

**BEFORE THE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE
ORIGINAL APPLICATION NO. 81 OF 2024 (WZ)**

Gavhan Koliwada Matsyavyavasay Sahakari
Sanstha Maryadit ...Applicant
Versus
District Collector, Raigad & Ors. ...Respondents

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Sanstha Maryadit

...Applicant

Versus

District Collector, Raigad & Ors.

...Respondents

AFFIDAVIT ON BEHALF OF RESPONDENT NO. 5 (JNPA)

I, Shri Vishwanath Gharat, an adult Indian inhabitant, Age: 54 years, Occupation: Service, the Deputy General Manager (PP&D) and authorised signatory of Respondent No. 5 above named, having its administrative office at Admin Building, Sheva, Uran, Raigad – 400 707, do hereby solemnly declare and state as under:

1. I am filing the present Affidavit on behalf of Respondent No. 5 i.e. Jawaharlal Nehru Port Authority (“JNPA”) in the captioned matter, for the limited purpose of putting on record certain subsequent events. Being the Deputy General Manager (PP&D) and authorised signatory of JNPA, I am fully conversant with the facts and circumstances of the present case and am able, competent and authorized to depose the present Affidavit from my personal knowledge and office records.
2. I say that vide the previous Order dated 13th February 2025, this Ld. Tribunal had, *inter alia*, directed Central Water & Power Research Station (“CWPRS”) to finish their work of study and submit a report in that regard by 31st May 2025.

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3. I say that in pursuance of the Order dated 13th February 2025, JNPA vide its Email dated 11th March 2025 forwarded the Terms of Reference for the studies to CWPRS. Hereto annexed and marked as Annexure "A" is a copy of the said Email dated 11th March 2025.

4. In response thereto, CWPRS vide its Letter dated 1st April 2025, *inter alia*, stated that:

- a. CWPRS would be glad to take up the study;
- b. The estimated cost for the same would be approximately Rs. 49,90,100/-; and
- c. The proposed hydrodynamic studies would be carried out at CWPRS initially in a period of 3 months after receipt of all requisite data, receipt of sanction of estimate and deposit of the full estimated amount. Further, the siltation studies would be carried out in a period of 3 months after finalisation of layout of the proposed channel / culvert or minor bridge by JNPA.
- d. Following data Required for CWPRS Mathematical model studies for tidal hydrodynamics and siltation to assess the technical feasibility for creation of channel & culvert / minor bridge connecting Panvel and Nhava creek for JN Port, Navi Mumbai study from JNPA:
 - i. Detailed bathymetry/topography of Nhava creek area from Nhava creek mouth p to the land boundaries inside the creek (up to +8 m contour w.r.t. CD of Apollo Bunder) and part of Panvel creek as indicated in Annexure in hard and soft (xyz) format.



- ii. The details of bunds/roads inside the Nhava creek area with their dimensions and top level w.r.t CD of Apollo Bunder in hard and soft (xyz) format.
- iii. The tide data should be collected at five (05) locations namely at (i) Apollo Bundar, (ii) Vashi Bridge in Thane creek, (iii) Ulwe Bridge in Panvel Creek, (iv) Gavan Jetty & (v) New Nhava Jetty (Lat. 18°57'35.68" N; Long. 72°57'39.93" E) inside the Nhava Creek at 10 minutes interval for 30 days (Starting from Spring, Neap & Spring cycle) simultaneously and continuously during monsoon as well as non-monsoon season. All the tide levels should be co-related with respect to chart datum of Apollo Bunder.
- iv. Current strength and direction with respect to North should be collected at Two (02) locations viz: 1) (Lat. 18°57'28.45" N; Long. 72°57'42.42" E) at deepest point near this location; 2) (Lat. 18°59'4.54" N; Long. 72°57'46.47" E) at 10 minutes interval for 15 days period (Starting from spring-neap-spring) at mid depth simultaneously and continuously along with the tide data which will be collected during monsoon and non-monsoon seasons.
- v. Suspended sediment concentration (SSC) in mg/lit, salinity and temperature data should be collected at mid depth simultaneously at all the above two (02) current meter locations at one-hour interval of time for 24 hours each at spring and neap day for the period during which current data is collected as mentioned in item No. 4 for monsoon and non-monsoon season. The grain size

distribution curves for the suspended sediments should be provided at all two (02) locations during monsoon as well as non-monsoon seasons.

- vi. The bed samples should be collected at various locations equally spaced along the water area of Nhava creek (minimum 10 locations) and grain size distribution curves should be provided giving information about D_{50} .
- vii. The detailed dimensioned drawing of the existing pipelines (ONGC pipelines for oil & gas, other utility pipelines etc.) in the Nhava, Panvel & Thane Creek and the depth to which it is buried near the proposed development area in soft (AutoCAD file) and hard format
- viii. Information about the pre & post dredging surveys of the D-E & E-F portions of main navigational channel of JN port for the past three years (in AutoCAD or .xyz file format & Hard copy). All the levels should be with respect to Chart Datum (CD) of Apollo Bunder.

Hereto annexed and marked as Annexure "B" is a copy of the said Letter dated 1st April 2025.

5. Accordingly, JNPA has duly appointed CWPRS for mathematical model studies for tidal hydrodynamics and siltation to assess the technical feasibility for creation of channel & culvert / minor bridge connecting Panvel and Nhava creek for JN Port, Navi Mumbai study on 5th May 2025. Hereto annexed and marked as Annexure "C" is a copy of the acceptance / appointment Letter

dated 5th May 2025 addressed by JNPA to CWPRS. Further, JNPA has also duly appointed an agency i.e. SGS Surveys Private Limited for collection of data for monsoon and non-monsoon seasons at a cost of Rs. 96,00,000/- plus GST, as required by CWPRS for conducting model study on 2nd May 2025. Hereto annexed and marked as Annexure "D" is a copy of the appointment Letter dated 2nd May 2025 addressed by JNPA to the said SGS Surveys Private Limited.

6. In view of the aforesaid, it is estimated that the entire process would require a minimum period of 1 year from the date on which CWPRS commences its studies, in terms of CWPRS's aforesaid letter dated 1st April 2025. Hence, it is prayed that suitable directions may be issued by this Ld. Tribunal.

Dated this 16th day of May, 2025

For Jawaharlal Nehru Port Authority,

(Vishwanath Gharat)

Authorised Signatory, Respondent No. 5

For Vidhii Partners,

Devansh Shah

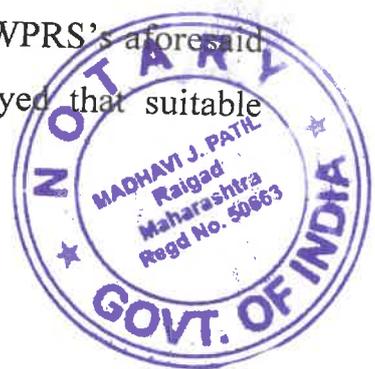
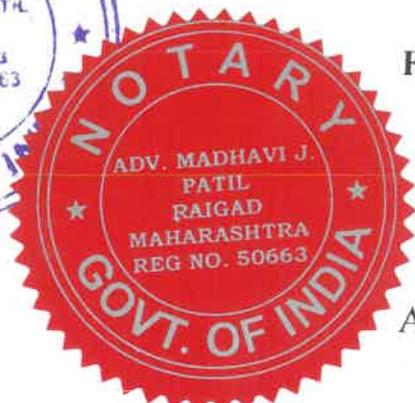
Advocates for Respondent No. 5

THE PARTY IS KNOWN TO ME AND IDENTIFIED BY ME

 **विश्वनाथ जी. घरात / Vishwanath G. Gharat**
उप प्रबंधक-1 (प.चो.वि.)
Dy. General Manager-I (PP&D)
ज.ने.प. प्राधिकरण, शेवा, नवी मुंबई - 400 707
JNPA, Sheva, Navi Mumbai - 400 707.

ATTESTED BY ME

Madhavi Jagannath Patil
MADHAVI JAGANNATH PATIL
Regd No. 50663
ADVOCATE HIGH COURT
NOTARY (GOVT. OF INDIA)
A-1103, Horizon Estate, Kamtha Road,
Jeddah, New Mumbai
NOTARIAL REGISTER
Sr. No. 09/2025
Dated 16 MAY 2025





भारतीय प्रजासत्ताक
राज्यपालिका
सुदूरपश्चिम प्रदेश
काठमाडौं



अभिप्रेत गरिन्छ

सुदूरपश्चिम प्रदेश
काठमाडौं

सुदूरपश्चिम प्रदेश
काठमाडौं

Email

Ramanand Jadhav

ToR for Nhava Creek

From : VISHWANATH GAJANAN GHARAT
<vishwanathgharat@jnport.gov.in>

Tue, Mar 11, 2025 11:36 AM

Subject : ToR for Nhava Creek

1 attachment

To : Prabhat Chandra <director@cwprs.gov.in>,
PUROHIT A.A. <purohit_aa@cwprs.gov.in>,
Mandar MOHAN Vaidya
<vaidya_mm@cwprs.gov.in>

Cc : CHIEF GENERAL MANAGER PPD
<cmppd@jnport.gov.in>,
svmadabhavi@yahoo.co.in, Ramanand Jadhav
<environmentcell@jnport.gov.in>,
vggharat@gmail.com

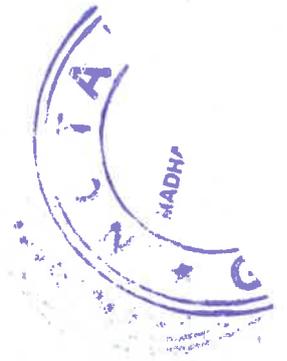
आदरणीय महोदय / महोदया,

Please find attached herewith ToR for Studies of Nhava Creek.

आदरसहित,
विश्वनाथ घरत,
उप महा प्रबंधक प. यो. वि.

TOR_Nhava Creek Studies.docx

18 KB



Sub: **Terms of Reference** – Carry out scientific study to assess the technical feasibility for creation of channel & culvert / minor bridge connectivity from Panvel to Nhava creek through CWPRS.

1. **Background:** The NGT has constituted a Committee in connection with application No.81/2024 as a Petition, submitted by Gavan Koliwada Matsyavyavsay Sahakari Sanstha Maryadit as against District Collector, Raigad & others. The committee had made a site visit on 11th June 2024 in presence of applicant Mr. Hitesh Koli, Chairman along with other representatives of Gavan Koliwada Matsyavyavsay Sahakari Sanstha Maryadit (GKMSSM).

1.1 The committee's site visit report was submitted to NGT. The findings of committee are as under:

The GKMSSM members insisted that the Committee members should visit the selected locations all along the Nhava creek, in order to understand its influence on the area and its spread around the JNPA and surrounding fishing villages. Based on this suggestion of GKMSSM, the Committee visited various locations along the stretch of the Nhava creek covering its mouth to upstream region from either side of the creek.

The committee members observed substantial growth of mangroves (Avicennia dominated vegetation with presence of Aegiceras, Sonneratia, Excoecaria and Salvadora as associate species) all along the creek area. Overall, a mix of tall trees along the channels and stunted growth otherwise is an indication of the adequate tidal flow in the mangroves area.

Further, committee noted that main contention in the application is reduction of the Nhava creek mouth due to 330-meter-long terminal and the guide bund constructed by the JNPA on the southern tip of the Nhava creek mouth. Due to said construction, width of the Nhava creek mouth is reduced substantially. It is understood that this guide bund has been constructed to align the tidal flow along the terminal. JNPA officials informed that at the relevant time appropriate studies have been carried out by the JNPA through CWPRS to understand the impact

of reduction in the width on the tidal exchange in the Nhava creek area and no adverse impact was reported.

During the site visit, due to the high tide level conditions, the area was observed to be covered by water. Nevertheless, the low depth of creek was noticeable in the most of the locations. As such, a coupled effect of altered tidal exchange and shallowing of creek was not very clear due to the tidal conditions. However, since the flow velocities at the mouth of the creek have been increased, there appears to be difficulty for the entrance of the fisheries boats in Nhava creek informed by GKSSM. In order to enhance this tidal exchange as well as facilitate navigation of fisheries boat, GKSSM representatives have suggested to open a channel at location (Tentative location around Lat - 18.961642 and Long 72.97256) connecting Panvel creek and Nhava creek. This channel will pass across the existing road (Nhava - Ulwe road) near ONGC pipeline. GKSSM representatives further suggested bridge over the proposed channel. Committee visited the said site and observed that the high waters from Panvel creek as well as Nhava creek are right up to the sides of the existing road. Mangrove vegetation is also seen all along the both the sides of the road.

(Google image showing location of proposed channel connecting Nhava and Panvel Creek is enclosed as Annexure IV of the report).

Anticipating the fact that the tidal exchange is imperative for healthy growth of mangroves, sustenance or biologically mud flats, marine fauna so also the livelihood of local fishermen community through improvement of fish habitat.

Taking into account the alteration of water availability in the creek due to various reasons, it is essential to enhance the exchange of tidal water and ensure the tidal prism in the Nhava creek.

Presently, the area between the Panvel and Nhava creek is mainly covered with mangroves with swamp & natural streams. Considering the geo-morphology and overall flow conditions around Nhava and adjacent Panvel creek, the committee prima facie feels that the



suggestion made by the GKMSM representatives for creation of channel connecting Panvel and Nhava creek is feasible. It shall contribute to maintain the tidal flow required sustaining the ecological setup of the area. Creation of a Panvel - Nhava creek connecting channel could channelize the Panvel creek water in the Nhava creek. The Committee is also of the opinion that channel with adequate width will likely improve the tidal inflow in the Nhava creek. Nevertheless, scientific studies for the hydro-dynamically and geo-morphologically sustainable options / ways for creation of channel with its impact on local ecology is necessary. Further, it was suggested that the JNPA, through competent agency, may carry out these studies to decide on technical feasibility of creation of channel connecting Panvel & Nhava creek.

The Committee observed that JNPA should not plan any further construction at the mouth of the Nhava creek. There should not be any further reduction in the mouth of the Nhava creek. This is essential for maintaining the tidal free flow in the Nhava creek and survival of marine biodiversity along the Nhava creek (Site photographs are enclosed as Annexure V of the committee report)

JNPA submitted that, instead of creation of Channel, it will be more appropriate to provide culvert / minor bridge by cutting road based result of on scientific study from CWPRS, providing culvert / minor bridge by cutting road which would facilitate water flow across Panvel & Nhava creek. It was further informed that the area where studies are to be carried for cutting road does not belong to JNPA water limit. Also area of both side of proposed location of cutting road, does not belong to JNPA water limit. There are two nearby villages each on either side of road for which consent from concern Gram Panchayat to be obtained in case of studies report shows feasible results. The road approaches to Nhava village belongs to the State Government and NOC from State Government like PWD, CIDCO & other agencies to is required if option found feasible.

2. The study is required to be carried out by CWPRS in this regard and the aim of the study is to assess the technical feasibility for creation of channel & culvert / minor bridges connecting Panvel & Nhava creek near the tentative location of channel given in the committee report.

3. The scope of studies is as under:

The mathematical model studies are to be carried out for the following:

- The tidal hydrodynamic studies are to be carried out to study the prevailing flow conditions in Nhava creek and Nhava island region for existing bathymetry and topographic conditions.
- The tidal hydrodynamic studies are also to be carried out by incorporating both scenarios independently viz. proposed channel as well as for the culvert / minor bridge in the close vicinity of tentative location (Road connecting Ulwe-Nhava island) given in the committee (formed by NGT) report. The proposed channel need not cross the ONGC pipeline as the trawling and anchoring of boats over ONGC pipeline is prohibited (Admiralty Chart No. 2627). The proposed channel shall have two-way movement of fishing boats plying in Nhava creek considering the present depths of water in Panvel and Nhava creek, the channel can be provided at 0.0m CD bed level with a width of about 100 m. The depth and width shall be confirmed with model studies for the fishing boats of 15 / 17 m length, beam width of 4.6m and draft of about 2.0 m. This draft would be available for fishing boats when the tidal water level is above +2.0m CD. The impact of the proposed channel and culvert/minor bridge on the prevailing hydrodynamic flow conditions on Nhava creek area is to be studied.
- The increase in free flow of tidal water due to creation of proposed channel and culvert/ minor bridge is to be assessed with respect to prevailing flow conditions in Nhava creek i.e. without the channel and culvert/minor bridge to determine the technical feasibility of the proposed channel connecting Panvel and Nhava creek from tidal hydrodynamic consideration.



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- The studies for assessing geo-morphology (siltation in proposed channel per annum) are also to be carried out for the proposal found suitable from the hydrodynamic conditions.
 - The findings of the studies are to be submitted to JN Port.

The JNPA will provide all necessary data required for conducting the above mathematical model studies viz.

- The prevailing bathymetry, topography, top levels of bunds/roads etc. related to Nhava creek and nearby region as well as requisite oceanography data and any other data, if required, during model studies.

Five copy

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भारत सरकार / Government of India

जल शक्ति मंत्रालय / Ministry of Jal Shakti

जल संसाधन, नदी विकास और गंगा संरक्षण विभाग

Department of Water Resources, River Development and Ganga Rejuvenation

केन्द्रीय जल और विद्युत अनुसंधान शाला

खडकवासला, पुणे- 411024

CENTRAL WATER & POWER RESEARCH STATION

Khadakwasla, Pune – 411024

टेलीफोन : 020-24103378

फैक्स : 020-24381004

वेबसाइट : www.cwprs.gov.in

ईमेल- : cro_tc@cwprs.gov.in

No.TC/PH-II/2025/ 253

Date: 01/04/2025

To,
The Chief General Manager (PP&D),
Jawaharlal Nehru Port Authority,
Administrative building,
Sheva, Navi Mumbai – 400707
(e-mail: cmppd@jnport.gov.in)

(Kind Attn.: Shri. V. G. Gharat, Dy. General Manager (PP&D), vishwanathgharat@jnport.gov.in)

Sub: Mathematical model studies for tidal hydrodynamics and siltation to assess the technical feasibility for creation of channel & culvert / minor bridge connecting Panvel and Nhava creek for JN Port, Navi Mumbai.

Ref: 1) JN Port Authority email dated 13.01.2025
2) JN Port Authority email dated 11.03.2025

Sir,

This has reference to the above e-mails regarding subject proposal, CWPRS would be glad to take up the study. An estimate as detailed below for the following study is submitted for your acceptance and approval.

Sr. No.	Name of Works	Cost of Study (Rs)
1.	Mathematical model studies for tidal hydrodynamics and siltation to assess the technical feasibility for creation of channel & culvert / minor bridge connecting Panvel and Nhava creek for JN Port, Navi Mumbai.	49,90,100/-
	GST	Nil
	Total	49,90,100/-

(Rupees forty nine lakh ninety thousand one hundred only)

It is requested that one copy of the estimate duly countersigned in token of your approval and acceptance may be returned to this office. E-PAYMENT IS TO BE MADE ONLY THROUGH Non-Tax Receipt Portal/Bharatkosh (User Guide available on <https://bharatkosh.gov.in/NTRPHome/UserGuide>) and follow necessary steps mentioned in Appendix-A for making payments. E-payment by any other means shall not be entertained as per

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Gol guidelines. The receipt details after generation of online challan (GAR-6 and GAR-7 - sample screen shot attached) must be shared with this office through email at cpc.cwprs-pune@gov.in with a copy to cro_tc@cwprs.gov.in, paowr@cwprs.gov.in and the concerned scientist for the subject study (email: purohit_aa@cwprs.gov.in).

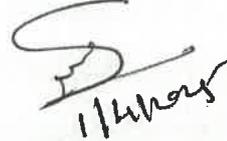
The work will be taken up only on receipt of sanction to the estimate and deposit of the full estimated amount and requested data. For any clarification in the matter you may contact Shri A.A. Purohit, Scientist-'E' (Phone 020-24103508, email id: purohit_aa@cwprs.gov.in).

Goods and Services Tax @ 18 % is applicable to the service provided by CWPRS, Pune as per rules. This service falls under the reverse charge mechanism as per section 9(3) of CGST Act 2017. Therefore, the recipients of the service shall pay GST @ 18 % (if applicable). CWPRS GSTN registration Number is 27AAATC7523J1ZO and service area code(SAC)is 998349. The PAN No. of CWPRS is AAATC7523J. A certificate along with the approval and GST NUMBER is to be submitted to CWPRS along with details of payment of the full estimated amount.

CWPRS being a Government of India Organization under the Ministry of Jal Shakti, Department of Water Resources, River Development and Ganga Rejuvenation, no tax is deductible at source as per Section 196 of Income Tax Act 1961. Also no deduction may be made from the payment towards GST/Commission on Demand Draft etc.

Thanking you and assuring you of the best of our services.

Yours sincerely,



(एस. जी. मंजुनाथ / S. G. Manjunatha)

वैज्ञानिक 'ई' (तकनीकी समन्वय)

Scientist 'E' (Technical Co-ordination)

For Director, CWPRS

Appendix-A

Guidelines to be followed while making payments through Non-Tax Receipt Portal/Bharatkosh

1. Open the NTRP website (<https://bharatkosh.gov.in/>).
2. Click on Non-registered users (If not wish to register in NTRP).
3. If you wish to register, click on LOGIN/REGISTER option & create an account using email id, mobile number and other credentials. On successful creation, you will receive NTRP portal login credential at the email id provided by you, Please use this credential in future.
4. Select depositor's category.
5. Click on LENS in Purpose block
6. A new pop up page will appear to select ministry i.e Select WATER RESOURCES from drop down menu.
7. Then click 'Search' and choose RECEIPT FOR RESEARCH STUDY (for Deposit Works only).
8. Then a new window showing the following details will appear:
Function Head 844300108000000- PUBLIC WORKS DEPOSITS
Select PAO: 001954. PAO (CWPRS), Pune
Select DDO: 208373 - Superintending Engineer (Civil), CWPRS, Pune.
9. Fill the amount- Rs (In actual)
10. Fill the Remark and captcha
11. Click on Add button
12. After checking the details click on NEXT ->
13. Fill depositor's details (use active e-mail id and mobile no. so that verification of payment can be done).
14. Select the mode of Payment. If want to use debit card/credit card/net banking/UPI (Read and follow user guide please).
15. For Offline mode of payment: Select SWIFT/NEFT/RTGS, if want to use other than above mode (Offline). And follow the process and Download payment slip. User will have to carry this Deposit slip generated at NTRP to his Bank branch and ask the bank counter official to initiate NEFT into the PAO's Bank Account as mentioned in the deposit slip. User will also have to ask the bank official to write down the UTR No. at the Deposit slip
16. For generating of Challan No. (GAR- 7):Please follow the link:
<https://bharatkosh.gov.in/TrackTransaction/VerifyUser>
17. Fill in your details and enter OTP received on your email/Mobile and click verify. On the very right side you will see a column named "Enter UTR NO." Click on the hyperlink and enter UTR No. provided by the Bank and wait until it gets verified. You may also follow the guidelines regarding the NEFT user guide, which is available on Bharatkosh website
18. Note: For more information please download user guide and go through it.

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GAR-6 (Sample)



bharatkosh.gov.in
Government of India Receipt Portal

RECEIPT

Transaction Ref.No. 2501230004420 Dated: Jan 25 2023 10:59AM

Received from M/S. MEGHA ENGINEERING AND INFRASTRUCTURES LTD
with Transaction Ref.No. 2501230004420

Dated Jan 25 2023 10:59AM the sum of INR 1234567 (Rupees one two
three four five six seven only) through Internet based Online
payment in the account of

RECEIPT FOR RESEARCH STUDY, HEP HYDRAULIC MOTOR STUDIES FOR
SILL WAY&POWER INTAKE.

Disclaimer:- This is a system generated electronic receipt, hence no physical signature
is required for the purpose of authentication

Printed On: 25-01-2023 11:0:12

Courtesy :- Controller General of Accounts

GAR -7 (Sample)

NTRP Govt free No.1800 311 (11)		Challan					
Challan No. :	2083732901230004442	Challan Identification No. (CIN) by Bank:					
Transaction Ref No. 2501230004420		Challan of money paid into <u>STATE BANK OF INDIA (bank), PUNE TREASURY BRANCH</u> (branch)					
To be filled in by the remitter		To be filled in by the Departmental Officer or at his instance					
Name (& or designation) and address of the party (i.e. Tax payer etc.) crediting money	Department/ Office from whose books the demand emanated	Full particulars of the nature of remittance and/or authority (if any)	Head of Account	Amount (INR)	Accounts Officer by whom adjustable	Order to the bank	Remarks
M/S. MEGHA ENGINEERING AND INFRASTRUCTURES LTD NO 1.62, GRAND HYATT - NATIONAL HIGHWAY	WATER RESOURCES - 002:Superintending Engineer(Civil), CWPRS, Pune(208373)	RECEIPT FOR RESEARCH STUDY	844300108000000	1234567	PAO(CWPRS), Pune(001884)		
Date: 25/01/2023			Total	INR 1234567, (Rupees one two three four five six seven only)			

Courtesy :- Controller General of Accounts

Phone: 020 - 24103378
Website: <http://cwprs.gov.in>

Fax: 020 -24381004
E-mail: cro_tc@cwprs.gov.in

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भारत सरकार
Government of India
जल शक्ति मंत्रालय,
Ministry of Jal Shakti,
जल संसाधन, नदी विकास और गंगा संरक्षण विभाग
Department of Water Resources, River Development and Ganga Rejuvenation
केंद्रीय जल और विद्युत अनुसंधान शाला
Central Water and Power Research Station
खडकवासला, पुणे - 411024
Khadakwasla, Pune - 411024



प्रारम्भिक प्राक्कलन/ Preliminary Estimate

Name of Work	:	Mathematical model studies for tidal hydrodynamics and siltation to assess the technical feasibility for creation of channel & culvert / minor bridge connecting Panvel and Nhava creek for JN Port, Navi Mumbai.
Date	:	April - 2025
Laboratory	:	Coastal and Offshore Engineering

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Government of India
Central Water and Power Research Station, Pune 411024

STATE	DIVISION	BRANCH
Maharashtra	CWPRS, Pune	PH-II

Name of Work: Mathematical model studies for tidal hydrodynamics and siltation to assess the technical feasibility for creation of channel & culvert / minor bridge connecting Panvel and Nhava creek for JN Port, Navi Mumbai

Major Head	Minor Head	Detailed Head
---	Deposit	----

Estimate is framed by Scientist-"D", Ports and Harbour Division-II, CWPRS for the probable cost of Rs. 49,90,100/- (Rupees forty nine lakh ninety thousand one hundred only) including contingency charges @ 5% towards the subject studies.

REPORT

History

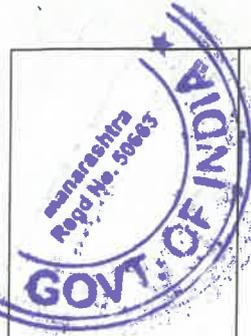
Jawaharlal Nehru Port Authority (JNPA) – earlier known as Jawaharlal Nehru Port Trust vide email dated 13.01.2025 approached CWPRS and proposes to carry out the studies to assess the technical feasibility for creation of channel connecting Panvel and Nhava creek and requested CWPRS to visit JN Port and site for the detailed discussions in this regard. In this context, CWPRS officials visited JN Port and site locations on 22.01.2025 to discuss the proposal in detail. During the discussions, JN Port officials briefed that the Gavan Koliwada Matsya vyavasay Sahkari Sanstha Maryadit, Navi Mumbai (GKMSSM) had approached Hon'ble NGT for the restoration of tidal creek flow in the Nhava creek to protect ecologically fragile mangroves, mudflats and salt pan areas within the intertidal zone. In this context, Hon'ble NGT constituted a committee comprising of Maharashtra Coastal Zone Management Authority (MCZMA), JNPA and The Chief Conservator of Forest, Mumbai to scrutinize the feasibility of the suggestions of GKMSSM. The committee after the discussions and site visit is of the opinion that prima facie the suggestion of GKMSSM for creation of channel connecting Panvel and Nhava creek is feasible and the channel with adequate width will likely improve the tidal inflow in the Nhava creek. Further, JNPA submitted to committee that instead of creation of channel, it would be more appropriate to provide culvert/minor bridge by cutting Nhava-Ulwe road to facilitate tidal water flow across Panvel & Nhava creeks. In addition, committee mentioned that the scientific studies for hydrodynamically and geomorphologically sustainable options/ways for creation of channel is essential. Based on committee report, NGT directed JNPA vide order dated 27.09.2024 (OA No. 81-2024(WZ)) to carry out the technical feasibility for creation of channel/opening & culvert / minor bridge connecting Panvel and Nhava creek through CWPRS. During discussions, it is learnt that the studies are to be carried out to 'increase free flow of tidal water from Panvel creek to Nhava creek' as per the directives of National Green Tribunal (NGT) given to JNPA for two proposals viz. 1) Creation of channel connecting Nhava creek to Panvel creek for tentative location near existing ONGC pipeline (Lat. 18.961642° and Long. 72.97256°) and 2) Construction of culvert/ minor bridge at appropriate place by cutting Nhava-Ulwe road and for better movement of fishing boats in Nhava creek.

CWPRS communicated JNPA the record of discussions held on 22.01.2025 vide letter dated 28.01.2025 and requested to clarify about the location of proposed channel as it is near the ONGC pipeline and also the elaboration of term 'increase in free flow of tidal water in Nhava creek'. Based on the discussions JNPA provided the Terms of Reference (ToR) to CWPRS vide e-mail dated 11.03.2025 stating the scope of the studies. Accordingly, the estimate is prepared for conducting the mathematical model studies to assess the technical feasibility for creation of channel connecting Panvel and Nhava creek and opening in the form of culvert/ minor bridge by cutting Nhava-Ulwe road independently in the close vicinity of tentative location (Road connecting Ulwe-Nhava island) given in the committee (formed by NGT) report and by considering the boat sizes mentioned in the ToR given by JNPA.



	<p>Also, to assess the increase in free flow of tidal water due to creation of proposed channel and culvert/ minor bridge with respect to prevailing flow conditions in Nhava creek from tidal hydrodynamics and siltation aspects.</p>
<p>Scope of Study</p>	<p>Mathematical model studies are to be carried out to assess the technical feasibility for creation of channel & culvert / minor bridge connecting Panvel and Nhava creek from tidal hydrodynamics and siltation aspects. The tidal flow field inside the Nhava creek is to be simulated based on the prevailing bathymetry, topographic and oceanographic conditions (data to be provided by JNPA). The tidal hydrodynamic and siltation studies are to be carried out for two (2) proposals as directed by NGT independently viz. 1) Creation of channel connecting Nhava creek to Panvel creek and 2) Construction of culvert/ minor bridge by cutting Nhava-Ulwe road in the close vicinity of tentative location (Road connecting Ulwe-Nhava island) given in the committee (formed by NGT) report with details as provided in TOR by JNPA (JNPA e-mail dated 11.03.2025). The proposals are to be incorporated in the calibrated model and the tidal water levels and currents in the proposed channel connecting Nhava creek to Panvel creek and at the location of culvert/minor bridge as well as variation in tides/current in the area in the close vicinity of these proposals is to be assessed. The layout of the proposed channel/culvert or minor bridge is to be finalised in consultation with JNPA to ascertain increase in free flow of water with respect to prevailing flow conditions in Nhava creek. The likely rate of siltation per annum is to be estimated in the finalised layout of proposed channel (if adopted) to be dredged to connect Panvel & Nhava creeks. The effect of finalised proposal of development in the form of channel or culvert/minor bridge on the morphology (siltation for period of one year) in the nearby area of proposal is to be estimated.</p>
<p>Methodology</p>	<p>The mathematical model studies will be carried out by using TELEMAC software suite available at CWPRS. The triangular finite element mesh will be generated to represent the domain area consisting of Nhava creek and part portions of Thane creek up to Vashi bridge, Panvel creek up to Ulwe Railway bridge and JN Port area. Based on prevailing bathymetry and oceanographic data (to be provided by JNPA), the flow conditions prevailing in the area under consideration will be simulated by calibrating the model. The calibrated model will be then modified by incorporating the two (2) proposals independently as directed by NGT viz. 1) Creation of channel connecting Nhava creek to Panvel creek and 2) Construction of culvert/ minor bridge by cutting Nhava-Ulwe road in the close vicinity of tentative location (Road connecting Ulwe-Nhava island) given in the committee (formed by NGT) report with details as provided in TOR by JNPA (JNPA e-mail dated 11.03.2025). The tidal water levels and currents in the proposed channel connecting Nhava creek to Panvel creek and at the location of culvert/minor Bridge will be determined. The variation in tides/current in the area in the close vicinity of these proposals will be assessed. The layout of the proposed channel/ culvert or minor bridge will be finalised in consultation with JNPA to ascertain increase in free flow of water with respect to prevailing flow conditions in Nhava creek. The hydrodynamic model will be then coupled with sediment module (SISYPHE) and will be calibrated for the prevailing siltation rates in the portion of E-F stretch of the main navigational channel of JN Port. Further, the likely rate of siltation per annum in the finalised layout of proposed channel (if adopted) connecting Panvel and Nhava creeks will be estimated based on the oceanographic data (one month of monsoon and non-monsoon seasons) to be provided by JNPA. The assessment of effect of finalised proposal in the form of channel or culvert/minor bridge on the morphology (siltation for period of one year) in the area in the close vicinity of proposal will be estimated.</p>
<p>Duration of studies</p>	<p>The proposed hydrodynamic studies will be carried out at CWPRS initially in a period of three (3) months after receipt of all requisite data, receipt of sanctioned of estimate and deposit of full estimated amount. The siltation studies will be carried out in a period of three (3) months after finalisation of layout of the proposed channel/ culvert or minor bridge by JNPA.</p>

<p style="text-align: center;">Data Requirements</p>	<ol style="list-style-type: none"> 1. Detailed bathymetry/topography of Nhava creek area from Nhava creek mouth up to the land boundaries inside the creek (up to +8 m contour w.r.t CD of Apollo Bunder) and part of Panvel creek as indicated in Annexure in hard and soft (xyz) format. 2. The details of bunds/roads inside the Nhava creek area with their dimensions and top level w.r.t CD of Apollo Bunder in hard and soft (xyz) format. 3. The tide data should be collected at five (05) locations namely at (i) Apollo Bunder (ii) Vashi Bridge in Thane creek (iii) Ulwe Bridge in Panvel Creek; iv) At Gavan Jetty & v) New Nhava Jetty (Lat. 18°57'35.68" N; Long. 72°57'39.93" E) inside the Nhava Creek at 10 minutes interval for 30 days (Starting from Spring, Neap & Spring cycle) simultaneously and continuously during monsoon as well as non-monsoon season. All the tide levels should be co-related with respect to chart datum of Apollo Bunder. 4. Current strength and direction with respect to North should be collected at Two (02) locations viz. 1) (Lat. 18°57'28.45" N; Long. 72°57'42.42" E) at deepest point near this location; 2) (Lat. 18°59'4.54" N; Long. 72°57'46.47" E) at 10 minutes interval for 15 days period (Starting from spring-neap-spring) at mid depth simultaneously and continuously along with the tide data which will be collected during monsoon and non-monsoon seasons. 5. Suspended sediment concentration (SSC) in mg/lit, salinity and temperature data should be collected at mid depth simultaneously at all the above two (02) current meter locations at one hour interval of time for 24 hours each at spring and neap day for the period during which current data is collected as mentioned in item No. 4 for monsoon and non-monsoon season. The grain size distribution curves for the suspended sediments should be provided at all two (02) locations during monsoon as well as non-monsoon seasons. 6. The bed samples should be collected at various locations equally spaced along the water area of Nhava creek (minimum 10 locations) and grain size distribution curves should be provided giving information about D₅₀. 7. The detailed dimensioned drawing of the existing pipelines (ONGC pipelines for oil & gas, other utility pipelines etc.) in the Nhava, Panvel & Thane Creek and the depth to which it is buried near the proposed development area in soft (AutoCAD file) and hard format 8. Information about the pre & post dredging surveys of the D-E & E-F portions of main navigational channel of JN port for the past three years (in AutoCAD or .xyz file format & Hard copy). All the levels should be with respect to Chart Datum (CD) of Apollo Bunder. 9. Information about the borehole data (ONGC pipe line), if any, available near the proposed development area is to be provided. 10. The equipment to be used for field data collection should be state of Art equipment and data should be provided in soft (Excel) and hard format. 11. During field data collection period, the CWPRS officials would like to visit the site to see the methodology and the locations of field data collection. 12. All the drawing/values should be geo-referenced and the coordinate system should be in WGS84. 13. Any other data as and when required during the course of studies.
<p>Validity of estimate</p>	<p>This estimate is valid for six (6) months from the date of issue. Further, the estimate can be revised based on the requirement from Project Authority.</p>

**Other Information**

1. This preliminary estimate amounting to **Rs. 49,90,100/- (Rupees forty nine lakh ninety thousand one hundred only)** has been framed to cover the expenditure likely to be incurred for the above-mentioned studies.
2. Prevailing market/ schedule rates have been adopted while framing the estimate.
3. The Goods and Service Tax @ 18% is applicable to the services provided by CWPRS, Pune as per rules. These services fall under the reverse charge mechanism as per section 9(3) of CGST act 2017. Therefore the recipient of the services shall pay GST @ 18% (if applicable). CWPRS GSTN registration number is 27AAATC7523J1ZO and Service Area Code (SAC) is 998349. The PAN number of CWPRS is AAATC7523J. A certificate along with the approval and GST Number is to be submitted to CWPRS along with the details of payment of full estimated amount.
4. The provision of TA covers expenses for travel of officers from CWPRS to JN Port and back only. The project authorities will have to make the arrangements for further travel.
5. On completion of the studies, a final report based on the findings will be submitted.
6. CWPRS reserves the right to publish the findings of the studies in Conferences/Journals.

Date: 01.04.2025

Signature :

Name:

Designation :

Division :

M. M. Vaidya

Scientist - 'D'

PH-II

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Government of India
Central Water and Power Research Station, Pune 411024



STATE	DIVISION	BRANCH
Maharashtra	CWPRS, Pune	PH-II
Abstract of Cost		
Name of Work: Mathematical model studies for tidal hydrodynamics and siltation to assess the technical feasibility for creation of channel & culvert / minor bridge connecting Panvel and Nhava creek for JN Port, Navi Mumbai		
Sr. No.	Subhead of charges	Amount (Rs)
I	Model construction / Fabrication	Nil
II	Procurement of Equipment/Material	5,60,000
III	Service / Operational / Software Charges	13,90,480
IV	Other Charges	1,37,200
V	TA / DA / Transport Charges	1,15,150
VI	Establishment Charges	28,15,985
	Sub Total	50,18,815
	Contingency charges @5%	2,50,941
	Total	52,69,756
	Goods & Service Tax (GST)	Nil
	Recovery Against Workstation Provided by JN Port to CWPRS (Installment 03 of 05)	(-) 2,79,660
	Grand Total	49,90,096/-
	Say (Rs.)	49,90,100/-
(Rupees forty nine lakh ninety thousand one hundred only)		

Signature :

Name:

Designation :

Division :

M. M. Vaidya

Scientist - 'D'

PH-II

Date: 01.04.2025

CERTIFICATE

This is to certify that the Goods and Services Tax applicable to the above estimated cost will be paid by this office and a copy of challan shall be submitted to you at the earliest.

APPROVED

Signature:

Name of signatory:

Designation:

Address:

True copy
JS

जवाहरलाल नेहरू पत्तन प्राधिकरण JAWAHARLAL NEHRU PORT AUTHORITY

पत्तन, कार्यालय : प्रशासन भवन, शेवा, नवी मुंबई - 400707. Port Office : Administration Bldg., Sheva, Navi Mumbai - 400707
 मुख्य सतर्कता अधिकारी Chief Vigilance Officer - (022) 2724 4151, मुख्य महा प्रबंधक (प्रशासन) एवं सचिव Chief General Manager (Admin. & Secy) - (022) 2724 4001
 मुख्य महा प्रबंधक (यातायात) Chief General Manager (Traffic) - (022) 2724 4101, मुख्य महा प्रबंधक (यां. एवं वि. त्र.) Chief General Manager (IM&FE) - (022) 2724 4181
 मुख्य महा प्रबंधक (वित्त) Chief General Manager (Fin) - (022) 2724 4081, मुख्य महा प्रबंधक (प. यो. वि.) Chief General Manager (PP&D) - (022) 2724 4106
 उप-संरक्षक Dy. Conservator (022) 2724 4171, सचिव सान्तर (022) 2724 4173.
 Website : www.jnport.gov.in • E-mail : info@jnport.gov.in

JNPA/Survey Work/ 2025/ 539

5th May 2025

The Director,
Central Water & Power Research Station,
Khadakwasla, Pune 411 024

(Kind Attn: Shri. A.A. Purohit Scientist "E" & Shri. S.G. Manjunatha, Scientist 'E')

Subject:- Field Data collection for Mathematical model studies for tidal hydrodynamics and siltation to assess the technical feasibility for creation of channel & culvert/ minor bridge connecting Panvel and Nhava creek for JN Port, Navi Mumbai.

Ref :- Your proposal through Letter No. TC/PH-II/2025/253 dated 1st April, 2025.

Dear Sir,

On behalf of the competent authority of Jawaharlal Nehru Port Authority, I have the pleasure of informing you that your subject proposal at net estimated cost of Rs.49,90,100/- plus GST has been accepted as under-

1. The deposit of full amount of Rs. 49,90,100/- through Bharatkosh (e-payment) is in process.
2. The period of studies will be 6 months from receipt of requisite data.
3. You are requested to commence the above studies immediately.
4. The work of collection of data is awarded to M/s. SGS Surveys Private Limited and your site visit in this regard during collection of data is required to collect the data as per your requirement.
5. A copy of the estimate duly signed is also attached herewith.

Kindly acknowledge the receipt of the same.

Thanking you,

Yours faithfully,

(Dr. G. Vaidyanathan)
Chief General Manager (PP&D)

Encl: As Above.

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Government of India
Central Water and Power Research Station, Pune 411024

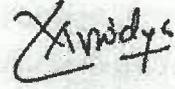
STATE	DIVISION	BRANCH
Maharashtra	CWPRS, Pune	PH-II
Abstract of Cost		
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III	Service / Operational / Software Charges	13,90,480
IV	Other Charges	1,37,200
V	TA / DA / Transport Charges	1,15,150
VI	Establishment Charges	28,15,985
	Sub Total	50,18,815
	Contingency charges @5%	2,50,941
	Total	52,69,756
	Goods & Service Tax (GST)	Nil
	Recovery Against Workstation Provided by JN Port to CWPRS (Installment 03 of 05)	(-) 2,79,660
	Grand Total	49,90,096/-
	Say (Rs.)	49,90,100/-
(Rupees forty nine lakh ninety thousand one hundred only)		

Signature :

Name:

Designation :

Division :



M. M. Vaidya

Scientist - 'D'

PH-II

Date: 01.04.2025

CERTIFICATE

This is to certify that the Goods and Services Tax applicable to the above estimated cost will be paid by this office and a copy of challan shall be submitted to you at the earliest.

APPROVED



Signature:

Name of signatory:

Designation:

Address:



JKPA

श्री. पी. वैद्यनाथन / Dr. C. VAIDYANATHAN

मुख्य महा प्रबंधक (प.गो.वि.)

Chief. General Manager (PP&D)

अ.ने.प. प्रतिष्ठान, शेवा, नवी मुंबई 400707

J.N.P.A., Sheva, Navi Mumbai 400707.

True copy
DS

जवाहरलाल नेहरू पत्तन प्राधिकरण JAWAHARLAL NEHRU PORT AUTHORITY

पत्तन कार्यालय : प्रशासन भवन, शेवा, नवी मुंबई - 400707. Port Office : Administration Bldg., Sheva, Navi Mumbai - 400 707.
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मुख्य महा प्रबंधक (यातायात) Chief General Manager (Traffic) - (022) 2724 4191; मुख्य महा प्रबंधक (यां. एवं वि. अ.) Chief General Manager (M&EE) - (022) 2724 4181 ;
मुख्य महा प्रबंधक (वित्त) Chief General Manager (Fin) - (022) 2724 4081; मुख्य महा प्रबंधक (प. यो. वि.) Chief General Manager (PP&D) - (022) 2724 4156
उप-संरक्षक Dy. Conservator (022) 2724 4171; हार्बर मास्टर (022) 2724 4173.
Website : www.jnport.gov.in • E-mail : info@jnport.gov.in

JNPA/Survey Work/2025/ 531

2nd May, 2025

To,

SGS Surveys Private Limited,
Office No. 6, Tulsi Avenue Apartments,
Plot No. 68, Sector 34, Kamothe,
Navi Mumbai – 410209
Email: info@sgsco.in

Kind Attention: Jitendra Aher, (Director)

Subject: Field Data collection for Mathematical model studies for tidal hydrodynamics and siltation to assess the technical feasibility for creation of channel & culvert/ minor bridge connecting Panvel and Nhava creek for JN Port, Navi Mumbai.

Ref: Your submission on CPP Portal dated 15th April.

Sir,

On behalf of the Board of Jawaharlal Nehru Port Authority, I have the pleasure of informing you that your offer for above subject work for an amount of Rs. 96,00,000/- (Rupees Ninety-Six Lakh only) excluding GST i.e. "Contract price" which the Employer will pay the Contractor in consideration of the execution and completion of the works and remedying of all defects therein by the contractor as prescribed in the contract (herein after and in the condition of contract called "Contract price") is hereby accepted.

2. Your offer mentioned above shall be deemed to consist of:

i. Your submission on CPP Portal dated 15th April.

3. It is essential to take note of the following proposal / tender requirement of the subject work for immediate action from your side.

i) **Completion Period:** -

The completion period of this work shall be 6 Months including monsoon. However, you shall endeavor to complete the assignment as early as possible.



Page 1 of 3

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-2-

ii) Scope of services: -

The scope of work to be performed by the Contractor is specified as below

- i. To carry out detailed bathymetry/ topography of Nhava creek area from Nhava creek mouth up to the land boundaries inside the creek (up to +8 m contour w.r.t. CD of Apollo Bunder) and part of Panvel creek as indicated in hard and soft (xyz) format attached drawing including equipments/ survey boats/ manpower etc. complete.
- ii. To carry out survey for the details of bunds/ roads inside the Nhava creek area with their dimensions and top level w.r.t. CD of Apollo Bunder in hard and soft (xyz) format etc. complete.
- iii. The tide data should be collected at five (05) locations namely at (i) Apollo Bundar (ii) Vashi Bridge in Thane creek (iii) Ulwe Bridge in Panvel Creek; iv) At Gavan Jetty & v) New Nhava Jetty (Lat. 18°57'35.68" N; Long. 72°57'39.93" E) inside the Nhava Creek at 10 minutes' interval for 30 days (Starting from Spring, Neap & Spring cycle) simultaneously and continuously during monsoon as well as non-monsoon season. All the tide levels should be co-related with respect to chart datum of Apollo Bunder including permission and installation of equipments/ survey boats/manpower etc. complete.
- iv. To carry out current strength and direction with respect to North should be collected at Two (02) locations viz. 1) (Lat. 18°57'28.45" N; Long. 72°57'42.42" E) at deepest point near this location; 2) (Lat. 18°59'4.54" N; Long. 72°57'46.47" E) at 10 minutes interval for 15 days period (Starting from spring-neap-spring) at mid depth simultaneously and continuously along with the tide data which will be collected during monsoon and non-monsoon seasons including permission and installation of equipments/ survey boats/ manpower etc. complete.
- v. To collect suspended sediment concentration (SSC) in mg/lit, salinity and temperature data should be collected at mid depth simultaneously at all the above two (02) current meter locations at one hour interval of time for 24 hours each at spring and neap day for the period during which current data is collected as mentioned in item No. 4 for monsoon and non-monsoon season. The grain size distribution curves for the suspended sediments should be provided at all two (02) locations during monsoon as well as non-monsoon seasons including permission and installation of equipments/ survey boats/ manpower etc. complete.
- vi. The bed samples should be collected at various locations equally spaced along the water area of Nhava creek (minimum 10 locations) and grain size distribution curves should be provided giving information about D50 including permission and installation of equipments/ survey boats/ manpower etc. complete.

To carry out the detailed dimensioned drawing of the existing pipelines (ONGC pipelines for oil & gas, other utility pipelines etc.) in the Nhava, Panvel & Thane Creek and the depth to which it is buried near the proposed development area in soft (AutoCAD file) and hard format

2.1



- iii) **Performance Security: -**
You are required to furnish a Performance Security in the form as prescribed in Document from its Mumbai branch for an amount equivalent to 5% of **accepted cost of the assignment plus applicable GST**, within **28 (Twenty-Eight) days**, after the date of receipt of LoA.
- iv) **Signing of Agreement: -**
Your are requested to submit the Contract Agreement with in 7 (seven) days on non-judicial stamp paper as per Maharashtra Stamp Act. As per Document you are required to prepare and sign formal agreement to the tender document within **30 days** from the date of receipt of Contract Agreement from Employer.
- v) **Insurance: -** You are required to submit insurances for
 - a. Loss of or damage to the Works, Plant and Materials
 - b. Loss of or damage to Equipment;
 - c. Loss of or damage of property (except the Works, Plant, Materials and Equipment) in connection with the Contract; and
 - d. Personal injury or death.
- vi) **Payment Scheduled: -**
Payment shall be made in installments based on the quoted price in the BOQ and upon the successful completion of the activity.

4. Also, please take note of the following:
- i) Other terms and conditions shall be as per JNPA.
 - ii) Please note that Engineer-In-Charge for this work shall be Dy. General Manager (Port Planning & Development Department) who for the present is Shri Vishwanath G. Gharat.
 - iii) A copy of this work order is enclosed and request you to return the same duly signed as acceptance.
 - iv) Please acknowledge receipt of this letter.

Thanking you,

Yours faithfully,

(Dr. G. Vaidyanathan)
Chief General Manager
(Port Planning & Development Department)

Accepted on the terms and conditions specified in the bid documents, subsequent amendments and correspondence thereto and forming part of the proposal document submitted by us.

Signature of Authorised Signatory of the Bidder

Copy to: -

- 1. General Manager (Finance, JNPA)
- 2. Shri A. A. Purohit, Scientist "E" and Head of Lab, Coastal and Offshore Engineering. (CWPRS)

True copy
DS

