

Centre for Industrial Consultancy and Sponsored Research (IC & SR)

IIT Madras

INVITATION FOR BID

Name of work: “Geotechnical Investigations in the alignment of outer channel at V.O. Chidambaranar Port Trust, Tuticorin.”

For and on behalf of IC & SR, IIT Madras, sealed tenders “Two Bid System” are invited under for the following work being executed by IIT Madras:-

1)	Description:	“Geotechnical Investigations in the alignment of outer channel at V.O. Chidambaranar Port Trust, Tuticorin” (Detailed scope of work as mentioned under Section-III)
2)	Specification No.	OED/2019/10/NTCPWC/KMUR
	Tender Reference No.	OED/KMUR/065/2019
3)	Estimated cost of tender (ECPT)	Rs. 1,20,00,000/-
4)	Earnest Money Deposit:	Rs. 6,00,000/- in the form of DD drawn in favour of The Registrar IIT Madras Chennai issued by any Commercial or Nationalized bank. The DD shall be placed in the technical bid only failing which the tender shall be summarily rejected.
5)	Pre Bid meeting	13.02.2019 (Wednesday) at 3.00 PM NTCPWC, CONFERENCE ROOM
6)	Last date for Submission of Bid:	14.00 Hrs. IST on 21 Feb. 2019
7)	Date & Place of Opening of Tender (Techno commercial bid):	15.00 Hrs. IST on 21 Feb. 2019 NTCPWC, New Academic complex-6th Floor, IIT, Madras, Chennai-36. If the due date fixed for submission / opening of the tender happens to be a

		holiday, the tender shall be opened at the same time on the next working day.
8)	Validity of offer:	90 days from the date of opening.
9)	Method of submission of tender:	Two bid system (Technical and Financial bid)
10)	Technical Clarification to be obtained from:	Email.: ntcpwc@iitm.ac.in
11)	Cost of Tender document	Nil
12)	Tender Inviting Authority:	Sri V. Sathyanarayanan, Senior Manager, Project Purchase, IC & SR building 2nd floor, IIT Madras, Chennai- 600 036, Tamil Nadu

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SECTION -I
INSTRUCTION TO BIDDERS

1.1 General:

Sealed competitive bids under "Two bid system" are invited for the **“Geotechnical Investigations in the alignment of outer channel at V.O. Chidambaranar Port Trust, Tuticorin”**.

1.2 Scope of work:

Detailed scope of work is elaborated under Section-III of this document

1.3 Tender No :

1.3.1 Cost of Tender document : Nil

1.3.2 Estimated cost of Tender : Rs. 1,20,00,000/-

1.3.3 EARNEST MONEY DEPOSIT (EMD) : 6,00,000/- (Rupees Six lakhs only) in the form of DD drawn in favour of “The Registrar, IIT Madras, Chennai” issued by any Nationalized / or commercial bank. The D.D shall be submitted along with the technical bid only. Failing which the tender shall be summarily rejected.

1.4 Schedule date for Receipt and Opening of Bids:

a) Last date and time for receipt of bids: **14.00 Hrs. IST on 21 Feb. 2019**

b) Date and time for opening of bids : **15.00 Hrs. IST on 21 Feb. 2019**

Note: If the due date for happen to be a holiday the due date and time for receipt and opening shall be at the same respective times on the subsequent working day.

1.5 Submission of Tender:

1.5.1 Tender should be furnished in sealed cover, super-scribed as **“Geotechnical Investigations Geotechnical Investigations in the alignment of outer channel at V.O. Chidambaranar Port Trust, Tuticorin”** and forwarded to

**Sri V. Sathyanarayanan,
Senior Manager, Project Purchase,
IC & SR building 2nd floor,
IIT Madras, Chennai- 600 036, Tamil Nadu**

1.5.2 The Bidders have the option of submitting the bid either by Registered post or by Courier or in person, and it shall be ensure that the bids are received at the office of the employer indicated above, on the date and time indicated in the Sl.No.1.5 above.

1.5.3 Bids submitted by Telex/ Fax/ Telegram/e-mail etc. will not be accepted.

1.6 Opening of Tender

The tenders will be opened at 15.00 Hrs. IST on **21 Feb. 2019**, at the address mentioned in sl.no 6- Invitation to bid on the due date and time mentioned in the pre paragraph, in the presence of the tenderers who wish to participate the tender opening. If the due date for tender opening happens to be a holiday, the tenders will be opened on the next working day at the same time.

The representatives of the Bidders, attending the opening of tenders, should be duly authorized by the participating firm, whom they are representing.

If any tenderer has doubt about the meaning of any portion of this tender and/or wish to seek any further clarifications on this Tender, they may address the Tender Inviting authority at least three days prior to the scheduled date of opening of the tender. Clarifications received after this deadline will not be entertained.

1.7 Tender Inviting Authority

Sri V. Sathyanarayanan,
Senior Manager, Project Purchase,
IC & SR building 2nd floor,
IIT Madras,
Chennai- 600 036, Tamil Nadu

SECTION – II
COMMERCIAL AND TECHNICAL CONDITIONS

2.1 GENERAL

The scope of services shall be as detailed in Section - III of this tender

2.2 LOCATION

The project site is V.O.Chidambaranar Port Trust, Tuticorin, INDIA

2.3 COMPLETENESS OF TENDER

All information in the bid shall be in ENGLISH only. All corrections, over typing etc. in the tender should be attested.

Tenderers are advised to post sufficiently early so as to ensure that the tenders reach this office in time. Tenders though posted in time but delayed in transit by post will not be considered, if received after the due date and time.

The Bids submitted by the Tenderers shall be complete in all aspects. The tenderers are required to furnish all details called for, under various schedules along with relevant supporting documents, wherever required, for considerations by NTCPWC. The tenders not containing the complete details as required in this document are liable for rejection.

2.4 PRICE

Tenderers shall quote FIRM Price only. Shall quote price separately for each item in the respective schedule as prescribed in the bill of Quantities.

2.5 VALIDITY OF TENDER

Tenders should be valid for a period of **Ninety (90) days** from the date of tender opening. In case any bidder quotes a lower validity period than that called for, their offer shall be liable for rejection. In exceptional circumstances, the purchaser may solicit the bidder's consent to extend the period of the validity. The request and response thereto shall be made in writing (including mail).

2.6 PAYMENT TERMS:-

2.6.1 Payment will be made as per the following methods

Sl.No	Description	% Total Consultancy charges
1	Advance payment – Mobilization of all equipment and successful completion of at least two boreholes.	30
2	On submission of Draft report duly accepted by NTCPWC	50

3	On submission of final report duly verified and accepted by NTCPWC	20
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2.6.2 Payment shall be made either by Cheque or through Bank transfer on any one of the commercial banks or their branches in India as may be decided by IC & SR from time to time. If the contractor requests for DD payment, Exchange Commission for issue of bank draft shall be to the account of the successful Tenderers.

2.6.3 Offers agreeing to the above terms of payment will be preferred. The offers with any other terms of payment is liable for rejection.

2.7 Schedule of Submission of Report:

Submission of Draft report: Six week (6 weeks) from the date of award of work

Submission of Final Report: After Two (2) Weeks from the date of draft report submission.

2.8 FORCE MAJEURE

2.8.1 Neither the Contractor nor the Purchaser shall be considered in default in performance of its obligations hereunder if such performance is prevented or delayed for any causes beyond the reasonable control of the party affected, such as war, hostilities , revolution, riot, civil commotion, epidemic, major fires, explosions, floods, earthquakes or because of any law, order, proclamatory regulations or ordinance of Government or because of any act of God, provided notice in writing of such cause with necessary evidence that the obligation under the Contract is thereby affected or prevented or delayed, is given within 14 days from the happening of the event and in any case it is not possible to serve the notice within 14 days period, then within the shortest possible period without delay. In case the force majeure conditions prolong beyond a continuous period of 6 months, the Employer shall be entitled to decide the further course of action including revisions in the terms of Contract, if any.

2.8.2 As soon as the cause of Force Majeure has been removed, the party whose ability to perform its obligation has been affected shall notify the other party the actual delay occurred on account of such activities.

2.8.3 Although the time for completion of work shall be suitably extended (not exceeding the period during which the work was stopped on account of Force Majeure clause), such extension shall not result in any financial claim by the Contractor against the Employer or any account of such a delay for any other reason whatsoever.

2.9 TAXES

The price quoted for each item of work shall be firm and inclusive of all costs of mobilization, labour, Material, Fuel, Transportation, consumables, demobilization

and other contingent and / or incidental works required for completion of any particular item of work in all respects the tenderer, however, quote separately the duties and taxes and / or GST as applicable. The rate quoted shall be exclusive of all duties and taxes and or GST which shall be paid by NTCPWC directly or reimbursed to the contractor at actual if they are directed to pay.

2.10 JURISDICTION FOR LEGAL PROCEEDINGS

No suit or any proceedings in regard to any matter arising in any respect under this contract shall be instituted in a Court Save in the City Civil Court of Chennai or the Courts of Small Causes at Chennai. It is agreed that no other courts shall have jurisdiction to entertain any suit or proceedings even though part of the cause of action might arise within their jurisdiction. In case any part of cause of action arises within the jurisdiction of any of the courts in Tamil Nadu and not in the courts in the Chennai City, it is agreed to between the parties that such suits or proceedings shall be instituted in a court within Tamil Nadu and no other court outside Tamil Nadu shall have jurisdiction, even though any part of the cause of action might arise within the jurisdiction of such courts.

2.11 The tenderers should clearly indicate their acceptance or otherwise to the following terms and conditions.

- Specific acceptance of Board's terms of payment.
- Board's terms of Liquidated damages for delay in completion of work.
- Validity of tender.

If no indication is given by the tenderer in his offer, it is presumed that the tenderer is agreeable to the terms and conditions of IC & SR mentioned in the specification.

The bidders shall also furnish an undertaking, as per schedule furnished in Annexure-I, in a non-judicial stamp paper of value Rs.100/- confirming to their agreement to the conditions of this Tender.

2.12 ARBITRATION

Arbitration is not applicable to this contract.

2.13SPECIAL CONDITIONS

2.13.1 Special Conditions (Compulsory for eligibility criteria):

- The indenting tenderers should have completed atleast three similar nature of works in the proceeding five (5) / calendar years ending 31 Dec. 2018.

- The intending tenderer should have completed at least one similar nature of work worth Rs. 96 Lakhs or Two similar nature of work worth of Rs. 72 lakhs in any one of the three preceding Calendar years ending 31 Dec. 2018. (Copies of proof for having completed the specified nature of work(s), duly signed by tender accepting authority, either in Original or Notorized, have to be attached in the Technical Bid).
- The bidder shall also provide proof of availability of all equipment required for carrying out the work and also furnish an undertaking that these equipment are available for immediate mobilization.

2.13.2 Completion period of project: 2 months

The south west monsoon likely to set soon and swells are expected to start from **APRIL 2019** onwards therefore the following schedule shall be strictly completed from the date of LOA / work order whichever is earlier.

- | | | |
|-----------------------------------|---|---------|
| a. Mobilization | : | 10 days |
| b. Commencement of first borehole | : | 15 days |
| c. Completion of 15 bore holes | : | 21 days |
| d. Completion of 30 boreholes | : | 30 days |
| e. Submission of draft report | : | 45 days |

2.13.3 DEVIATIONS IN TENDER

Offers which conform to the specification without any deviation will be preferred. If the tenderer wishes to deviate from any of the terms and conditions, the same shall be mentioned clearly and acceptance or otherwise of the deviations shall be at the sole discretion of the Employer.

2.13.4 NTCPWC, IIT MADRAS RESERVES THE RIGHT

- NTCPWC has the right to accept the whole or any part of the tender or partition of the quantity offered or reject it in full without assigning any reason.
- To relax or waive any of the conditions stipulated in the tender specification as deemed necessary in the best interest of the project for good and sufficient reasons.
- To revise the quantum of works/completion period of work of any or all the items covered by this enquiry during the pendency of contract and to terminate the contract in between the agreed stipulated period.

2.13.5 EVALUATION AND COMPARISON OF TENDER OFFERS

- The evaluation of the Tender will be done as per IIT Madras guidelines IC & SR.

- The evaluation shall include contract value of works with applicable sales/service tax, etc.,
- In case of discrepancy between the prices quoted in words and in figures, the lower of the two shall be considered.

SECTION – III
TECHNICAL SPECIFICATION
SCOPE OF SERVICE

3.1. TITLE OF THE PROJECT WORK

“Geotechnical Investigations in the alignment of outer channel at V.O. Chidambaranar Port Trust, Tuticorin”.

3.1.1 Introduction

National Technology Centre for Ports, Waterways and Coasts (NTCPWC), IIT Madras, Chennai intends to conduct field study for the Geotechnical Investigations in the proposed alignment of the Navigational Channel including the approach channel at V.O. Chidambaranar Port Trust, Tuticorin”.

3.1.2 Objectives & Scope

The project scope is to conduct Geotechnical investigations on the alignment of the proposed Approach/outer channel of V.O.Chidambaranar Port, Tuticorin. The indicative locations of the boreholes are shown in Fig.



Fig 1. Location map of V.O. Chidambaranar Port Trust, Tuticorin

3.1.3 Scope of Work

Geotechnical Investigation of the proposed outer Navigational Channel at V.O. Chidambaranar Port Trust is to identify the sub bottom layers seabed, soil and rock types, determining the in-situ physical and mechanical properties of the materials and sampling of materials for laboratory tests. V.O. Chidambaranar Port Trust Navigational Channel boundary is shown in figure.2 covering an area of approximately 18 km into the sea and of width 250m approximately. The total number of borehole proposed within the Navigational channel is 30 in the location indicated in Fig. 2. The water depth in the proposed locations of the boreholes is less than (-) 18 m below CD. The minimum water depth of all boreholes is about 15.0m.

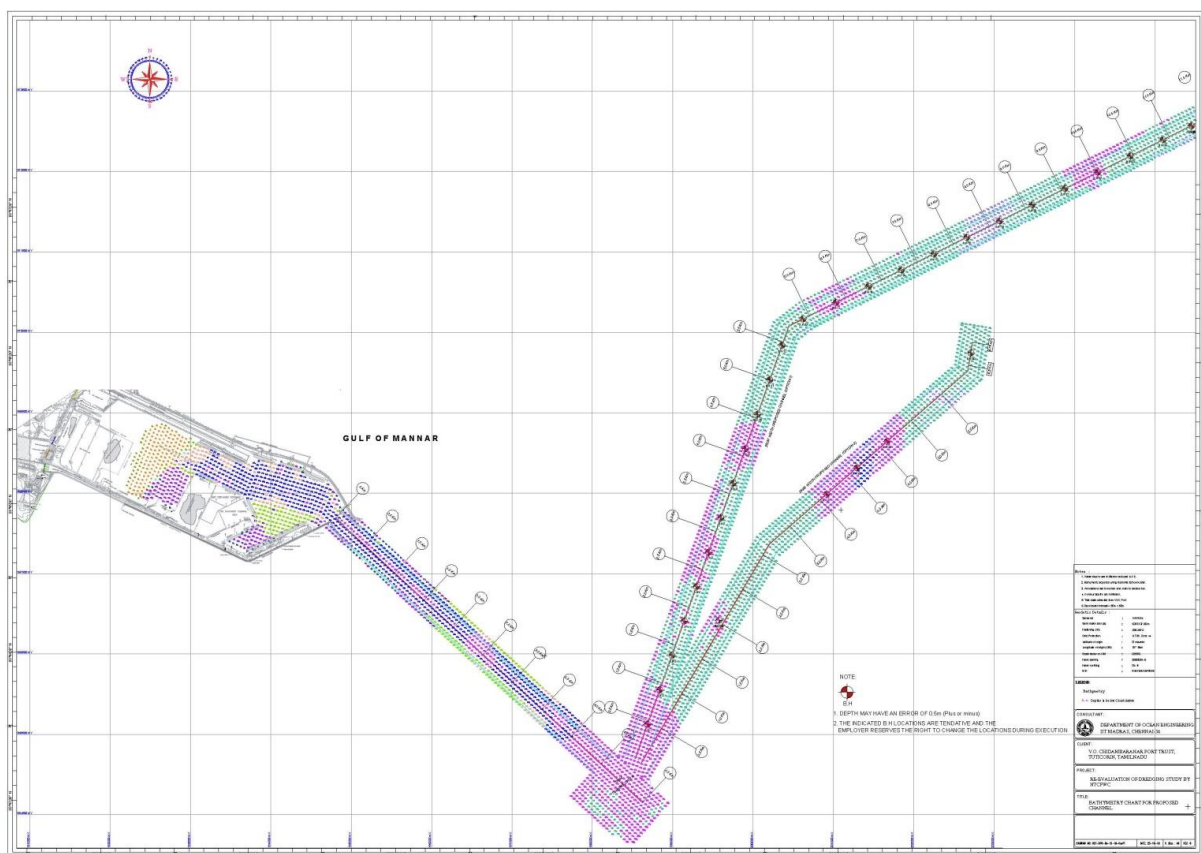


Fig 2. Geotechnical Investigation for V.O. Chidambaranar Port Trust

3.2 The Geotechnical investigation shall be carried out in marine environment by mobilizing suitable marine spread to conduct soil investigations, borehole, etc. The marine spread shall be in the form of jack-up rigs. No other support of lower grade is not allowed. The mobilized system shall be capable of handling men, equipment and machinery of drilling requirement and it shall have sufficient space for drilling operation. The working platform shall provide a stationary work place such that the boring operation is smooth. The written approval prior to mobilize the appropriate marine spread along with detailed methodology of exploration to satisfy the environmental conditions at the proposed site.

3.3. The Detailed Geotechnical Investigations inter-alia includes

- Subsoil investigation by drilling 150 mm dia boreholes upto -8 m depth from the existing bed levels of navigational channel/basin.
- Standard testing upto 5 m depth with sample tests at 1 m interval and beyond 5 m depth, the sample tests at 1.5 m interval.
- Collection of undisturbed samples, if clay layer encountered.
- Collection of additional samples, when there is a change in strata
- Collection of additional samples during the course of investigation, if directed by the representatives of the Employer.
- Conducting any other tests that may be found necessary during the execution of the project.
- Identifying the materials viz, soil, rock, hard surface materials etc, and also their types, formation and details (locations, extent, classification, properties, etc)
- Identifying the sub bottom layers of seabed
- Identifying in-situ Physical and Mechanical properties of the seabed materials
- Sampling of Materials for Laboratory tests
- Classification of soil as per Indian Standard IS:1498-1970
- PIANC Soil Classification

3.3.1. Hard Strata & Rocky region the followings also to be assessed

- a. Compressive/Tensile Strength
- b. Density and Porosity
- c. Hardness and Abrasiveness
- d. Core Recovery and Rock Quality Designation (RQD)
- e. Logging and Fracture state

3.3.2. Investigation techniques shall includes:

- Wide range of the sampling
 - Grab Sampler
 - SPT
 - UDS
- Drilling
- Coring
- Testing techniques
- Vibro-Coring

3.3.3. Borehole Investigations includes:

- Particle Size Analysis and Atterberg Limits
- Density & Moisture content
- Shear Strength
- Cohesion
- Bulk Density
- SPT/N-Value

NOTE;

- Borehole arranged in the entire profile area in a systematic manner.
- Intermediate borehole may be ordered whenever intricacies are noticed.
- Vertical accuracy is critical and tides have to be correctly accounted to boring depths.
- Number of boreholes in rocky area will/may be decided later by the port.
- The number, locations and the depth of boreholes and the test on core samples collected may be varied depending upon the material found during the progress of investigation.

3.3.4. REPORTS.

Reports on the borehole investigation shall include the equipment used for marine sampling, laboratory tests, positioning, datum, water depth measurements, boring logs, full laboratory test descriptions and also the results alongwith field and lab notes.

A detailed draft and final report comprising the output of all the above-mentioned tests and analysis shall be submitted as laid down in these specifications.

3.3.5. GENERAL

- Necessary arrangements to transport the personnel and officials visiting the site by means of suitable boats from land to offshore investigation location and back whenever required during investigations. Suitable care shall be taken during investigation in the offshore by providing life jackets, lifeboats and any other safety devices/emergency devices to prevent any accident.
- The chart adopted should be in UTM projections showing North & East and global grids (latitude & longitude) in every case.
- Laboratory Results of all tests conducted shall be submitted as per relevant IS Codes.
- All samples shall be identified with date, borehole number, depth of sample etc. Standard Penetration Test shall be carried out at the termination depth and recorded
- Sufficient number of soil samples shall be collected (Disturbed soil samples & Undisturbed samples)
- To carry out all associated works like removal and disposal of debris, setting up and removal and temporary facilities at no extra cost.
- Suitable positioning system shall be used for fixing the position of boreholes in geo-technical investigation. The bidder shall clearly indicate the methodology for maintaining the horizontal / vertical control in the proposal/write up.
- If rock is encountered, the borehole may be terminated 1 m into the rock and after taking core of 50mm sample

SECTION - IV

4.1 Bill of Quantities and Rates.

Item No.	Item Description	Unit	Quantity	Rate
1	Mobilizing and demobilizing of boring equipment, personnel and all other necessary machinery including jack-up / floating pontoon, hydraulic rigs, transportation, shifting of equipment from location to location for boreholes, etc carrying out the borehole investigation at the proposed extended navigational channel at VOCPT for boring works and all complete	LS		
2	Shifting and positioning the boring equipment at the location of each borehole including accurate positioning, erection/dismantling of rigs etc and boring through all types of soils, weathered rock , boulders, rocky strata etc. and carrying out Borehole Investigations in the alignment of the Proposed Navigational channel at the locations indicated or as directed and also conducting field tests such as Standard Penetration Tests (SPT) and also collecting the samples, packing and transporting disturbed and undisturbed soil samples and ground water samples as per technical specification all as per relevant IS all as directed by NTCPWC complete.	Nos	30	

2. SCHEDULE OF FEES - I

3.3 SPECIFICATION NO. OED/ 2019/10/NTCPWC/KMUR

Name of the Work: “Geotechnical Investigations in the alignment of outer channel at V.O. Chidambaranar Port Trust, Tuticorin”.

Sl.No	Description	% Total Consultancy charges
1	Advance payment – Mobilization of all equipment and successful completion of at least two boreholes.	30
2	On submission of Draft report duly accepted by NTCPWC	50
3	On submission of final report duly verified and accepted by NTCPWC	20

SIGNATURE :

NAME :

DESIGNATION :

DATE :

PLACE :

SEAL :

ANNEXURE-I

3.4 UNDERTAKING TOWARDS JURISDICTION FOR LEGAL PROCEEDINGS

(NON JUDICIAL STAMP PAPER VALUE RS.100/-)

This undertaking executed at..... on this..... (Date)..... (Month) Two thousand and by M/s Registered under Companies Act, 1956 having its registered office at hereinafter called the contractor (which expression shall where the context so admits mean and include its successors in office) and in favour of Indian Institute of Technology Madras, Chennai- 36. Hereinafter called the purchaser (which expression shall where the context so admits means and includes its successors if Office and assigns).

WHEREAS a contract for the supply ofhas been awarded in favour of the contractor under the Purchase order No.....dated.....

AND WHEREAS in accordance with the terms of the above Purchase order, the contractor has to furnish an undertaking to the effect that no suit or any proceedings in regard to any matter arising in any respect under this contract shall be instituted in any matter in any respect under this contract shall be instituted in any court other than in the High court, Madras or District court at or Sub-court ator at the District Munsiff court at as the case may be.

IN CONSIDERATION of the Board having agreed to accept the undertaking the contractor hereby undertakes that no suit or any proceedings in regard to any matter arising in respect of this contract shall be instituted in any court, save in the High court, Madras or District court at.....or sub court at or at the District Munsiff court atas the case may be it is agreed that no other court shall have jurisdiction to entertain any suit or proceedings, even though, part of the cause of action might arise within their jurisdiction. In case any part of the cause of action might arise within the jurisdiction of any other Courts in Tamil Nadu and rest within the jurisdiction of Courts outside the State of Tamil Nadu, then it is agreed to between the parties that such suits or proceedings shall be instituted in a court within the State of Tamil Nadu and no other Court outside the State of Tamil Nadu shall have jurisdiction.

