SYAMA PRASAD MOOKERJEE PORT, KOLKATA

EXPRESSION OF INTEREST

REQUEST FOR EXPRESSION OF INTEREST (EOI) FROM PROSPECTIVE BIDDERS FOR PARTICIPATION IN GLOBAL COMPETITION FOR MAINTENANCE DREDGING IN THE SHIPPING CHANNEL LEADING TO HALDIA DOCK COMPLEX OF SYAMAPRASAD MOOKERJEE PORT, KOLATA (SMPK), WEST BENGAL, INDIA.

(This Notice is only to elicit Expression of Interest from the parties interested in the project and does not constitute any binding commitment from SMPK to proceed with the project or invite any or all parties in the subsequent bidding process.)

> Issued by General Manager Marine Syama Prasad Mookerjee Port, Kolkata

> > 23rd March 2021

Notice Inviting 'Expression of Interest'.

Syama Prasad Mookerjee Port, Kolkata (SMPK) invites 'Expression of Interest' (EOI) from the prospective bidders of National / International repute for execution of a Long Term Maintenance Dredging contract in the shipping channel leading to Haldia Dock Complex (HDC).

The brief description of work is given below:

There are several areas within the shipping channel from Lower Eden to Haldia Dock requiring dredging round the year. The total stretch of the channel from Haldia Dock to Lower Eden Dumping site is about 95 Km. The materials to be dredged are alluvial in nature and consists of fine sand, silt, clay and mud. The particulars of dredging, dumping areas including targeted depths required to be maintained are given below:

SI. No.	Areas	Limits	Length (KM)	Width (m)	Present navigable depth (m)	Proposed depth to be maintained (m)	Dumping ground	Distance of dumping ground (KM)
1.	Haldia Anchorage	22º 00'54" N to 22º00'00' N	2.3	345	4.9	5.0 or above	Lower Sagar Area (Lat 21º 32'48''N Long. 087º 59'54''E)	45
2.	Jellingham	22º 00'00'' N to 21º54'00' N	11.0	345	4.9	5.0 or above	Lower Sagar Area (Lat 21º 32'48''N Long. 087º 59'54''E)	42
3.	Lower Jellingham Crossing	21º 54'00" N to 21º51'24' N	4.8	345	5.	5.0 or above	Lower Sagar Area (Lat 21º 32'48''N Long. 087º 59'54''E)	34
4.	Upper Eden	21º47'00" N to 21º42'00"N	9.3	460	5.6	5.5 or above	Lower Eden Area (Lat 21º 30'00''N Long. 087º 53'00''E)	26

5.	21º 35'00" N to 21º30'00"N Lower Eden	7.2	600	6.7	6.7 or above	At sea ((Lat 21º 10'00"N Long. 088º 00'00"E)	40
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The EOI may be seen from the RailTel Portal (https://kopt.enivida.in). The EOI is also published on SMP, Kolkata website (<u>www.kolkataporttrust.gov.in</u>). Corrigenda or clarifications, if any, shall be hoisted on the above mentioned website only.

SCHEDULE OF EOI

a. EOI. No.	SMPK/MRN/SDDS/Haldia Channel/I Dated 23.3.2021.
b. Mode of EOI	Expression of Interest is to be submitted Online/Offline mode. Online submission would be through RailTel Portal (<u>https://kopt.enivida.in</u>). The prospective bidders are required to submit electronically through e-tendering portal or physically.
c. Estimated cost	@ Rs.200 Crore / year
d. Date of EOI notice available to parties to download.	22.03.2021
e. Date of online meeting for clarification and discussions as required.	Pre EOI discussion Dredging 07.04.21, 12 Noon IST Time: Apr 7, 2021 12:00 PM Mumbai, Kolkata, New Delhi. Join Zoom Meeting <u>https://us02web.zoom.us/j/87031293027?pwd=b</u> <u>WRPQnp5QkhjcTZmQ2tHQzNXb3ZRQT09</u> Meeting ID: 870 3129 3027 Passcode: 070230
f. Date of starting of submission of bidders response on- line.	At 10:00 hours (IST) on
g. Date of closing of online submission of bidder's response.	Up to 14:00 hours (IST) on 21.04.2021.
h. Date of opening	At 15:00 hours (IST) on 22.04.2021. Physical EOI is required to be submitted to the Office of General Manager, Marine at Syama Prasad Mookerjee Port, Kolkata, Head Office, 15, Strand Road, Kolkata- 700001.

General Manager, Marine EOI Inviting Authority Mob:09836298699/09433085380. E-mail:<u>a.ghosh@kolkataporttrust.gov.in</u>.

Background

The two dock systems, one at Kolkata and the other at Haldia on the Hugli estuary under the administrative control of Syama Prasad Mookerjee Port, Kolkata, are located 232 km and 125 km inland respectively from Sandheads. The estuary is alluvial and well mixed. The entire navigational channel from Sagar to Kolkata as well as Haldia is interspersed with shallow stretches having crossings/bars/shoals/sand-encroachments with tidal current, which varies from 2 knots to 6 knots (Approximately).

Proceeding downstream from Kolkata, the estuary becomes braided around a central island - the Nayachara Island opposite Haldia Dock - downstream of Diamond Harbour at about 100 Km from Kolkata. The estuary becomes broader and fans out into principally two channels.

- (A) On the east along Diamond Harbour Kantabaria Kulpi Silver Tree Bedford -Sagar - Middleton- Gasper-Sea.
- (B) Diamond Harbour-Balari -Haldia-Jellingham-Eden -Lower Eden-Sea.

Maintenance dredging is contemplated at Haldia Anchorage, Jellingham Channel, Upper Eden & Lower Eden between Sea and Haldia Dock on depth guarantee basis. Dredged materials from Jellingham shall be dumped freely in the vicinity of Lower Sagar Dumping Area in deep water pocket, or in any other designated dumping ground for the purpose of re-use etc. between Haldia and Lower Eden and also through rain-bowing / side casting methods.

Presently, SMPK is maintaining the depth at Jellingham including Haldia Anchorage, Upper Eden & Lower Eden by regular dredging through Trailing Suction Hopper Dredgers (TSHD). Primarily, the dredged materials are being dumped freely at Lower Sagar Dumping site, Eden dumping Site which is about 42 KM away from Jellingham dredging site. Some quantity of dredged material is also being disposed off through side casting methodology while dredging. For disposal of the dredged material at Lower Sagar Dumping site, the dredger has to pass through Lower Jellingham channel, Upper Auckland Bar and Maragolia Auckland corridor. Presently, shipping to Haldia Dock Complex is going on through Eden Channel (Jellingham-Lower Jellingham Crossing-Eden- Lower Eden).

The quantity dredged and depth maintained at different areas of Haldia channel during the last 5 years:

Jellingham including Haldia anchorage								
Year	Quantity dredged	Depth Maintained in Metres						
	in Million Cubic	Minimum	Maximum					
	Metres							
2015-16	5.707	4.9	5.1					
2016-17	3.267							
2017-18	4.511							
2018-19	4.158							

2019-20	2.598		
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Upper Eden									
Year	Quantity dredged	Depth Maintained in Metres							
	in Million Cubic	Minimum	Maximum						
	Metres								
2015-16	0.244	5.4	5.8						
2016-17	0.798								
2017-18	3.602								
2018-19	018-19 4.641								
2019-20	3.487								

Lower Eden								
Year	Quantity dredged	Depth Maintained in Metres						
	in Million Cubic	Minimum	Maximum					
	Metres							
2015-16	Nil	6.4	6.7					
2016-17	Nil							
2017-18	Nil							
2018-19	0.744							
2019-20	0.565							

The intending bidders may like to visit the sites and acquaint themselves on the actual site conditions, soil to be dredged and the areas identified for disposal of dredged materials, before tendering. Whatever information given in the tender document is only intended as a general guidance for the contractor and no warranty is given for the correctness of the same. The hydrographic charts of the dredging, dumping and surrounding areas are attached.

Information / documents / suggestions required from the prospective bidders.

Parties interested in the project are required to submit their EOI in writing with covering letter as per Format -A & also indicating the following in Appendix-I, II & III.

Format-A

Covering Letter (To be typed in Firm's Letterhead)

To, General Manager (Marine) Haldia Dock Complex <u>Syma Prasad Mookerjee Port, Kolkata</u>.

Sub: Submission of 'Expression of Interest' (EOI) for maintenance dredging in shipping channel leading to Haldia Dock Complex on 'Depth Guarantee Basis'.

Sir,

Having examined the details given in EOI Notice and EOI document for the above project, I/We hereby submit our Expression of Interest and the relevant information.

- 1. I/We hereby certify that all the statements made and information supplied in the enclosed form and accompanying statements are true and correct.
- 2. I/We have furnished all information and details necessary for EOI and have further pertinent information to supply.
- 3. I/We also authorize Syama Prasad Mookerjee Port, Kolkata or their authorized representatives to approach individuals, employers and firms to verify our competence and general reputation.
- 4. I/We submit the following certificates in support of our suitability, technical know-how and capability for having successfully developed Multipurpose Terminal along with prescribed format.
- 5. We understand the SMP will be at liberty to finalize project parameters and issue global RFQ for the project.

Signature(s) of Applicant(s)

Enclosures

Seal of applicant

Date of submission

<u>Appendix-I</u>

SALIENT FEATURES / SUGGESTIONS OF THE FIRMS AT A GLANCE

Sl.	Description	Details / Suggestions
No		
1.	Name of firms / Applicants	(as per Appendix-II)
2.	Experience in maintenance dredging activities	(as per Appendix-III)
3	Any observation regarding the particulars of	
	the channel proposed to be maintained by the	
	firm.	
4.	Nature / Number of Equipments proposed for	
	deployment.	
5.	Approximate cost of the maintenance dredging	
	for a period of 5 years as estimated by bidder.	
6.	Approximate cost of the maintenance dredging	
	for a period of 7 to 10 years as estimated by	
	bidder	
7.	Specific observation / suggestion of the firms	
	regarding the project with particular	
	reference to depth guarantee method of	
	contracting.	
8.	Suggestion regarding re-use of dredged	
	material for the economy of the project.	

Signature with Seal

<u>Appendix-II</u>

Name of firms / Applicants (Organizational Structure)

Sl.	Description	Details / Suggestions
No		
1.	Name and Address of the applicant with	
	Telephone No / Fax No.	
2.	a) Year of Establishment	
	b) Date & Year of commencement	
3.	Legal status of the applicant (attach copies of	
	original document defining the legal status)	
	a) Proprietary Firm	
	b) A firm in partnership	
	c) A limited company or Corporation / Join	
	Venture / Consortia	
	d) State owned	
4.	Any other information considered necessary but	
	not included above.	

Signature with Seal

Appendix-III

Details of maintenance dredging / capital dredging carried out in the last Ten(10) years.

Name of the project	
Location	
Year of commencement and completion	
Promoters	
Annual turnover of the last three years	
(In US \$ / in INR).	

Signature with Seal

Note: Please use separate sheet for each project.

KOPT eNivida Special Instruction to Bidders

e-Procurement is the complete process of e-Tendering from publishing of tenders online, inviting online bids, EOI, evaluation and award of contract using the system. You may keep a watch of the tenders floated under <u>https://kopt.enivida.in.</u> The link of e-procurement portal is also given on our official portal i.e_www. <u>https://www.kolkataporttrust.gov.in/</u>under TENDER TAB.

These will invite for online Bids/EOI. Bidder Enrolment can be done using "Online Bidder Enrolment".

The instructions given below are meant to assist the bidders in registering on the e-tender Portal, and submitting their bid online on the e-tendering portal as per uploaded bid.

More information useful for submitting online bids on the eNivida Portal may be

obtained at: https://kopt.enivida.in

GUIDELINES FOR REGISTRATION:

- Bidders are required to enrol on the e-Procurement Portal (https://kopt.enivida.in/bidderRegistration/newRegistration) or click on the link "Bidder Enrolment" available on the home page of e-tender Portal by paying the Registration fee of Rs.2000/-+Applicable GST.
- 2. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- 3. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication with the bidders.
- 4. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Only Class III Certificates with signing + encryption key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / TCS / nCode / eMudhra etc.), with their profile.
- 5. Only valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
- 6. Bidder then logs in to the site through the secured log-in by entering their user ID /password and the password of the DSC / e-Token.
- 7. The scanned copies of all original documents should be uploaded in pdf

format on e-tender portal.

8. After completion of registration payment, bidders need to send their acknowledgement copy on our help desk mail id <u>enividahelpdesk@gmail.com</u>/for activation of account.

SEARCHING FOR TENDER DOCUMENTS

- 1. There are various search options built in the e-tender Portal, to facilitate bidders to search active tenders by several parameters.
- 2. Once the bidders have selected the tenders they are interested in, you can pay the Tender fee and processing fee (NOT REFUNDABLE) by net-banking / Debit / Credit card then you may download the required documents / tender schedules, Bid documents etc. Once you pay both fee tenders will be moved to the respective 'requested' Tab. This would enable the e- tender Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.

PREPARATION OF BIDS/EOI

- 1. Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- 2. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid.
- 3. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF formats. Bid Original documents may be scanned with 100 dpi with Colour option which helps in reducing size of the scanned document.
- 4. To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, GST, Annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Documents" available to them to upload such documents.
- 5. These documents may be directly submitted from the "My Documents" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process. Already uploaded documents in this section will be displayed. Click "New" to upload new documents.

SUBMISSION OF BIDS /EOI

- 1. Bidder should log into the website well in advance for the submission of the bid so that it gets uploaded well in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- 2. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document as a token of acceptance of the terms and conditions laid down by SMPK.
- 3. Bidder has to select the payment option as "e-payment" to pay the tender fee / EMD as applicable and enter details of the instrument.
- 4. In case of BG bidder should prepare the BG as per the instructions specified in the tender document. The BG in original should be posted/couriered/given in person to the concerned official before the Online Opening of Financial Bid. In case of non-receipt of BG amount in original by the said time, the uploaded bid will be summarily rejected.
- 5. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BOQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BOQ file, open it and complete the white Colour (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BOQ file is found to be modified by the bidder, the bid will be rejected.
- 6. The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission
- 7. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 8. Upon the successful and timely submission of bid click "Complete" (i.e. after Clicking "Submit" in the portal), the portal will give a successful Tender submission acknowledgement & a bid summary will be displayed with the unique id and date & time of submission of the bid with all other relevant details.
- 9. The tender summary has to be printed and kept as an acknowledgement of

the submission of the tender. This acknowledgement may be used as an entry pass for any bid opening meetings.

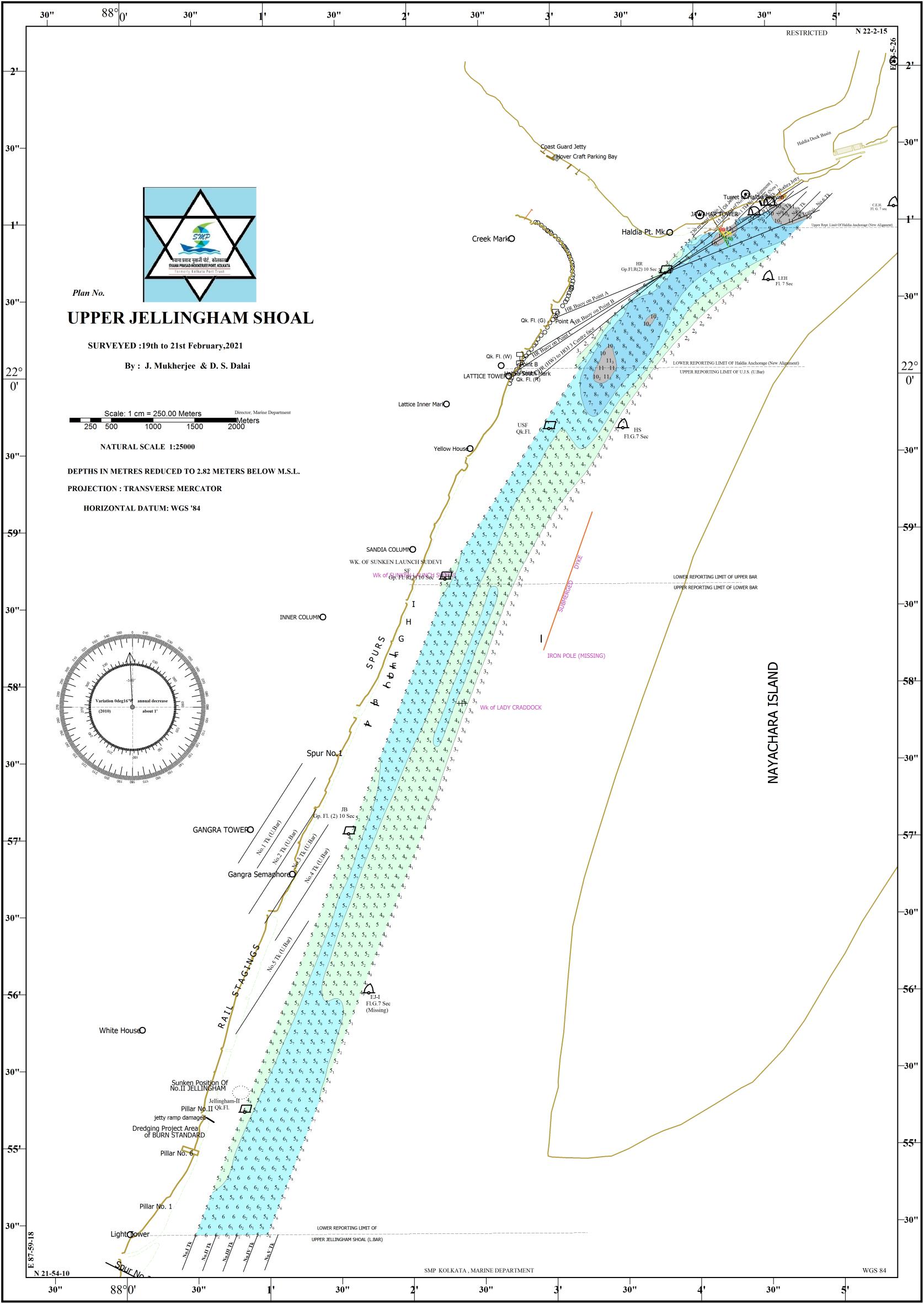
For any clarification in using eNivida Portal:

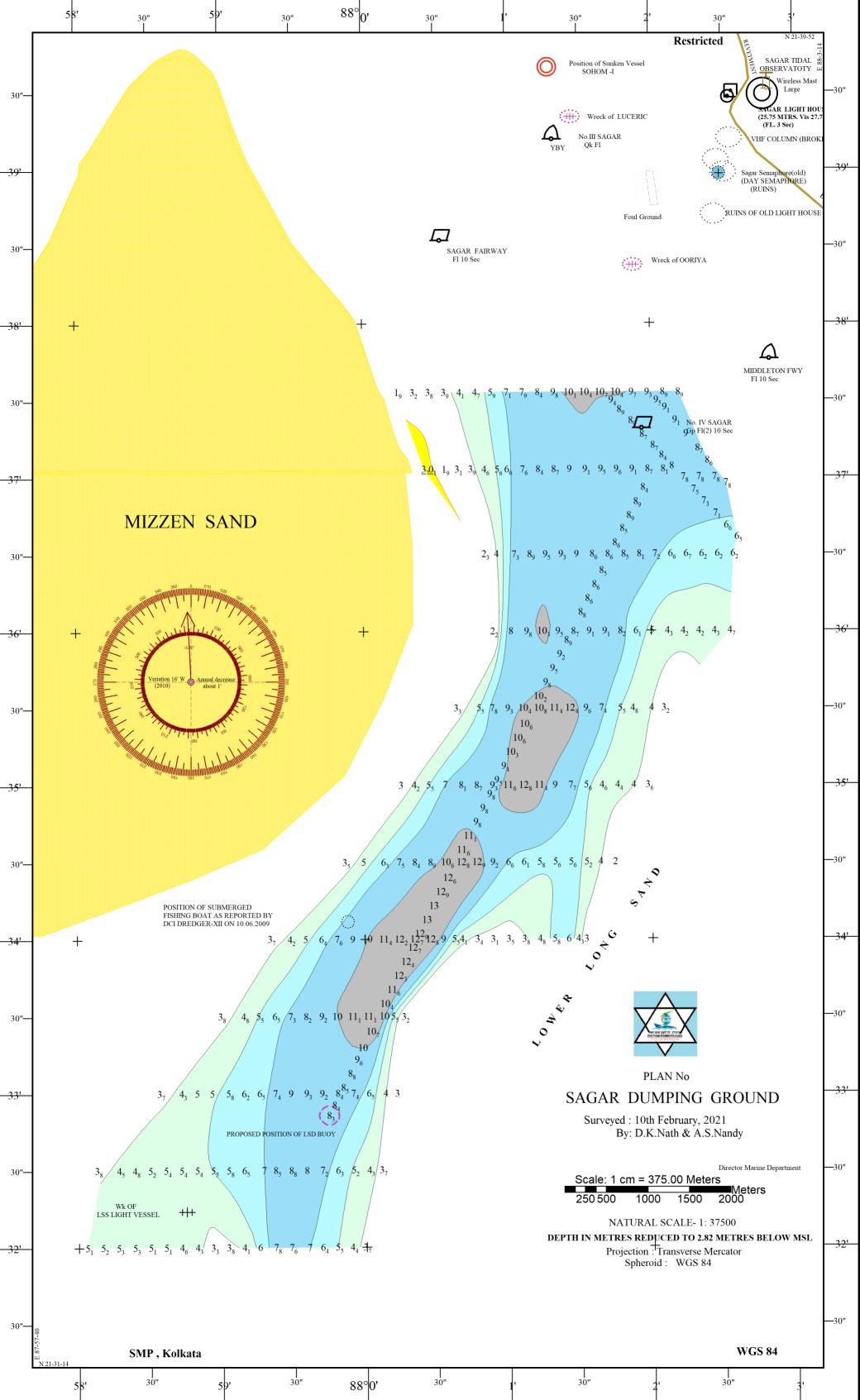
- 1. Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
- 2. Any queries relating to the process of online bid submission or queries relating to e-tender Portal in general may be directed to the Helpdesk Support.

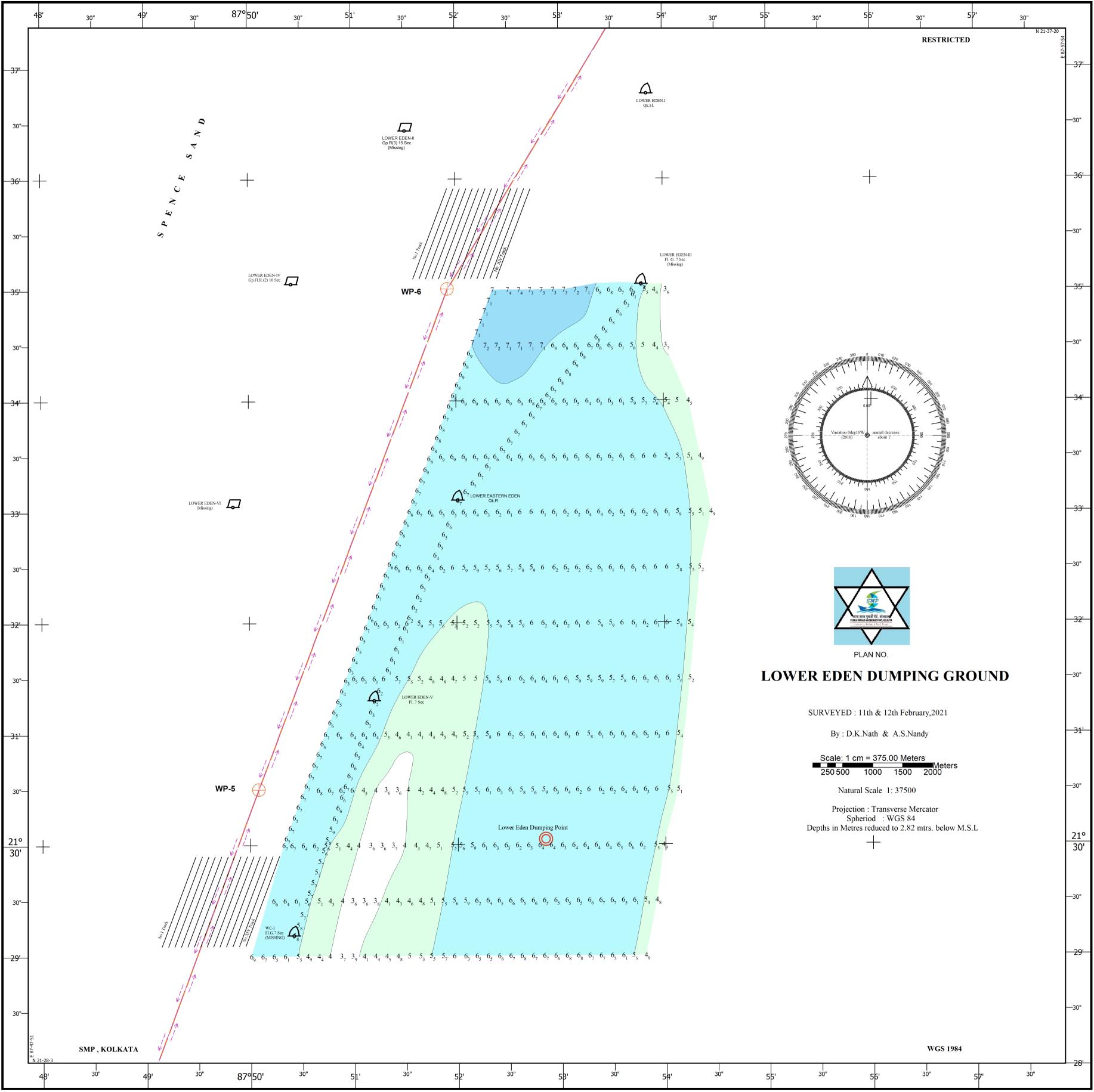
Please feel free to contact eNivida Helpdesk (as given below) for any query related to e-tendering.

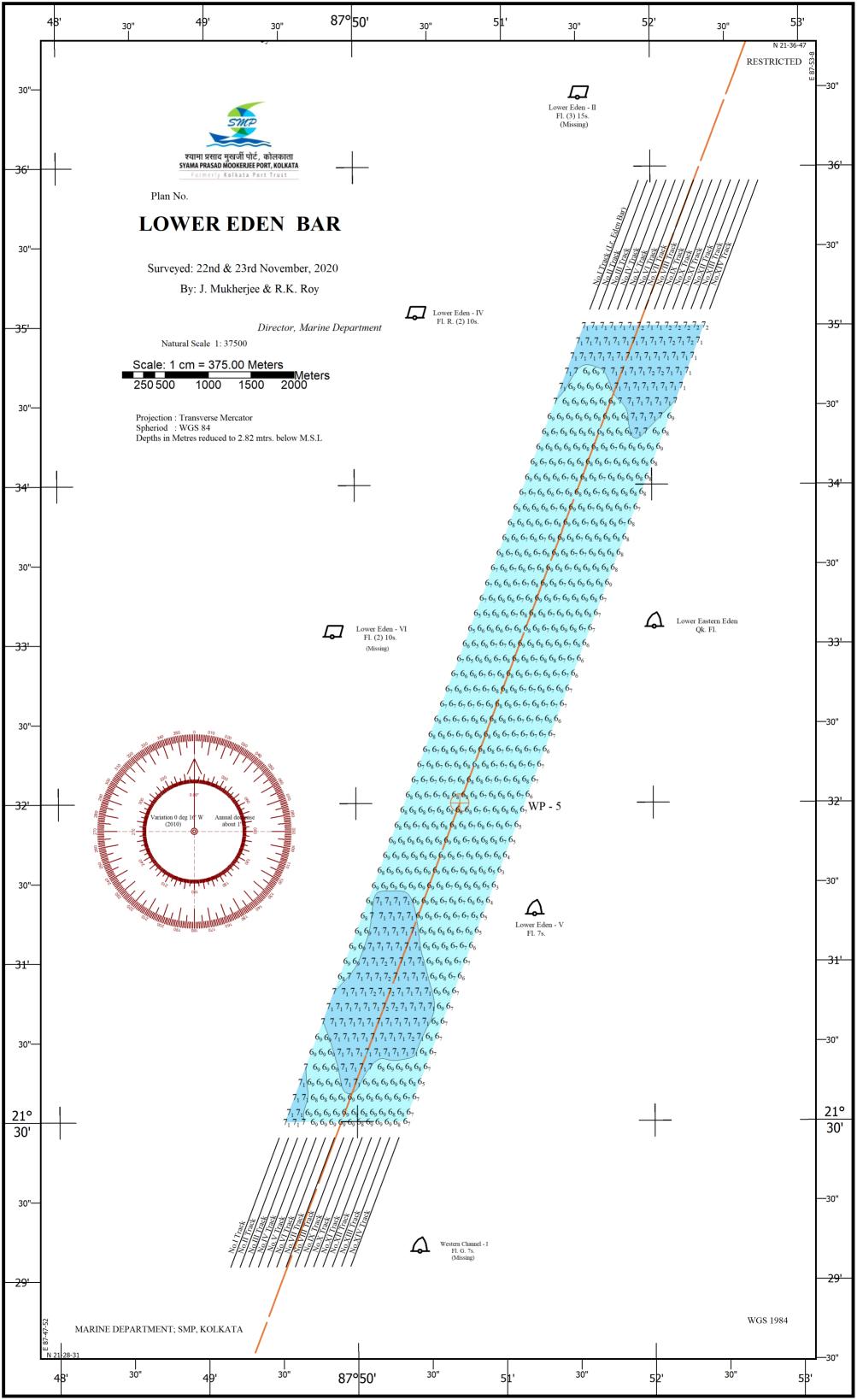
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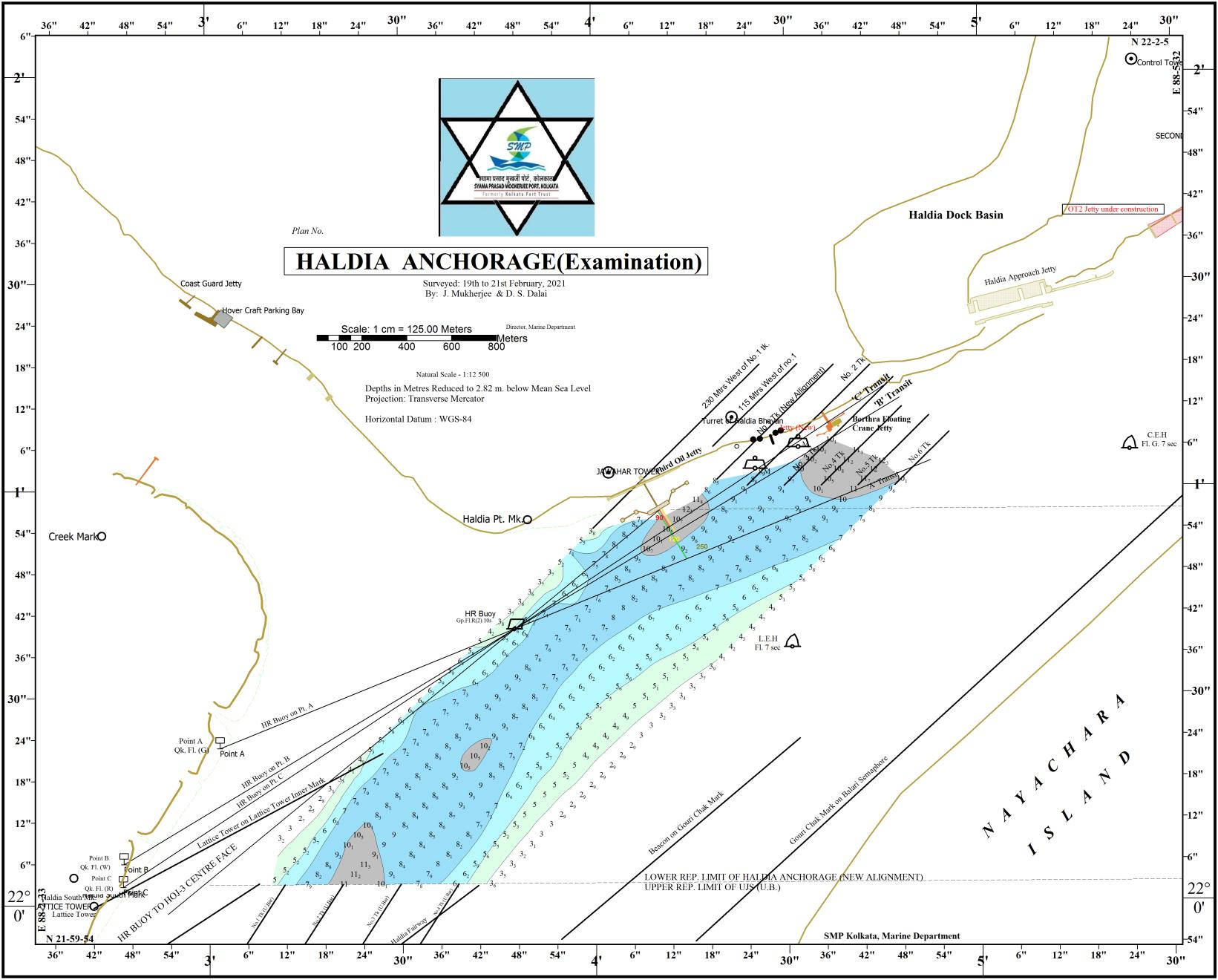
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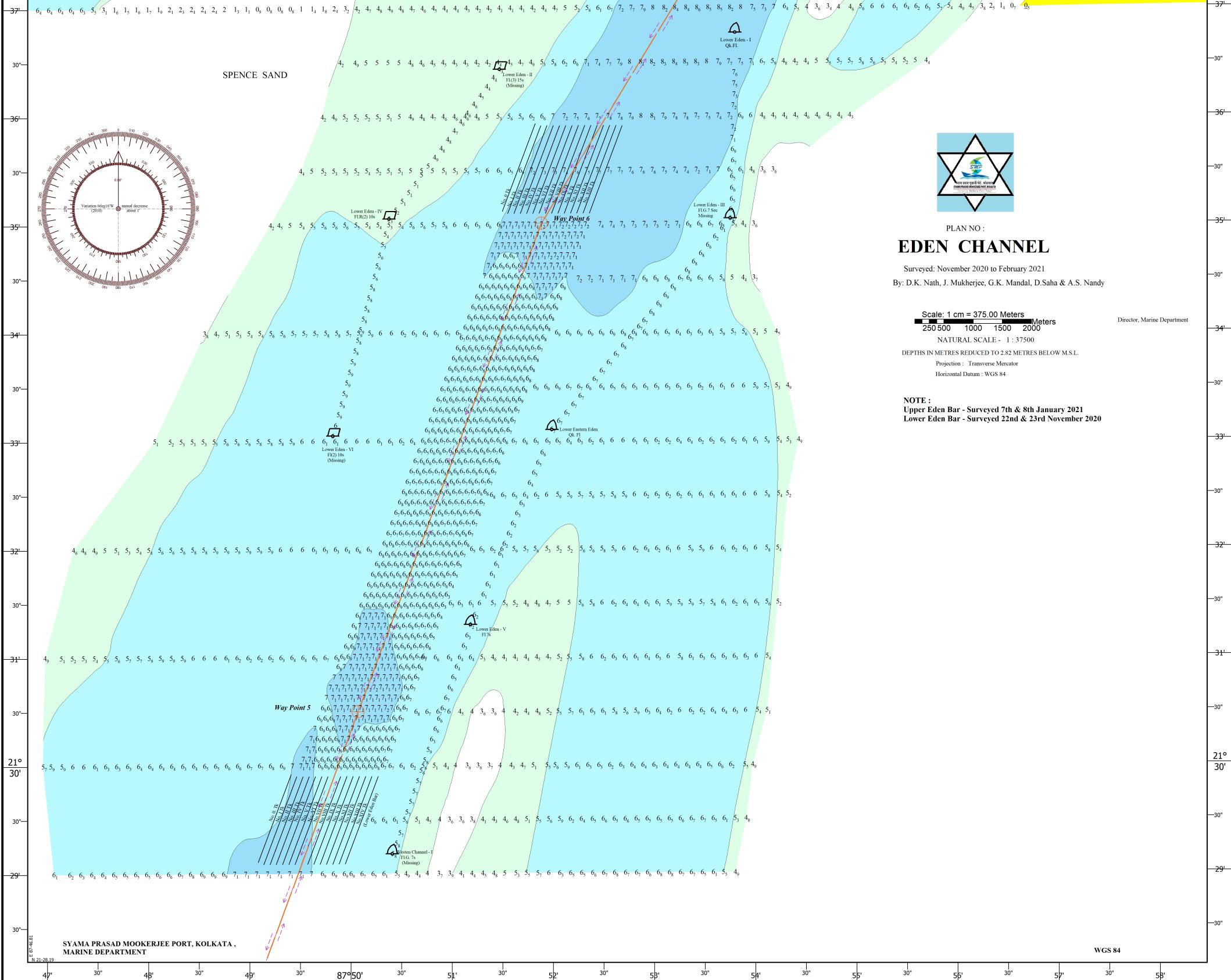
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- 42'			$3_6 5_1 5_4 5_4$	5_6 5_8 6 6_1 6_2 6_4 5_4 1_7	$0_3 \ 0_5 \ 0_9 \ 1_5 \ 1_3 \ 1_7 \ 2_4 \ 4_2 \ 4_8$	$_{3}$ 4_{8} 4_{8} 5 4_{7} 4 3_{2} 2_{6}	$2_6 \ 2_1 \ 3_2 \ 4_1 \ 4_6 \ 5_1 \ 5_1$	5 4 ₉ 5 5 5 2 ₉	$1_1 0_8 1 0_8 0_5 1_2 1 1_5 3_q$	$\begin{array}{c} \begin{array}{c} \text{Eden - V} & 6 & 5 & 5 & 5 \\ \text{FI(2) 10s} & 6 & 5 & 5 & 5 \\ \end{array} \\ \begin{array}{c} 5_{5} & 6_{2} & 6_{4} & 6_{5} & 6_{5} & 6_{4} \\ \end{array} \\ \begin{array}{c} 5_{5} & 6_{2} & 6_{4} & 6_{5} & 6_{5} & 6_{4} \\ \end{array} \\ \begin{array}{c} 5_{9} & 5_{8} & 5_{9} & 5_{9} \\ \end{array} \\ \begin{array}{c} 5_{9} & 5_{8} & 5_{9} & 5_{9} \\ \end{array} \end{array} $	$4_{5_8}^{\prime}5_8^{\prime}5_8^{\prime}6_1^{\prime}6_3^{\prime}$ $5_8^{\prime}5_9^{\prime}6_3^{\prime}6_5^{\prime}6_8^{\prime}7_1^{\prime}7_6^{\prime}8_{-}8_3^{\prime}8_6^{\prime}8_7^{\prime}$	$6_5 \ 5_6 \ 4_2 \ 2_8 \ 1 \ 0_2 \ 0_7$	$\underline{1}_1$ $\underline{0}_9$ $\underline{0}_7$ $\underline{0}_4$	<u>0</u> , <u>42'</u>
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30"—			$5_1 \ 5_3 \ 5_3 \ 5_3 \ 5_3 \ 5_3 \ 5_4$	$5_4 \ 5_3 \ 4_9 \ 2_9 \ 0_1 \ 0_5 \ 1_1 \ 1_4$	$2_1 \ 3_1 \ 3_2 \ 3_5 \ 3_7 \ 3_4 \ 3_3 \ 3_2 \ 3_5$	$_5$ 2_3 $\underline{0}_7$ $\underline{0}_9$ $\underline{0}_5$ 0_1 3_2 4_1	$4_6 \ 5_3 \ 5_5 \ 5_6 \ 5_6 \ 5_6 \ 5_4$	$5_4 \ 5_1 \ 4_8 \ 4 \ 3_4 \ 2_8 \ 3_4 \ $	$2_1 1_5 1_5 1_9 2_5 2_7 3_1 3_2 / 3_4$	$5_{6} 5_{7} 5_{9} 6_{1} 6_{4} 6_{5}$ $5_{9} 6_{3} 6_{4} 6_{3} 6_{1} 5_{9} 6_{2} 6_{3} 6_{6} 6_{7} 5_{9} 6_{1} 6_{2} 6_{5} 6_{8} 7 7$	7,7,	$_{8}$ 4_{7} 3_{4} 1_{5} $\underline{0}_{1}$ $\underline{0}_{5}$	$0_2 0_2 0_8 0_7 1_5$	32/30"
							_			$5_9 6_2 6_5 6_7 7 7_1 7_3$ 6 $6_4 6_7 7 7_2 7_3 7_4$ 6 6 6 6 7 7 7 7 7 7 7	7_47_6 7_57_7 7			
41'		3_8 4_5 4_8 5 4_9 4_9	4_9 5 5 5_1 5_1 5_1 4_9 4_6 3_6	$1_4 \ 1 \ 0_9 \ 1_1 \ 1_3 \ 1_7 \ 2_7 \ 3_1 \ 3_7$	3_5 4_1 4_3 4_3 3_9 2_1 0_5 0_3 0_7	1_7 3 4 4_7 4 ₉ 5 ₁ 5 ₃ 5	5_3 5_4 5_3 5_3 5_4 5_4 3_5 -1	$-\frac{1}{8} - \frac{1}{7} - \frac{1}{7} - \frac{2}{7} - \frac{2}{8} - 2$	$\frac{1}{1} - \frac{1}{5} - \frac{2}{7} - \frac{2}{5} - \frac{3}{2} - \frac{4}{6} - \frac{4}{7} - \frac{5}{7} - \frac{5}$	$5_8 - 6 - 6_3 - 6_6 - 6_6 - 6_6 - 6_7 - 7_2 - 6_7 - 7_7 - 7_8 - 6_6 - 6_7 - 7_7 - 7_8 - 6_7 - 7_7 - 7_8 - 6_7 - 7_7 - 7_8 - 6_7 - 7_7 - 7_8 - 7_8 - 7_7 - 7_8 - $	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1_{1} 1_{8} 2 1_{8} 2_{4} 3_{4} 4_{3}	4 ₇
30"—	3_4 4 4_4 4_5 4_6	4_6 4_7 4_8 4_9 4_9 5 5 5 4_9	4_9 4_6 4_3 3_2 1_5 1_6 1_9 2_8 3	3_{7} 4_{2} 4_{3} 4_{4} 4_{5} 4_{6} 4_{6} 4_{3}	$1_6 0_4 0_5 0_7 1_2 2_2 3_3 4_3 $	4_5 4_9 5_1 5_2 5_3 5_3 5_3 5_4	$5_4 \ 5_3 \ 5_1 \ 4 \ 2_6 \ 3_2 \ 3_2$	3_1 3 2_8 2_7 2_5 2	2_5 3_5 4_1 4_1 5_3 5_6 5_7 5_8 6	$\begin{array}{c} \begin{array}{c} \text{Ok FIR} \\ 7 \\ 7 \\ 4 \\ 7 \\ 7 \\ 4 \\ 7 \\ 7 \\ 4 \\ 7 \\ 7$	$8_7 \ 8_2 \ 7_8 \ 7 \ 6 \ 4 \ 2_2 \ 0_1 \ 1_7$	$\frac{1}{5}$ $\frac{1}{2}$ 0_3 0_8 1_4 1_7 2_2 2_9	3_6 3_8 4_2 4_6 4_8 4_8	4 ₈ —30"
														4 219
21° 40'	4_5 4_6 4_7 4_8 4_8 4_8 4_9 5 5_1 5	$5_1 \ 5_1 \ 4_9 \ 4_9 \ 4_8 \ 4_6 \ 3_5 \ 1_2 \ 1$	$_{3}$ 1_{8} 2_{7} 3_{2} 4 4_{6} 4_{7} 4_{8} 4_{8} 4_{8}	$_{9}$ 4_{9} 5 5_{3} 2_{1} 0_{8} 0_{8} 0_{9} 1_{2}	$2 1_7 2_6 3_4 4 4_3 4_6 4_7 4_9 3_6 4_7 4_9 3_6 4_7 4_9 4_8 4_$	5 5 5 5 5 5 5 4 4 4 4 6	4 3 ₆ 3 ₂ 3 ₁ 3 ₁ 3 2 ₉	$2_7 \ 2_7 \ 2_7 \ 2_9 \ 3_3 \ 3_5$	$4_1 \ 5_1 \ 5_5 \ 6 \ 6 \ 5_8 \ 6_5 \ 7_3 \ 7_9$	9 8 ₁ 8 ₃ 8 ₄ 8 ₇ 8 ₉ 8 ₉ 9 8 ₄ 7	0 6_{8} 5_{4} 3_{4} 1 1_{1} 1_{0} 0_{7} 0_{3} 0_{1}	$0_6 1_4 2 2_7 3_6 4_3 5 5$	$5 5_8 0 5_8 5_8 5_5 5_2$	4 <u>9</u> <u>21</u> 40'
										[n		Mizzen Sand - 1 FI R(2) 10s		<u>0</u> 4
30"— 3	5_3 5_2 5_1 5_1 5_1 5_1 5_1 5 4_9 4_6 2_5	$0_1 0_1 0_6 0_9 1_5 2_2 3_3 4_2 5_1$	1_{1} 5_{5} 5_{7} 5_{7} 5_{7} 5_{7} 5_{7} 5_{5} 5_{4} 4_{6} 1_{5}	1_{3} 1_{4} 1_{6} 1_{8} 2_{2} 2_{7} 3_{4} 3_{8}	4_2 4_4 4_6 4_8 4_8 4_9 4_9 4_9 4_9	$4_9 \ 4_7 \ 4_7 \ 4_5 \ 4_4 \ 4_1 / 3_8 \ 3_8$	$3_5 \ 3_4 \ 3_3 \ 3_1 \ 3_1 \ 3 \ 3_1$	3_2 3_3 3_6 4_3 4_8 5_5	$5_9 \ 6_5 \ 6_6 \ 7_1 \ 7_7 \ 8_1 \ 8_4 \ 8_6 \ 8_9$	$5, 8_9, 9_2, 9_3, 9_3, 8_7, 8_1, 6_9, 5_9, 4_9$	$1 \underline{0}_2 \underline{0}_2 \underline{0}_2 0_3 0_5 0_9 1_7 3$	3_{3} 4_{6} 5_{5} 5_{8} 6_{4} 7_{4} 7_{6} 8	8 8 ₁ ¹ 8 ⁷ 5 ₅ <u>3₉</u>	30"
									TG	0 0 8 7 6 4 1 1 1	0 1 0 1 1 2 1 5 6	66778776	3, 1, 0, 1	<u></u>
39 ' ($\underline{0}_7 \underline{0}_9 \underline{0}_8 \underline{0}_6 \underline{0}_2 0_2 0_6 0_9 1_1 1_9$	$2_1 3 4 5_2 6 6_7 6_9 6_9 6_9$	6_8 6_7 6_5 4 2_2 2_1 2_2 2_4 2_5	$2_7 \ 2_9 \ 3_2 \ 3_6 \ 4 \ 4_4 \ 4_7 \ 4_7$	4_7 4_8 4_7 4_8 4_7 4_8 4_7 4_8 4_7 4_7 4_7	4_{6} 4_{3} 4_{3} 4_{1} 3_{9} 3_{8} 3_{7} 3_{6}	$3_5 \ 3_5 \ 3_5 \ 3_5 \ 3_5 \ 3_6 \ 3_7$	/ 4 ₂ 4 ₄ 4 ₂ 4 ₈ 6 6 ₄	7_{1} 7_{7} 8_{4} 8_{8} 9_{1} 9_{1} 9_{2} 9_{4} 9_{6}	$y_3 \ y \ \delta_2 \ l_5 \ \delta_6 \ 4_6 \ l_5 \ l_1 \ l_1$	$v_8 v_2 v_9 v_1 v_7 z_4 / 4_4 s_5 v_2$	03 07 12 16 0 18 1 0	³ 6 ¹ 4 <u>2</u> 3 <u>1</u> 2	55
			$1 2 1_7 1_8 1_8 1_9 2_1 2_2 2_4 2_9$	3 3 3 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4	4. 3. 3. 3. 3. 3. 3. 3.	3, 3, 3, 3, 3, 4, 4,	5, 5, 6, 7, 7, 8,	87 89 97 9 92 92 93 86 81	78 6 5 24 16 14 14 14 1	1_1 1_7 4 5_5 5_8 6_5 6_5 7_5 7_5	8 $7_3 6_9 6_4 5_1 3 1_7 4$	<u></u>	
30"—	$1 1_2 1_3 1_4 1_7 2_3 3_2 / 4_4 5_5 6_4$	$1_7 \ 8 \ 8_1 \ 8_2 \ 8_4 \ 1_3 \ 6_9 \ 6_6 \ 5_4$	$\frac{1}{2}$ $\frac{1}{7}$ $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{9}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{2}$	$5 5 5_4 5_7 [{}^{4}2 {}^{4}4 {}^{4}4 {}^{4}6 {}^{4}5$		1 59 59 57 56 56 54 54		5 - 9 - 5 - 18 - 4		Eden Spit QkF1R	Mizzen Sand - II			
						/					Qk Fl			

$3_{6} 4_{6} 5_{1} 6_{6} 6_{9$ 38' LOWER WESTERN EDEN Gp Fl (2) 10s

6,

 $6_9 \ 6_9 \ 6_8 \ 6_4 \ 5_9 \ 5 \ 3_9 \ 3_2 \ 0_4 \ 2_4$ $6_{6} 6_{6$ 30"—

37'



 $6_1 \quad 6_4 \quad 6_2 \quad 6_3 \quad 5_7 \quad 5_4 \quad 4_9 \quad 4_5 \quad / \quad 3_8 \quad 2_5 \quad 1_4 \quad 0_7$

Fl R(2) 10s

-4 3_6 3_4 4 -4_6 5_6 6 6

-38'

—30"

- 37'-