		1:2:4	15	320
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 etcis 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 Authorized 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 meters. 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 (Amendment no.4) 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 carry out 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. BORED CAST-IN-SITU PILES

4.1. General

The entire works including those of the individual components shall be executed with all necessary precautions. Care and safety requirements and fully in accordance with the drawings approved and authenticated by the Engineer.

4.2. Standard

Providing cast-in-situ bored piles, of diameter and concrete grade as per drawing with broken blue granite stone aggregate including boring for the piles through all soils.

The construction of load-bearing concrete bored cast-in-situ piles shall be as per I.S. 2911 Part-I/Sec-2) - 2010 and I.S.456-2000.

4.3. Quality of Concrete

The piles shall be of concrete class specified giving respective minimum 28 days in works test.

4.4. Cement used in in-situ concrete piles shall be PPC / OPC (grade as given in clause under part - E) confirming to relevant BIS.

4.5. Plant and Equipment

The Contractor shall provide all plant, equipment, materials and temporary works required for handling, pitching, boring, guiding and if necessary for extraction of the casings.

4.6. Labour

The Contractor shall maintain at the Site qualified and experienced Foreman and the necessary gangs of trained workmen experienced in all piling work.

4.7. Boring

The Contractor must submit the method of boring, sequence of operation and drilling to be used to the Engineer for getting his prior permission to start the boring work. Boring operations are generally done by rotary or percussion type drilling rigs using direct mud circulation or reverse mud circulation method to bring the cuttings out. In soft clays and loose sands bailer and chisel method may be used with caution to avoid effect of suction. Rope operated grabbing tool or Kelly mounted hydraulically operated grab are also used. Use of drilling mud in

stabilizing sides of bore holes is also made where appropriate or necessary. In a case a hole is bored by use of drilling mud, the specific gravity of the mud suspension near about the bottom of the hole shall, whenever practicable, be determined by suitable slurry sampler in a first few piles and at suitable interval of piles and recorded. Consistency of the drilling mud suspension shall be controlled throughout the boring as well as concreting operations in order to keep the hole stabilized to avoid concrete getting mixed up with the thick suspension of the mud. The basic properties of drilling mud (Bentonite) shall conform to Appendix 'A' of IS: 2911 (Part-1 / Sec.2) - 2010.

4.8. Manner of Concreting

Concrete under-water may be done either with the use of tremie method or by the use of specially designed under-water placer to permit deposition of concrete in successive layers, without permitting the concrete, within the placer to fall through free water. The Contractor must submit his proposal for method of concreting to the Engineer for his approval. It is certified that Weigh Batching unit is mandatory & transit mixer concrete pump also mandatory for all the concrete used for the work.

Normally concreting of the piles should be uninterrupted. The minimum clear cover to all main reinforcement in pile shaft shall not be less than 75 mm (As per Sub-Clause 5.11.3 of IS:2911 (part-I / Sec.2)-2010). In the exceptional case of interruption of concrete, the concreting can be resumed within two hours on consultation with the Engineer. (The Contractor must immediately inform the interruption to the Engineer). If the concrete cannot be resumed before the final setting up of concrete already placed, the pile so cast may be rejected or accepted with modifications as directed by the Engineer.

4.9. Control of Alignment

Piles should not deviate more than 75 mm or one tenth of diameter of pile whichever is more. (As per Sub-Clause 7.1.2 of IS:2911 (Part-I / Sec.2)-2010). In case of piles deviating from this limit, the piles should be replaced or supplemented by one or more additional piles, as decided by Engineer, at the Contractor's cost. Any deviation from the specified location, alignment of any pile shall be noted and adequate measures taken well before the concreting of the pile cap.

4.10. Obstructions

If any obstruction to boring is encountered the boring shall cease and the Contractor shall notify the Engineer and submit to him for approval, proposals for overcoming the difficulties. Notwithstanding any such approval the Contractor will be entirely responsible for ensuring that the piles are bored to the required line, position and depth.

4.11. Defective Piles

Piles which in the opinion of the Engineer are defective shall be removed or left in place as judged convenient by the Engineer without affecting the performance of the adjacent piles or capping above and the additional piles shall be provided to replace them at the cost of the Contractor.

4.12. Piles Record

The Contractor shall supply in triplicate complete records of all piling operations in the form and the manner approved by the Engineer.

4.13. Pile Testing

The pile to be tested and its location will be decided during the execution of the Work. However, the Engineer may call for additional test as he may consider necessary based on site conditions. The pile load test will be conducted as per BIS 2911 [Part-IV - 2010].

4.14. Plant and Equipment

All Temporary Works, Plant and Equipment, knowledge for applying the load and all necessary instruments for measurement of loads, deflection etc., shall be provided by the Contractor. The equipment provided shall be capable of slowly applying and maintaining the required test loads to within an accuracy of 1% and measure deflection to an accuracy of 0.05 m. The Contractor shall submit for approval of the Engineer his detailed proposal for carrying out the load test.

4.15. Cost of Delay

The Contractor will be deemed to have allowed in the construction programme, the time taken for testing of piles. No claim shall be entertained on any delay caused to the progress of Work due to testing.

4.16. Test Records

Full and accurate records of all pile tests shall be furnished to the Engineer in triplicate.

4.17. Classification of Rock / Soil

Perfect records of pile driving viz. time VS. Penetration shall be maintained by the Contractor / Department. The rock / soil samples shall be taken by any approved methods using bailers. The interpretation of the Department in respect of classifying the type of rock / soil is final and binding on the Contractor.

5.0. REINFORCEMENT

5.1. General

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

5.2. 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.

5.3. Bar Bending Schedule

Bar Bending schedule will be prepared by the Contractor and shall be submitted to the Engineer, in triplicate, for approval at least 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.

5.4. 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.

5.5. 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.

5.6. 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.

5.7. 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

5.8. 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 45° V and a backing plate shall be used. The minimum rect face will be one quarter of the bar diameter.

5.9. 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.

5.10. 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.

6.0. PRECAST CONCRETE:

6.1. 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.

6.2. Moulds and Surface Finish

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.

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

6.3. Platforms

6.3.1. 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.

6.3.2. 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 galvanized 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.

6.4. Cast in Items

Fittings and items of embedment's 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.

6.5. 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.

6.6. Curing

All precast work shall be protected from the direct ray of the sun for at least 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 at least for 15 days. The units shall be built in to their positions not earlier than 21 days after the date of casting.

6.7. 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.

6.8. 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.

6.9. 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.

6.10. 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.

6.11. Pre-casting 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.

7.0. STRUCTURAL STEEL WORK

7.1. Fabrication

7.1.1. Shop Drawings

The Contractor shall prepare, wherever necessary detailed shop drawings giving complete information necessary for the fabrication of the structures. All information should be clearly given and the drawings shall be in conformity with the best modern practice. A marking diagram allotting distinct identification marks to each separate piece of steel work shall be prepared in sufficient detail to ensure convenient assembly and erection. Symbols for welding, used in the drawings, shall be in accordance with IS 813 "Scheme of symbols for welding".

The Contractor shall prepare comprehensive bill of material sheets for each shop drawing giving wherein all the items shown on the drawing together with their weights, mark numbers, cutting lengths etc.

Three copies of all shop drawings and bill of material sheets shall be submitted for the Engineer's approval. Fabrication shall not commence until approval of the relevant drawings has been obtained from the Engineer. While the shop drawings prepared by the Contractor and approved by the Engineer are deemed to represent the correct interpretation of the work to be done, the Contractor is not relieved of the responsibility for accuracy of detailed dimensions shown.

7.1.2. Templates

All fabrication shall be in accordance with IS: 800 "Code of Practice for use of Structural Steel in General Building Construction" and IS 1915 "Code of Practice for Steel Bridges". Extensive use of templates shall be made. The templates shall

be steel bushed where considered necessary by the Engineer. In case actual members are used as template for drilling similar pieces, it will be at the discretion of the Engineer to decide whether such pieces are fit to be incorporated in the furnished structure. The Contractor shall arrange for corresponding parts of each unit manufactured from the same drawings to be inter-changeable, as far as economic manufacturing conditions permit and shall advise the Engineer of the precise arrangements made in this respect.

7.1.3. Straightening

All material shall be straight and, if necessary shall be straightened and/or flattened by pressure, unless required to be of curvilinear form and shall be free from twists. Heating of rolled sections and plates for purposes of straightening will not be permitted. Limited straightening may, however, be effected by local applications of heat with a gas torch.

7.1.4. Cutting

Steel cutting shall be preferably done by machine. Gas cut edges shall be free of gouges that remain after cutting shall be removed by grinding. Gas cutting shall normally, only be permitted for mild steel though gas cutting of high tensile steel may also be permitted, provided special care is taken to leave sufficient metal to be removed by machining so that all metal, that has been hardened by flame, is removed. Hand flame cutting may only be permitted subject to the approval of the Engineer. Rolled sections shall be sawn or flame cut to length. Small plate pieces like gussets may be sheared or cropped to size. Sawing shearing and cropping shall be clean and free from any distortion. If necessary the edges shall be ground afterwards.

8. BOLLARDS

Bollards of 150Ton pull capacity shall be provided according to the specifications and drawings.

9. FENDERS

The Contractor has to supply and convey the SCN 1400 Cone type fenders with fixtures to site of work. Fenders shall be fixed in a manner and position as per specification and as directed by the Engineer and as per drawing.

15.0 SPECIAL CONDITIONS TO THE SPECIFIC ATTENTION OF THE TENDERER

(a) REGARDING PILE BORING AND CONCRETING

- i)** A clean bore should be maintained.
- ii)** All the loose materials inside the bore should be removed.
- iii)** Honey combs and segregation of concrete will not be permitted. To ensure this, the contractor shall arrange to conduct Low Strain Pile integrity testing of piles in accordance with the provisions of ASTM – D 5882, 1996 atleast for 20 piles. The agency performing the low strain test shall be approved by the Engineer. No extra cost shall be paid for this. If the test proves the existence of the poor concrete, no payment will be made for the pile. Additional pile will have to be provided by the Contractor.
- iv)** In the case of interpretation of conditions put-forth by the Tenderers, the Department's stand will be firm and final.
- v)** The Contractor should have a Site office with technically qualified personnel. Any clarification required should be given by the Contractor without any delay. The entire organizational set-up should be well defined in the Tender itself.
- vi)** The bore hole depth shall be measured before pouring of concrete into the pile.

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SECTION - III
PARTICULAR SPECIFICATIONS

1. GENERAL

The work under this Contract which consists of the following 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.

“DEVELOPMENT OF MULTI CARGO BERTH NO.10 AT V.O.CHIDAMBARANAR PORT ON ENGINEERING, PROCUREMENT AND CONSTRUCTION CONTRACT (EPC) BASIS.”.

The drawings that will form part of the Contract are given in the Tender Document.

1. The contractor shall quote in bid price in lump sum after careful analysis of cost involved for the performance work considering all basic parameters, specification and condition of contract. The bid offer shall be for the whole work and not for individual item/part of work.
2. The bidder shall quote for the entire work on a single source responsibility basis.
3. The cost of all items of work necessary to achieve the objective as set out in the basic parameters shall be included in the bid price. The total cost of work shall be mentioned.
4. In respect of EPC Works execution shall be strictly in accordance with bid condition. The contractor shall not deviate from the basic parameter of this project to reduce his costs. EPC being a turnkey system extra item/financial claims on the department contingents to the work other than price adjustment shall not be considered.
5. Whenever additional items not contingent on the main work and outside the scope of original contract are entrusted to the contractor, entrustment of such item and price to be paid shall be referred to the EIC.

6. The EIC is empowered to modify the percentage of components; stage wise based on the detailed investigation, detailed drawings, detailed estimation.

The detailed specification for different stage is as follows:

1. Piling

- a) Setting up the piling gantry and connected equipment over each pile location, including shifting, cost of all materials for piling gantry, labour, setting up the rig to alignment and correct dimensions as shown in the drawing and as directed by the EIC.
- b) Fabricating and Placing M.S.liners(8mm thick) of required length with M.S. shoes of 1.0 m height using 12mm thick M.S. plates for 1200mm dia bored vertical pile from cut off level of pile to the terminating level including supplying of steel, cutting, rolling, bending, handling and welding, labours, materials, accessories, transporting to the pile location, aligning, lowering, pitching and driving the liners etc., complete as per drawings and specification as directed by Engineer In-charge.
- c) Boring through all types of soils, boulders, hard strata and rocks etc.. for 1200mm Dia vertical bored piles from the sea bed to the minimum founding level(-24.80 m CD) of the piles, including bailing, chiseling, shifting of materials etc...complete as per directed by the Engineer In-charge.
- d) Fabricating and placing in position of steel reinforcement TMT bars(Fe 500) as per IS 1786 for all reinforced cement concrete pile, super structure, pile caps, repair works etc. including cutting, bending, tying with 16 gauge G.I. binding wire and welding to proper specifications wherever required including steel and binding wire, cover blocks of 150mm dia in CC M35 mix etc. complete as per approved drawings standard specifications and as directed by the Engineer In-charge.
- e) Providing and laying cast-in-situ tremie concrete mix M35 as per standards for 1200mm Nominal dia vertical bored cast-in-situ reinforced cement concrete piles measured from cut off level of the pile upto founding level including mixing,

laying and compacting , consolidating complete as per approved drawings, standard specifications and as directed by the Engineer In-charge.

- f) Chiseling/Breaking using suitable tools and equipments the top of pile concrete up to the receipt of dense concrete and dressing the pile head suitably so as to receive the form work for deck work , including breaking to the required level exposing the pile reinforcement to sufficient length as per approved drawing for embedding into the deck slab etc. including removal of concrete debris from the site, complete for 1200mm dia piles as directed by the EIC.
- g) Conducting High Strain Dynamic Test as per standard practices(ASTM D 4945 of 1989) inclusive of testing, hire charges for all equipment like transducers, strain gauge, oscilloscope hammer crane and cost of development of pile concrete with line and dismantling the developed length of concrete, transportation of equipment, labour and furnishing the test result etc., as per standard specification and as directed by EIC. **Quantity-Min 2 Nos**

2. Precast units

Providing and laying reinforced cement concrete mix M35 mix with adding admixture(Manufactured by SIKA/Krishna Conchem products or equivalent) at the rate of 2kg / Cum for corrosion protection of reinforcement(Approved Admixture by CECRI Karaikudi) for pre-cast beams, slab, pile muff and other Pre cast units at casting yard, including steel reinforcements in position as per approved drawings, shuttering, mixing, laying, consolidating, curing, loading at casting yard, conveying from casting yard to site of placing (including handling), unloading and placing in position by suitable method including all labours, slings, shackles and required machineries such as cranes, lorries and pontoons etc., complete as directed by the EIC.

3. Cast In-situ Concrete

- a) Providing and laying cement concrete in M35 mix with adding admixture(Manufactured by SIKA/Krishna Conchem products or equivalent) at the rate of 2kg / Cum for corrosion protection of reinforcement for cast-in-situ

concrete works for beams, slabs etc as per drawings, including reinforcement in position as per drawing, shuttering, mixing, laying, consolidating , curing etc., and making necessary provision for fixing fixtures as per approved drawings complete as directed by the EIC.

- b) Supplying and providing 50mm outer dia PVC pipe for drainage in duct slab, wearing coat and crane beam area etc. including materials, carriage, fixing in position as per drawing and as directed by the EIC.

4. Fender, Bollard & Other Fixures

- a) Supplying, handling, transporting and fixing in position of Cast iron Bollard (150 ton capacity) with necessary cutting, concrete chipping, drilling, grouting, welding with deck reinforcement steel and necessary coal tar painting(whenever required) including all materials, labour , consumable items etc. complete as per drawing and specifications as directed by the EIC.
- b) Supplying, handling, transporting and fixing in position of Cylindrical type fender (2000) with anchor bolts, U hooks, Chains shall be G.I coating with 80mm micron including cutting, concrete chipping, drilling, grouting, necessary welding with deck reinforcement steel and necessary coal tar painting (whenever required) including all materials, labour, consumable items, machineries, tools, tackles, transportation etc...as per specification and complete as per directed by Engineer Incharge.
- c) Fabrication and fixing of steel ladder hot dip with G.I coating 80micron as detailed size in the scope of work to hold the ladder, drilling holes at M.S flat for holding M.S bar and welded and painting the steel ladder with one coat of red oxide primer and two coats of anti-corrosive black paint and fixing the ladder in the sea side wharf as per standard specifications and as directed by the EIC. Inclusive of all materials and fabrication charges, labour for fixing in position etc. complete complying with AISS and as directed by the EIC:**Quantity Min -4 Nos**
- d) **Anti Carbonation Paint** : Application of anti-carbonation paints with 1 coat of Deck guard Primer & 2 coats of anti carbonation paint on well prepared exposed concrete surface including Anti Carbonation Paint scaffolding, Labour and other

consumable materials etc complete. Total dry film thickness shall not be less than 150 microns, as per specifications directed by EIC.

II. 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 weighment 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.

Method of Construction of Rubble Bund :

The Contractor shall arrange to convey the required quantity of X stones of size 10 to 300 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 300 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 300 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 300 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:

Sl 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	l/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.

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.

- i. Payment for 10-300 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.
- ii. 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.
- iii. 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.

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

PROVIDING CEMENT CONCRETE BLOCK PAVEMENT OVER THE WHARF

After filling upto (+)3 m. level over the wharf, the area is allowed for settlement and consolidation as specified in the drawing, Heavy duty cement concrete pavement will be laid.

High strength of machine pressed precast cement concrete blocks of size 200 x 100 x 100 mm having compressive strength of 400 Kg/sq.cm., have been proposed over the wharf, capable of sustaining axle loads (90 tonnes) exerted by 40 tonnes Top Lift Trucks, deployed for container operation besides utilizing the berth as a multi-purpose berth.

The precast cement concrete blocks will be laid over a layer of plain base concrete of mix of 1:4:8 for 30 cm thickness (from 3.3 m level to 3.5 m level) with 5 cm thick layer of bedding coarse river sand cushion between the blocks and the concrete (from +3.50 m to +3.55 m level). The plain base concrete will be laid over base coarse of Granular Sub Base (GSB) for 20 cm thickness. The horizontal joints between the blocks will be finished with jointing sand which will be mix of 2.5 mm graded coarse sand.

The paving blocks shall be cast at site by using a block making machine equipped with hydraulic pressure jacks to apply the required pressure so that the end products satisfy the specification furnished here under.

Specification of Blocks

- a) Nominal size 200 x 100 x 100 mm
- b) Tolerance ± 2 mm on all the sides
- c) Weight of the block - 4.80 kg (Average)
- d) Compressive strength - 400 kg/sq.cm (of the block)
- e) Transverse strength - 30 kg/sq.cm (Average)
- f) Wear resistance - 3.00 mm. (Average) and 3.55 mm on individual specimen Method of Testing.

The above tests shall be conducted by the contractor at an approved testing agencies at his own cost in the presence of the Chief Engineer or his Representative.

The blocks shall be tested on random sampling basis. For the purpose of testing, the blocks shall be selected on the following basis on random sampling method.

"Three samples for each category of tests shall be collected from every 5,000 or part thereof blocks supplied / cast per day and tested as per the following standards by the Chief Engineer or his representative".

- a) Tests for wear resistance: In conformity with IS 12371980 for mosaic tiles.
- b) Transverse strength shall be tested on 15 cm span equidistance from mid span (In conformity with IS 1237 / 1980 Specification for cement concrete flooring tiles).
- c) All other tests shall be conducted as per the relevant Indian Standards or as directed by the Chief Engineer or his representative.

For the purpose of acceptance of the blocks the contractor shall stack the blocks in the unit of 5000 from which random samples shall be collected by the Chief Engineer or his representative as detailed above.

In case the tests conducted on a particular lot is not satisfactory the entire lot of 5000 blocks will be summarily rejected and the contractor shall arrange to clear the rejected blocks within 15 days. If the contractor failed to clear the rejected block within the time stipulated, the Trust shall arrange to clear the same at the risk and cost of the contractor.

* * * *

DESIGN PARAMETERS

DESIGN LOADS:

The following loads shall be considered to be acting on the structure. The structure shall be analyzed for all possible combinations of loads i.e. gravity loads (Dead and live loads), earthquake loads, wind loads, wave and current force, Temperature loads, Vehicle loads, berthing force, mooring force, conveyor loads and crane load to the structure.

Dead Loads:

Dead loads will consist of the weights of structure and all equipment of a permanent or Semi-permanent nature including conveyor system loads to structure, piping, cable trays and ducts.

Unit weight of various materials used in the structural members is taken as follows:

a. Water	1.0 T/cum
b. Sea water	1.03 T/cum
c. RCC	2.5 T/cum
d. Soil	1.8 T/cum
e. Steel	7.85 T/cum
e. Sand	2.0 T/cum
g. Concrete pavers	2.4 T/cum
h. Foam Concrete	0.6 T/cum

Live loads: 50 kN/m²

Crane Load:

Ship un loaders of 52 T capacities shall be considered over 12 m rail gauge and two shore un loaders shall be provided initially.

Sea side	=	24 wheels
Land side	=	20 wheels

Maximum load from Horizontal in X-Direction	=	122 kN
Maximum load from Horizontal in Z-Direction	=	157 kN
Maximum load from Vertical Direction	=	643 kN

Berthing Force

Berthing loads shall be calculated in accordance with IS 4651 (part III) - 1974. The Berthing velocity and berthing angle for the design of fender system is given Table. The fender system shall be designed to accommodate the design vessel of 1,25,000 DWT as specified in Table. Berthing forces applied on NCB-III would be those of the DWT vessels. The berthing force calculations are given below.

Vessel Specification for North Cargo berth-III

Description	Vessel size in DWT.
Vessel capacity	1,25,000 DWT
Draft	14.20 m
Overall Length	275 m
Widthl	41.50 m
Berthing velocity (m/sec)	0.2
Berthing angle (Deg)	10

Mooring Force:

The Mooring force of 150T bollard pull is chosen from given table for 95000 DWT.

Mooring Force

Displacement(Tons)	Line Pull (Tonnes)
2000	10
10000	30
20000	60
50000	80
100000	100
200000	150
>200000	200

Seismic force:

Seismic force is calculated according to IS 1893-2002.

Wave and Current Force

Wave and Current Force is calculated according to IS 4651(Part-III) -1974. Approximate Wave height is 2.2m and Current velocity is 0.5m/s.

Storm Anchoring

Provision for Storm Anchoring has to be made for 3 Nos of Shore Unloaders.

Crack width

Crack width has to be considered in accordance with IS 4651: Part-IV: 2014.

Note:

Using fly ash in concrete mix is **Not permissible.**

SPECIMEN FORM OF BANK GUARANTEE FOR EARNEST MONEY DEPOSIT

KNOW ALL BY THESE PRESENT that (Name of Bank.....a banking corporation carrying on banking business including Guarantees at Tuticorin and other places and having its office at (Regd. Office Address(hereinafter called The Bank which expression shall unless excluded by or repugnant to the context or meaning thereof be deemed to include its successors and assigns).

WHEREAS Board of Authorities of V.O.CHIDAMBARANAR PORT AUTHORITY constituted under the Major Port Authorities Act, 2021 (hereinafter called the Board which expression shall unless excluded by or repugnant to the context of meaning thereof be deemed to include its successors and assigns) had invited tenders for **“Development of Multi Cargo Berth No.10 at V.O.Chidambaranar Port on Engineering, Procurement And Construction Contract (EPC) Basis”** (hereinafter called Tender) as per conditions of the contract, scope of work, BOQ and specifications covered under the Tender“.

AND WHEREAS (Name of Tenderer) (hereinafter called the 'Tenderer') has offered to carry out the work under the said Tender.

AND WHEREAS under the conditions of the contract, the Tenderer is required to give an Earnest Money Deposit in form of Bank Guarantee of a Nationalised / Scheduled Bank having its branch at Tuticorin for the sum of Rs..... (Rupees only).

AND WHEREAS (Name of Tenderer).....have requested the Bank to furnish a Guarantee to the Board for the sum of Rs.....(Rupees only) which the bank has agreed to do in the manner hereinafter appearing.

NOW THIS INDENTURE WITNESSETH that the said Bank doth hereby stand surety for the said sum of Rs..... (Rupeesonly) AND DOTH HEREBY GUARANTEE TO AND COVENANT WITH AND irrevocably agree to pay to the Board upon demand in writing referring to the terms & conditions of the contract and without questioning the right of the Board to make such demand or the propriety or legality of such demand such sum or sums not exceeding in the whole a sum of Rs..... (Rupees only) as may be payable to the Board by the Tenderer by reason of

- i) withdrawal of his Tender within the validity period
or
- ii) makes any modifications in the terms and conditions of this tender before the expiry of 150 days from the last date of the submission of Tender or such time as may be extended by the Board to which the Tenderer has agreed in writing
or
- iii) in the event of the tender being accepted by the Board, fails to enter into a contract
or
- iv) In the event of tender being accepted by the Board, fails to furnish performanceGuarantee as per the terms of contract

in respect of which the decision of the Board shall be final all legally binding.

The said Bank doth further covenant and declare that this security is irrevocable and shall remain in force upto and inclusive of the day of2025.

AND

if the contract is not awarded by the Board before the expiry of the aforesaid date, or such times as may be extended by the Board to which the Tenderer has agreed in writing the said Bank undertakes to renew this Guarantee from month to month until one month after the date of award and the said Bank doth hereby further covenant and declare that if the said Tenderer do not obtain and furnish renewals of this Guarantee for a further period of one month to the Board not less than 30 days prior to the expiry of this Bank Guarantee or its renewals there of as to keep the same valid and subsisting till the contract is awarded by the Board and for one month thereafter, the entire amount of this Bank Guarantee in default of obtaining and furnishing the renewals of this Bank Guarantee in the manner and within the time aforesaid shall become forthwith due and payable to the Board notwithstanding.

- (i) that the period of the Guarantee of the renewal of renewals thereof has not expired
or
- (ii) the period of Guarantee of the renewal (s) thereof has already expired.

AND THE BANK further declares that notwithstanding anything to the contrary contained herein above, the Bank's liabilities under this Guarantee are restricted to Rs(Rupees only) and unless a demand in writing under the Guarantee is made with the Bank within the one month from the date of award of the contract all the rights of Board under this Guarantee shall be forfeited and the Bank shall be relieved and discharged from all liability thereunder.

After invoking the Bank Guarantee by the beneficiaries the bank has to pay the amount within a week after receipt of the communication failing which it will have to pay the beneficiaries interest at 12% p.a. for the delayed payment.

Notwithstanding anything contain herein :

- i) our liability under this Bank Guarantee shall not exceed (EMD amount) Rs..... (Rupees only)

- (ii) this Bank Guarantee shall be valid upto (till the validity of the Tender) ; and

- (iii) we are liable to pay the guaranteed amount or any part thereof under the Bank Guarantee only and only if you serve upon us a written claim or demand to bereceived on or before (one month after the Bank Guarantee validity)

IN WITNESS WHEREOF, the duly constituted Attorney(s) of the Bank has / have herein to set his / their hands and seals on the day of2025 (date of the Bank Guarantee)

SIGNED SEALED AND DELIVERED

by the within named..... through its duly constituted Attorney

Mr. &
.....

in the presence of
.....

Annexure-II

SPECIMEN FORM OF BANK GUARANTEE FOR PERFORMANCE SECURITY

In consideration of the Chairman representing the Board of Authorities of V.O.Chidambaranar Port (hereinafter 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 fulfilment by the said Contractor(s) of the terms and conditions contained in the said Agreement, on production of Bank Guarantee for Rs.....(Rupeesonly).

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 to 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 or 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 thereunder 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 Engineering Department, V.O.Chidambaranar 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 the validity of the Guarantee period 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 change in the constitution of the Bank or the Contractor(s).
 9. We* _____ undertake not to revoke this Guarantee during its currency except with the previous consent of the Port in writing.
 10. We* ----- lastly undertake to pay the guaranteed amount within a week after receipt of the communication invoking the guarantee failing which we agree to pay the beneficiary interest at 12% p.a for the delayed payment.
 11. This guarantee is valid upto _____ (period) Dated the day of 2025 for **
- * Indicate here the name of the Bank.
 ** Indicate here the period or date

* * *

Annexure-III

E- PAYMENT FORM

To

The Financial Advisor & Chief Accounts Officer,

V.O.Chidambaranar Port Authority

Tuticorin- 628004.

Sir,

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

Sl 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	Service Tax Registration No.	
12	Vat TIN No.	
13	Tax Payer Identification Number (TIN)	
14	IFSC- Code of the Bank No	

Yours Sincerely

(Signature of Contractor)

LETTER OF APPLICATION

Registered Business Name :

Registered Business Address :

Telephone :

Telex :

Fax :

E-mail :

Internet :

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

Sir,

We hereby apply to be qualified with the V.O.Chidambaranar Port Authority as a Bidder for the work of “**DEVELOPMENT OF MULTI CARGO BERTH NO.10 AT V.O.CHIDAMBARANAR PORT ON ENGINEERING, PROCUREMENT AND CONSTRUCTION CONTRACT (EPC) BASIS.**”.

1. We authorize V.O.Chidambaranar 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 V.O.Chidambaranar Port Authority to verify statements and information provided in this application or regarding our competence and standing.

2. The names and positions of persons, who may be contacted for further information, if required, are as follows:

a) Technical :

b) Financial :

c) Personnel :

3. We declare that the statements made and the information provided in the application are complete, true and correct in every detail.

4. We understand that V.O.Chidambaranar Port Authority reserves the right to reject any application without assigning any reasons.

Respectfully,

(Authorized Representative of applicant)

Date:

Encl: 1.
 2.

GENERAL INFORMATION

- 1. Head Office Address :**
Telephone No. :

Fax No. :

E-mail :

Address :

- 2. Regional Office Address (if any)**
Telephone No. :

Fax No. :

E-mail :

Address :

- 3. Local Office Address (if any)**
Telephone No. :

Fax No. :

E-mail :

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.

FINANCIAL DATA

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

Annual Turnover

2021-22 : Rs.

2022-23 : Rs.

2023-24 : Rs.

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

FORM – III

1. List of all Contracts related to Marine structure works (piled wharf or Jetties or Offshore platform or in any marine area works) executed during the last seven years.

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

2. STATEMENT OF SIMILAR EXPERIENCE

Tenderer is requested to list out all contracts of a similar nature of EPC contracts and highlight the complex nature of contracts undertaken during the last 7 years. The partners of a joint venture should provide details of such contracts proportionate to their share in the joint venture. The value should be based on the currencies of the contracts converted into Indian Rupees at the exchange rate prevailing on the date of substantial completion of such contracts.

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

Signature of Tenderer

FORM – IV**LIST OF EQUIPMENTS AVAILABLE WITH THE TENDERER**

Description, (Type, Model & Make)	No. of Each	Year of Manufacture	Owned or leased	Capacity / Performance / Size
1) Piling Equipments (Marine works)				
2) Concreting Batching Plant				
3) General Equipment like Concrete Pump, Transit Mixture etc.,				

Note: 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**TECHNICAL PERSONNELS AVAILABLE WITH THE BIDDER**

	Name (s)	Age, Qualification and Experience	Date of appointment with the company	Previous employment, designation, Employer & period of service	Remarks
OFFSITE :					
ONSITE:					

Minimum Deployment of technical staff on site shall be minimum as under:

Sl No	Designation of Personnel's	No's	Experience in Marine works	Rate of recovery in absence (excluded on Sundays & closed holidays)
1	Project Manager	1	10-15 yrs	Rs.1500/ day
2	Sr. Engineer	1	5-10 yrs	Rs.1300/day
3	Jr Engineer	4	2-5 yrs	Rs.1100/day
4	Supervisor/Foremen	4	5-10 yrs	Rs.950/day

Deployment of above staff is only indicative bidder may deploy additional staff as per site condition.

Name (s)	Age, Qualification and experience	Date of appointment with the company	Previous employment, designation, Employer & period of service	Remarks

C. SET UP OF THE BIDDER ORGANIZATION

Site organization chart

* * * *

PROFORMA OF INTEGRITY PACT

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.

ed the "BIDDER/Seller" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

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 "**Development of Multi Cargo Berth No.10 at V.O.Chidambaranar Port on Engineering, Procurement And Construction Contract (EPC) Basis**" 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 office also 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. 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 dealing 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 indulged.

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.

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 6.2.1 of Tender document for the successful bidder.

5.2. The Security Deposit shall be valid as per cl 6.2.2 (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.

ruption 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.

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.

he 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, Belevadre 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.

8.4. 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.

s 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

Name of the Officer.
Designation
V.O.Chidambaranar Port
Tuticorin

Witness

Witness

1. _____

2. _____

BIDDER

CHIEF EXECUTIVE OFFICER

1.

2.

SECTION – IV

LIST OF DRAWINGS (Tender Purpose only)
DEVELOPMENT OF MULTI CARGO BERTH NO.10 AT

**V.O.CHIDAMBARANAR PORT ON ENGINEERING,
PROCUREMENT AND CONSTRUCTION CONTRACT (EPC) BASIS**

Sl. No.	Description of Drawing
---------	------------------------

1. Layout of Port
2. Plan & General Arrangement of Berth No:10
3. Bathymetry survey chart
4. Borehole Location & Soil Test Report

* * * *

SECTION-V
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 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.
- 1.5 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.

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 therefrom 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/CPWD 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 therefrom 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 (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

As stated in Tender document

5. CURRENCY

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

6.ABBREVIATIONS

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

IS	:	Indian Standard
B.S.C.P.	:	British Standard Code of Practice
mm	:	Millimetres
cm	:	Centimetres
km	:	Kilometres
l.m.	:	Linear metres
gm.	:	Grammes
T	:	Tonnes
R.M.	:	Running Metres
B.S.	:	British Standard
Sq.cm/cm ²	:	Square centimetres
Sq.m./m ² :	:	Square metre
Cu.cm/m ³	:	Cubic centimetres
Cu.m/m ³	:	Cubic metres
kg	:	Kilograms
dia	:	Diametre
Wt.	:	Weight
No.	:	Number
Drg. No.	:	Drawing Number
Max.	:	Maximum
Min.	:	Minimum

Conc.	:	Concrete
PC	:	Precast concrete (Reinforced unless specified otherwise)
E.O	:	Extra over (Previous sum unless specified otherwise)
PC	:	Price cost
PS	:	Provisional sum
LS	:	Lumpsum
Rs.	:	Rupees
P.	:	Paise
R.H.	:	Rig hours
Approx.	:	Approximately
do	:	Ditto
n.e.	:	not exceeding
incldg.	:	Including
circ.	:	Circular
RC	:	Reinforced concrete
MS	:	Mild steel
AISS	:	All India Standard Specification brought out by National Building Organisation.
HBG	:	Hard Broken Granite (Metal)
CI	:	Cast Iron
BIS	:	Bureau of Indian Standard.
EIC	:	Engineer In Charge
NCB-III	:	MULTI CARGO BERTH NO.10
EPC	:	Engineering Procurement Contract
LSTK	:	Lump Sum Turnkey

* * * *

SCHEDULE OF PAYMENTS ON MILESTONE COMPLETION**STAGE WISE PAYMENT**

Sl No	MILESTONE COMPLETION	PAYMENT SCHEDULE (in % of contract value)	Mode of Release of payment
1.	Piling work for berth as approved by Engineer In Charge. (Note: Contractor has to complete boring, Liner, Reinforcement, Concreting, chiseling top of concrete etc., Upto Cut of Level as certified by Engineer In Charge)	36% of LSTK Price	In Twelve (12) Equal Installments based on No of Piles as Approved by Engineer In Charge
2.	Concreting for berth, beam, Slab, Pile Muff etc Including Shuttering and Reinforcement as per approved design by Engineer In Charge) Which includes all Pre cast and Cast in situ concreting as approved by Engineer In Charge .	20 % of LSTK Price	In Eight (8) Equal Installments based Total top surface of Berth and Approaches
3.	Fenders with all accessories (Cylindrical type Fender, Frontal Frame, Stainless steel bolts, G.I Chain Link, hooks and shackles full set), Cast iron Bollard, G.I coated Ladders, Protective coat Anti Carbonation Paint etc., as approved by Engineer In Charge.	12 % of LSTK Price	In Four (4) Equal Installments based on the equal length of berthing(Sea side)
4	Pile Testing, Construction of bund including laying filter layers like 50mm metal and laying of geo fabric layer etc., as approved by Engineer In Charge .	3 % of LSTK Price	In Two (2) Equal Installments
5	Development of Backup area of about 7.40 Hec like removal of existing earth to the required level, preparation of subgrade, providing GSB etc., as approved by Engineer In Charge .	5% of LSTK Price	In Two (2) Equal Installments

6	Providing 1:4:8 concrete in the development of backup area including shuttering, providing PVC pipes for drainage, repairing of existing cable duct, paver block work of about 0.46Hec inside the proposed backup area	10% of LSTK Price	In Three (3) Equal Installments
7	Providing sand bedding, supplying and laying paverblock, drainage chambers with necessary covers etc., in the backup area.	10% of LSTK Price	In Three (3) Equal Installments
8	Submission of two sets AS MADE drawings including soft and hard copies, progress video and photographs (Hard and soft)	4% of LSTK Price	After issue of completion certificate
	Total	100%	

I/We agree to accept the stage-wise / percentage-wise payment schedule as detailed above in the tender Document.

Signature of Tenderer

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

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

Sir,

**Sub: Acceptance of Terms & Conditions of Tender for
“Development of Multi Cargo Berth No.10 at V.O.Chidambaranar
Port on Engineering, Procurement And Construction Contract
(EPC) Basis” –Reg.**

**Tender No: E(C)/F.59/PD/MULTI CARGO BERTH NO.10-EPC/
2025/D.461 Date:19/02/2025.**

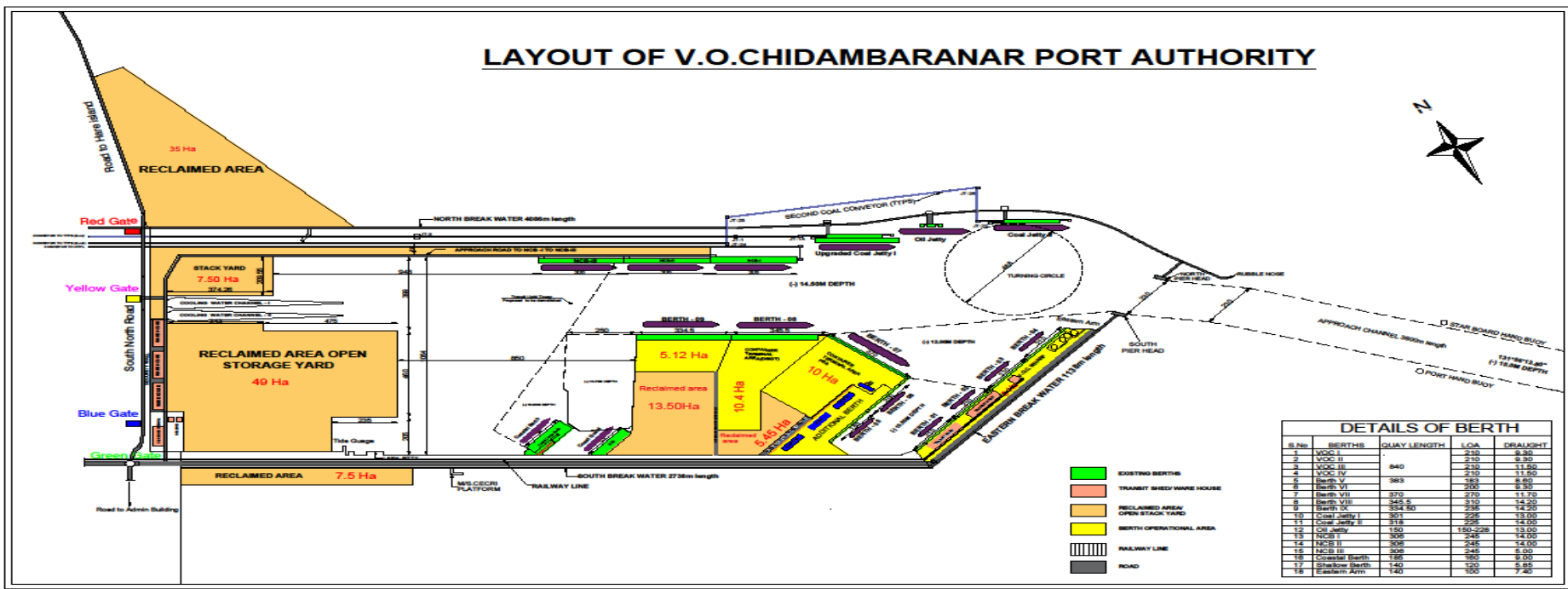
I/ We have downloaded / obtained the tender document(s) for the above mentioned Tender/Work from the web site(s) URL namely <https://etenders.gov.in/eprocure/app> as per your advertisement.

1. 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.
2. The corrigendum(s) issued if any 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.
3. I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.
4. I / We do hereby declare that our firm has not been blacklisted/ debarred by any Govt. Department/Public sector undertaking.
5. 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.

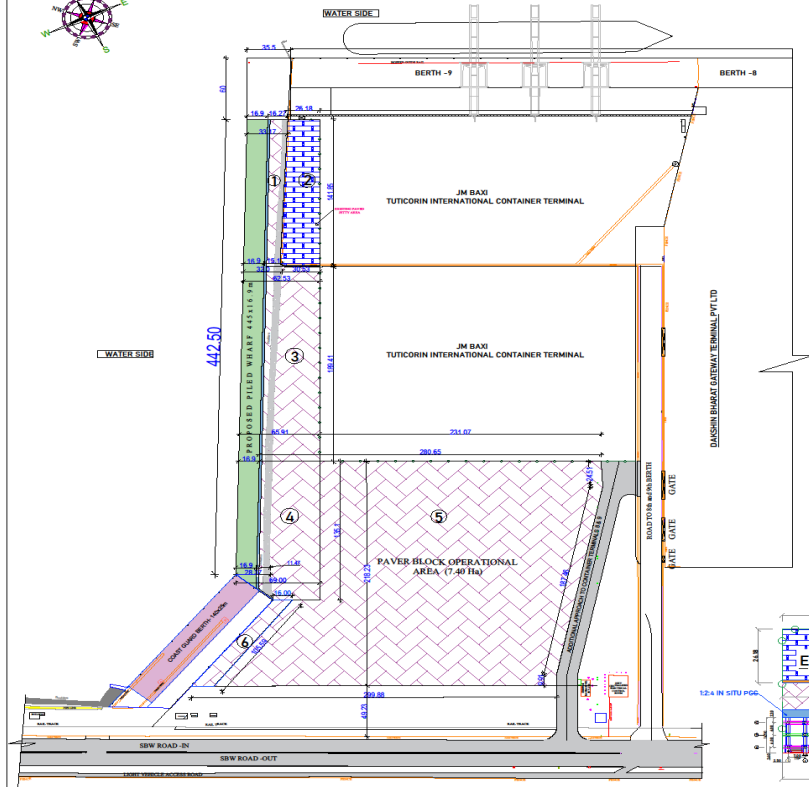
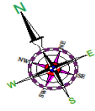
Yours Faithfully,

(Signature of the Bidder, with Official Seal)

LAYOUT OF V.O.CHIDAMBARANAR PORT AUTHORITY

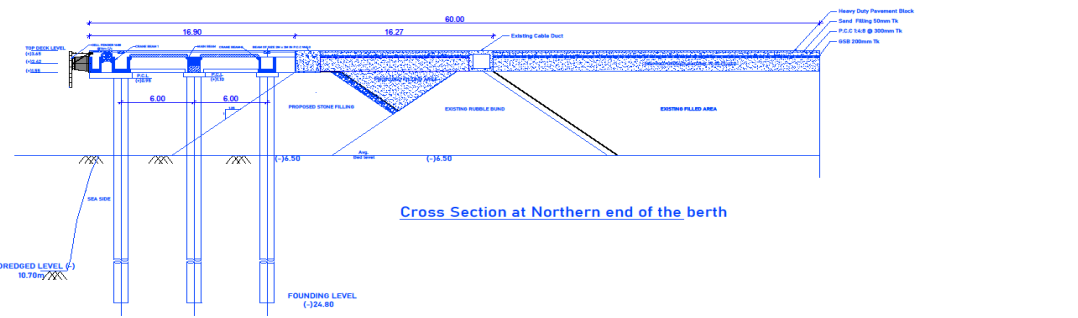


DETAILS OF BERTH				
S.No	BERTHS	QUAY LENGTH	LOA	DRAUGHT
1	VOCC I	210	210	9.50
2	VOCC II	210	210	9.50
3	VOCC III	840	210	11.50
4	VOCC IV	210	210	11.50
5	Berth IV	383	383	8.50
6	Berth VI	208	208	9.50
7	Berth VII	370	270	11.70
8	Berth VIII	345.5	210	14.20
9	Berth IX	334.50	235	14.20
10	COB JETTY I	301	225	13.00
11	COB JETTY II	318	225	14.00
12	COB JETTY	130	130-225	13.00
13	NCE I	305	245	14.00
14	NCE II	305	245	14.00
15	Coastal Berth	185	185	9.00
17	Shallow Berth	140	120	6.85
18	Eastern Arm	140	100	7.40

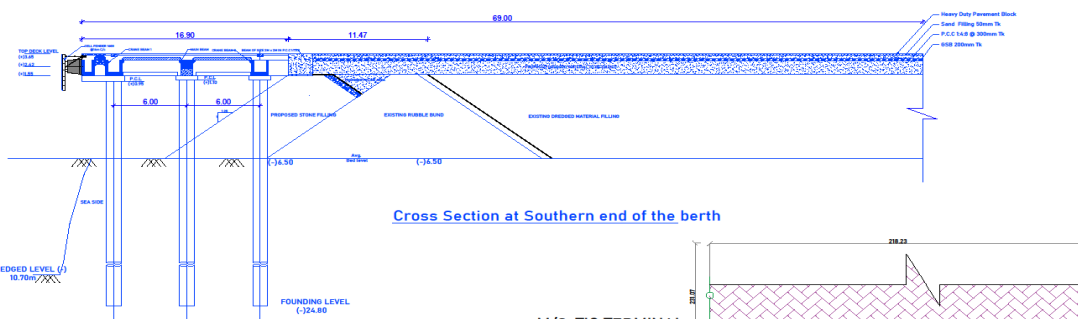


PROPOSED KEY PLAN

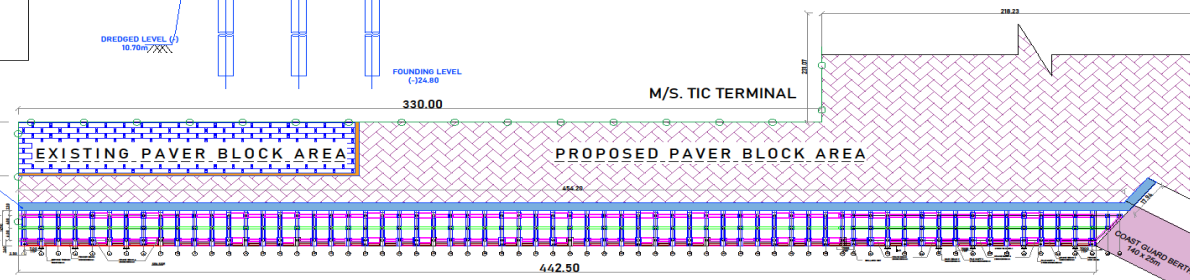
- PROPOSED PILED WHARF 445x16.9m
- EXISTING PAVED AREA - 0.46 Ha
- PROPOSED PAVER BLOCK OPERATIONAL AREA (6.98 Ha)



Cross Section at Northern end of the berth



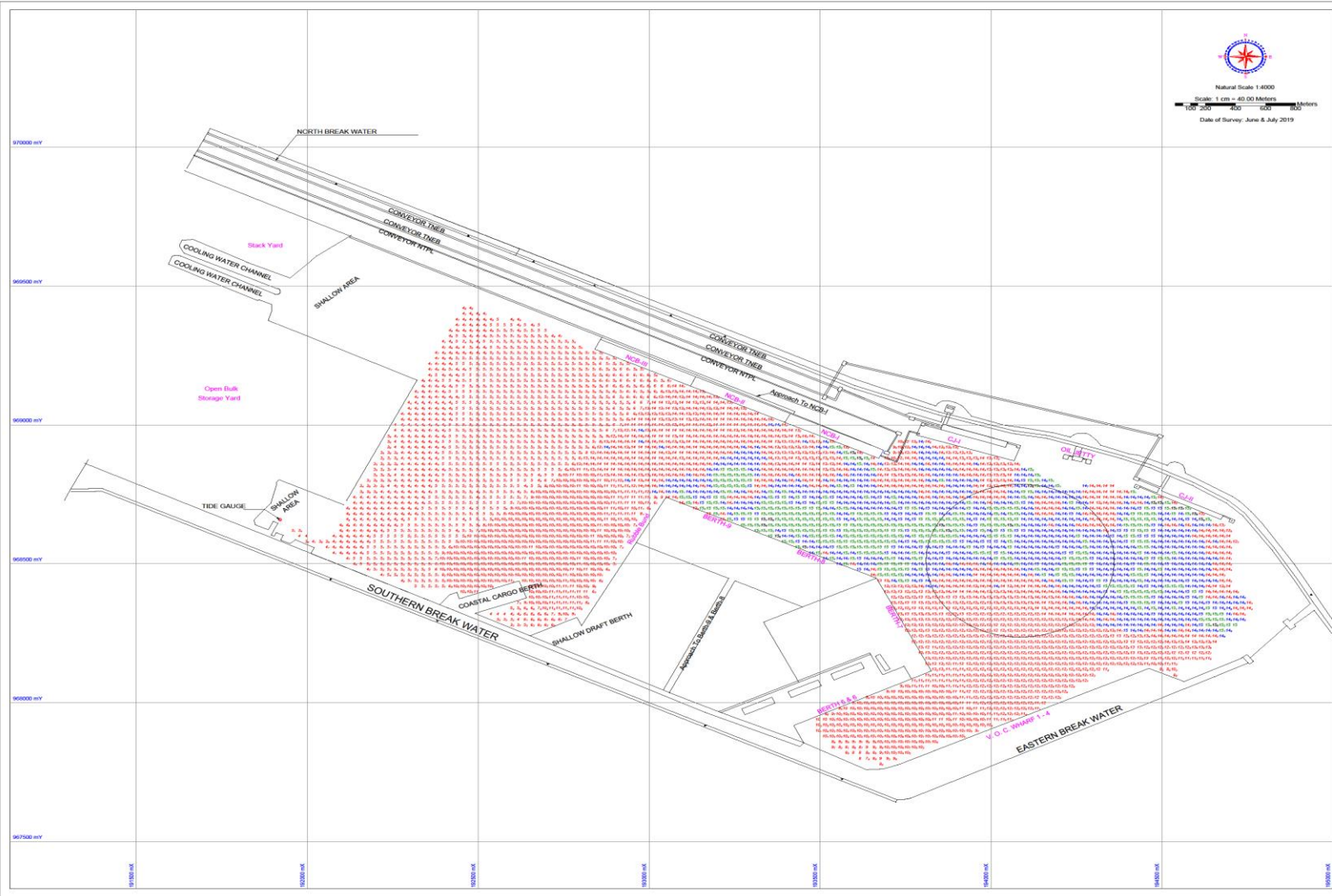
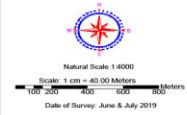
Cross Section at Southern end of the berth



PLAN

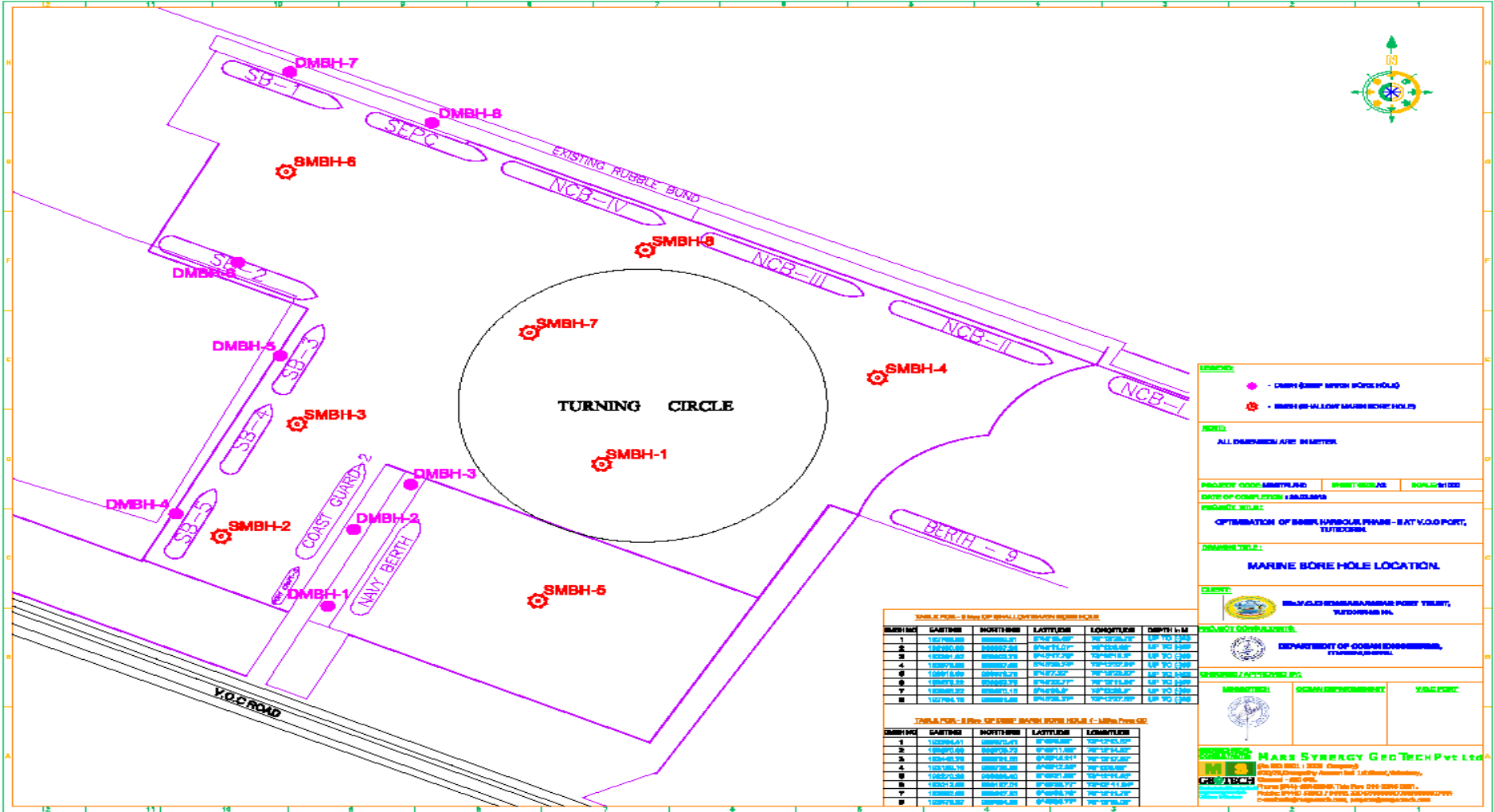
NOTE:-
 * All Dimensions are in 'm'
 * Not to Scale

V.O.CHIDAMBARANAR PORT AUTHORITY DEVELOPMENT OF MULTI CARGO BERTH NO.10			
E E / P D	E E / H M D	S E / C I V I L	C H I E F E N G I N E E R



- NOTES**
1. Water depths are in Meters reduced to C.D.
 2. Bathymetry acquired using Fison Seabat T-50 Multibeam Echo-sounder
 3. Annotations are in meters and units in Decimals.
 4. Contour depths are in Meters.
 5. Tide data collected from VCC Port
 6. Spot levels interval = 20m x 20m
- Geodetic Details :**
- | | |
|---------------------------|-----------------------|
| Epoch | : 1950 BD |
| Sea level mean (M) | : 4376157.28 m |
| Flattening (1/n) | : 298.2572 |
| Geoid Projection | : UTM Zone 44 |
| Latitude of origin | : 0° equator |
| Longitude of origin (E/M) | : 81° East |
| Scale factor on GM | : 0.9992 |
| Falses spheroid | : 600000m E |
| Falses cylinder | : 630 H |
| Unit | : International Meter |
- LEGEND :**
- Bathymetry**
- Depth in below Chart datum

CONSULTANT :	NTFCPCW DEPARTMENT OF OCEAN ENGINEERING IIT MADRAS, CHENNAI-36
CLIENT :	V. O. CHIDAMBARANAR PORT TRUST, TUTICORIN, TAMILNADU
PROJECT :	RE-EVALUATION OF DREDGING STUDY BY NTFCPCW
TITLE :	BATHYMETRY CHART(MULTI BEAM_INNER BASIN
(Prof. K. MURALI) Department of Ocean Engineering IIT Madras	
DRAWING NO: 002-DRE-BI-08-19-001	DATE: 07-08-19 P. No. 10 Rev. 0



LEGEND:

- DMBH (2000) BORE HOLE (ORCH HOLD)
- SMBH (5000) MAJORITY BORE HOLE

SCALE:
ALL DIMENSIONS ARE IN METERS

PROJECT CODE: MBT/PL/10
PROJECT TITLE: MBT/PL/10
DATE OF COMPLETION: 2010/08/08
PROJECT SITE: OPTIMIZATION OF MARINE FACILITIES - SATV. V.O.D. PORT, TUTUCORAN

DISCIPLINE: MARINE BORE HOLE LOCATION

CLIENT: MARINE BORE HOLE LOCATION PROJECT, TUTUCORAN

APPROVED BY: DEPARTMENT OF COAST GUARD, TUTUCORAN

APPROVED BY: OCEAN ENGINEERING, V.O.D. PORT

PREPARED BY: MARINE SYNERGY GEOTECH PVT. LTD.

DATE: 2010/08/08
PROJECT: MBT/PL/10 / MBT/PL/10
CONTACT: 0917 888 8888 / 0917 888 8888 / 0917 888 8888
E-MAIL: info@marinesynergy.com, sales@marinesynergy.com

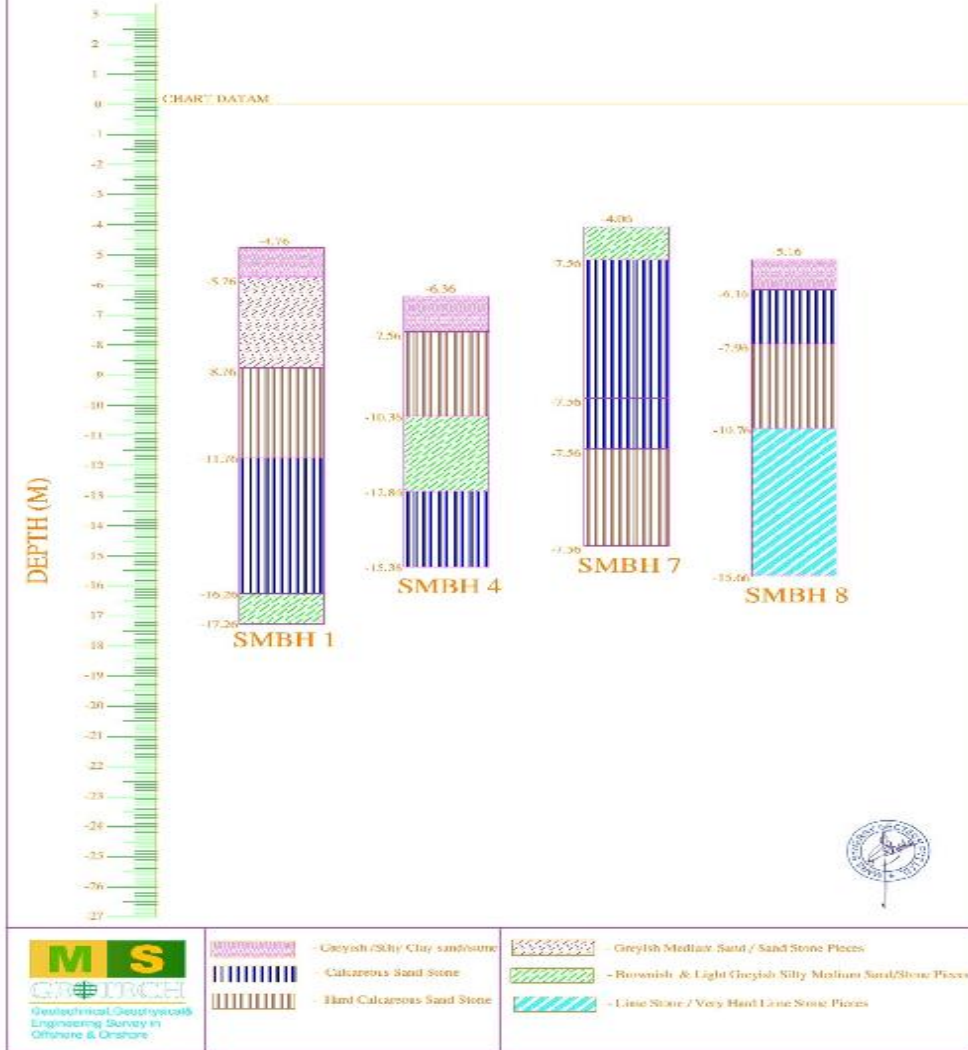
TABLE FOR - 8 Steps OF SHALLOW BAYON BORE HOLE

NO.	SARITIME	PORTITIME	LATITUDE	LONGITUDE	DEPTH (M)
1	1000000	1000000	1000000	1000000	1000000
2	1000000	1000000	1000000	1000000	1000000
3	1000000	1000000	1000000	1000000	1000000
4	1000000	1000000	1000000	1000000	1000000
5	1000000	1000000	1000000	1000000	1000000
6	1000000	1000000	1000000	1000000	1000000
7	1000000	1000000	1000000	1000000	1000000
8	1000000	1000000	1000000	1000000	1000000

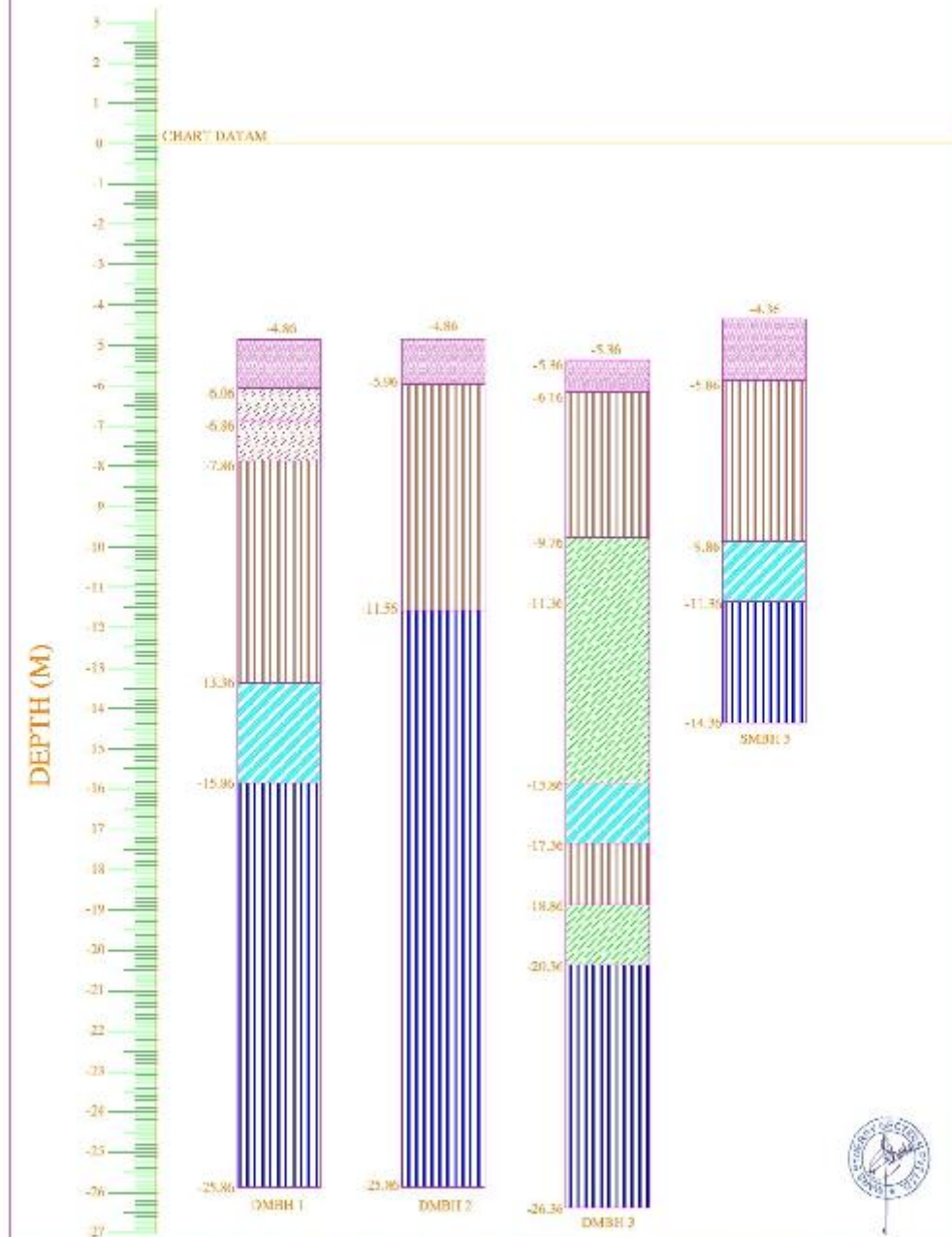
TABLE FOR - 8 Steps OF SHALLOW BAYON BORE HOLE

NO.	SARITIME	PORTITIME	LATITUDE	LONGITUDE	DEPTH (M)
1	1000000	1000000	1000000	1000000	1000000
2	1000000	1000000	1000000	1000000	1000000
3	1000000	1000000	1000000	1000000	1000000
4	1000000	1000000	1000000	1000000	1000000
5	1000000	1000000	1000000	1000000	1000000
6	1000000	1000000	1000000	1000000	1000000
7	1000000	1000000	1000000	1000000	1000000
8	1000000	1000000	1000000	1000000	1000000

TURNING CIRCLE



COAST GUARD, NAVY BERTH & ABOVE FINGER JETTY



- Calcareous Sand Stone
- Greyish/Silty Clay

- Greyish Medium Sand / Sand Stone Pieces
- Lime Stone / Very Hard Lime Stone Pieces
- Hard Calcareous Sand Stone
- Brownish & Light Greyish Silty Medium Sand/Stone Pieces

Project : Proposed Optimisation of Inner Harbour Phase-II Geotechnical Investigation Report For V.O.C Port Trust, Tuticorin																								
Bore Hole No. :SMBH-1		N-8 °45 15.49				Dia of Boring :150mm																		
Type of Boring :Rotary		E-78 ° 12 25.75				Location : Ref. Fig																		
Started on :11/02/2013		CD-5.40m,MSL:+0.64				Total Depth : 17.90m																		
Ended on : 13/02/2013																								
Depth w.r.t. CD	Soil Profiles	Soil Description	SPT Details				Graphical Representation of SPT										Type of Samples							
			Depth (m) Below Seabed	15	30	45	N	0	1	2	3	4	5	6	7	8		9	10	11	12	13	14	15
-4.76		Greyish Clayey Sand with Stone Pieces	0.00	22	50 Blows for 2Cm																		SPT	
-5.76			1.00	-	-	-	>100																SPT	
		Sand Stone	2.00	CR-12%																			Rock	
			3.00	CR-33%																				Rock
-8.76			4.00	CR-51%																				Rock
			Hard Calcareous Sand Stone	5.50	CR-24.66%																			
-11.76		7.00		CR-40% RQD-14%																				Rock
		Calcareous lime to Sand Stone	8.50	CR-12%																				Rock
			10.00	-	-	-	>100																	SPT
-16.26			11.50	-	-	-	>100																	SPT
-17.26		Brownish & Light Greyish Silty Medium SAND	12.50	30	24	27	51																SPT	

Borehole Terminated at CD 17.90m Below Ground Level.



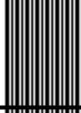


*CR-Core Recovery

** RQD-Rock Quality Designation



An ISO 9001:2008 Certificate Company



Project : Proposed Optimisation of Inner Harbour Phase-II Geotechnical Investigation Report For V.O.C Port Trust, Tuticorin																																																						
Bore Hole No. :SMBH-5		N-8 °45 7.32 E-78 ° 12 22.97 CD-5.0m,MSL:+0.64				Dia of Boring :150mm																																																
Type of Boring :Rotary						Location : Ref. Fig																																																
Started on :27/02/2013						Total Depth : 15.0m																																																
Ended on : 01/03/2013																																																						
Depth w.r.t. CD	Soil Profiles	Soil Description	SPT Details				Graphical Representation of SPT										Type of Samples																																					
			Depth (m) Below Seabed	15	30	45	N	1	2	3	4	5	6	7	8	9		10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
-4.36		Greyish Sandy Clay	0.00	29 Blows for 10Cm														SPT																																				
-5.86			1.50	-	-	-	>100											SPT																																				
-9.86		Hard Calcareous Sand to lime stone	2.50	CR-66.66%														Rock																																				
			4.00	CR-30% RQD-6.66%														Rock																																				
			5.50	CR-36.66%														Rock																																				
			7.00	CR-20%														Rock																																				
-11.36		Hard Lime Stone	7.00	CR-20%														Rock																																				
-14.36		Calcareous Sand to lime stone	8.50	CR-12%														Rock																																				
			10.00	CR-12.66%														Rock																																				

Borehole Terminated at CD 15.0m Below Ground Level.

*CR-Core Recovery

** RQD-Rock Quality Designation



An ISO 9001:2008 Certificate Company



Project : Proposed Optimisation of Inner Harbour Phase-II Geotechnical Investigation Report For V.O.C Port Trust, Tuticorin																		
SMBH No 1										Termination Depth: - : 17.90m								
SUMMARY OF TEST RESULTS (Soil)																		
N° Value	Depth w.r.t. CD	Depth (m) Below Seabed	Soil Description	Index Properties (%)						Specific Gravity	Grain Size Analysis (%)					UCS Strength (N/Sq.cm)	Direct Shear Test Results	
				NMC	W _L	W _p	I _p	I _c	Free Swell		Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt & Clay		Cohesion, C (kg/Sq.cm.)	Angle of friction
>100	-4.76	0.00	Grayish Clayey Sand with Stone Pieces	21						2.69	34	6	15	14	31			
>100	-5.76	1.00	Brownish & Light Greyish Silty Medium SAND															
51	-17.26	12.50		18														
SUMMARY OF TEST RESULTS (Rock)																		
Core	Depth w.r.t. CD	Depth (m) Below Seabed	Rock Description	Dia of Sample(cm)	Length of Sample(cm)	L/d	Wet Density (gm/cc)	Dry Density (gm/cc)	NMC(%)	Water absorption(%)	Specific Gravity	Porosity	UCS(T/Sq.m)	Point Load (T/S qm)	Brazilian Test (T/S qm)	Condition	Mode of Failure	
Rock	-6.76	2.00	Sand Stone								2.68							
Rock	-7.76	3.00																
Rock	-8.76	4.00												424.201			S	V
Rock	-10.26	5.50	Hard Calcareous Sand Stone	5.5	11	2	2.10	2.06	1.50	1.78			1051				S	V
Rock	-11.76	7.00	Calcareous lime to Sand Stone	5.5	10.8	1.96	2.07	2.02	1.50				1048.5				S	V
Rock	-13.26	8.50										2.62						
>100	-14.76	10.00										2.67						
>100	-16.26	11.50										2.70						

S= Saturated

US= UnSaturated

V-Vertical



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Project : Proposed Optimisation of Inner Harbour Phase-II Geotechnical Investigation Report For V.O.C Port Trust, Tuticorin																		
SMBH No 5												Termination Depth: - : 15.0m						
SUMMARY OF TEST RESULTS (Soil)																		
N Value	Depth w.r.t CD	Depth (m) Below Seabed	Soil Description	Index Properties (%)						Specific Gravity	Grain Size Analysis (%)					UCC Strength (KN/Sq.m)	Direct Shear Test Results	
				NMC	W _L	W _P	I _p	I _c	FreeSwell		Gravel	Coarse Sand	Medium Sand	Fine Sand	Silt & Clay		Cohesion, C (kg/Sq.cm)	Angle of Friction
>100	-4.36	0.00	Greyish Sandy Clay	53					2.65	18	13	7	4	58				
>100	-5.86	1.50																
SUMMARY OF TEST RESULTS (Rock)																		
Core	Depth w.r.t CD	Depth (m) Below Seabed	Rock Description	Dia of Sample (cm)	Length of Sample (cm)	L/d	Wet Density (gm/cc)	Dry Density (gm/cc)	NMC (%)	Water absorption (%)	Specific Gravity	Porosity	UCS (T/Sq.m)	Point Load (T/Sq.m)	Brazilian Test (T/Sq.m)	Condition	Mode of Failure	
Rock	-6.86	2.50	Hard Calcareous Sand to lime stone											282.461		S	V	
Rock	-8.36	4.00							1.00		2.68							
Rock	-9.86	5.50												282.461		S	V	
Rock	-11.36	7.00	Hard Calcareous Lime Stone						3.00		2.65				72.48	US	V	
Rock	-12.86	8.50	Calcareous Sand to lime stone															
Rock	-14.36	10.00							1.00		2.65							

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V-Vertical



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