



Government of the People's Republic of Bangladesh
Ministry of Shipping

Bangladesh Inland Water Transport Authority
(BIWTA)

The World Bank



MONTHLY PROGRESS REPORT AUGUST 2024

**Consultancy Services for Supervision and Monitoring of Performance-Based
Dredging Contracts with Maintenance Dredging and Installation and Maintenance of
Navigational Aids along the Navigational Routes under the Contract**

**Bangladesh Regional Waterway Transport Project-1
BRWTP-S1A**



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EXECUTIVE SUMMARY

Background

The Government of Bangladesh has prioritized developing and maintaining the Dhaka-Chittagong corridor's Class I Route and connected Class II and III Routes. The "Bangladesh Regional Waterway Transport Project-1" (BRWTP-1) is undertaken with World Bank support and comprises three major components. One of the Components (Component-1) involves dredging and maintaining river corridors and ferry routes through performance-based contracts. The supervision and monitoring work, initiated by the consulting firm JPZ-DEMAs-JCL (S1A) in December 2022, is financed by the World Bank and implemented by the Bangladesh Inland Water Transport Authority (BIWTA) under the Ministry of Shipping (MoS).

The dredging works are divided into two lots:

- Lot-2: Contractor GULF-COBLA KARNAFULY JV, covering Routes 3, 4, 5, 6, 7 & 8, 9, 10, and 11.
- Lot-3: Contractor DHARTI-BANGA JV, covering Routes 12, 13, 13a, 15, 16, 17, and 21.

Progress of Contractors (August 2024)

Lot-2 Contractor

Four dredgers were engaged, but only a few were operational throughout the month. Most of the time, the dredgers had to be shut down due to mechanical issues. The revised estimated BoQ volume for Phase 1 is 1,209,060 cubic meters, spanning 18 months. However, Phase 1 already expired on 15 June 2024.

From 01 August to 31 August 2024, approximately 42,316 cubic meters were dredged. The total dredged volume across all routes up to 31 August 2024 is 972,106 cubic meters, which is 80.4% of the revised estimated total BoQ volume. The remaining volume is approximately 229,954 cubic meters. If this trend continues and the contractor does not expedite the dredging work, completing 100% of the dredging volume within the requested extended timeframe under Phase 1 will be difficult.

Lot-3 Contractor

The Lot-3 contractor completed the Phase-1 capital dredging within the stipulated timeframe (June 15, 2024). During the reporting period, no dredging activities were observed due to the monsoon season. However, no dredgers were placed along Routes 12, 13, and 13a. Additionally, no new dikes were constructed for dredged material disposal during this month.

The Consultant's activities during the Reporting Period

The consultant conducted routine hydrographic monitoring surveys (Annexure-VI) on the Lot-2. A joint inspection team, including representatives from PIU, BRWTP-S1A, BIWTA, and contractors, oversaw the process of Aid to Navigation activities. Both contractors were urged to expedite the installation of remaining Aids to Navigation. No further Good Faith Agreements will be needed for dike location selection as the government administration took over the responsibility of selecting the dike locations in coordination with PIU, the S1A Consultant, Contractors and local stakeholders.

There were no issues with traffic or safety; however, fire extinguishers expiring in September 2024 need to be replaced. The S1A team assessed ESHS, worker conditions, and OHS during the reporting period. Continuous monitoring of aquatic ecosystems is recommended to mitigate impacts from dredging, with special emphasis on monthly environmental assessments.

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ABBREVIATION

AILA	Association of International Lighthouse Authorities
ASCII	American Standard Code for Information Interchange
BIWTA	Bangladesh Inland Water Transportation Authority
BM	Bench Mark
BRWTP	Bangladesh Regional Waterway Transport Project I
BWDB	Bangladesh Water Development Board
CD	Chart Datum
CEAP	Contractor's Environmental Action Plan
CSD	Cutter Suction Dredger
DC	District Commissioner
EIA	Environmental Impact Assessment
EMP	Environment Management Plan
ESHS	Environment, Social, Health and Safety
ESMP	Environment and Social Management Plan
GBV	Gender-Based Violence
GIS	Geographic Information System
GPS	Global Positioning System
GRC	Grievance Redress Committee
GRM	Grievance Redressal Mechanism
HSE	Health and Safety Expert
IALA	International Association of Marine Aids and Lighthouse Authorities
IBC	Idle Berthing Centre
ID	Identity
IHO	International Hydrographic Organization
IWT	Inland Water Transport
JPZ	Jurutera Perunding Zaaba
JV	Joint Venture
LAD	Least Available Depth
LLW	Lowest Low Water
MOEF	Ministry of Environment, Forest and Climate Change.
MSL	Mean Sea Level
NID	National Identity
OPBC	Output and Performance-Based Contract
PC Poles	Pre-Stressed Concrete Poles
PIU	Project Implementation Unit
RAP	Resettlement Action Plan
RCC	Reinforced Cement Concrete
RTK-GPS	Real-Time Kinematic- Global Positioning System
SOB	Survey of Bangladesh
TBM	Temporary Bench Mark
UTM	Universal Transverse Mercator
VSS	Vessel Storm Shelter
WB	World Bank
WGS	World Geodetic System

CHAPTER 01: PROJECT DESCRIPTION IN A BRIEF

1.1 Basic Information

Project Name	:	Consultancy Services for Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract
Source of Funding	:	The World Bank
Contract No.	:	BRWTP-S1A
Employer	:	Bangladesh Inland Water Transport Authority (BIWTA)
Consultant	:	JPZ-DEMAS-JCL JV
Date of signing the contract	:	21 st September 2022; Duration of Contract 66 months
Date of Commencement	:	6 th December 2022; Duration 66 months
Total Routes	:	12 (Twelve)
Phases	:	Phase I: 18 Months, Phase II: 12 Months, Phase III: 36 Months
Route Nos. under dredging activities	:	Lot-2: 3 & 4, 5, 6, 7 & 8, 9, 10, 11 Lot-3: 12, 13 & 13a, 15 & 16, 17, 21

LOT-2

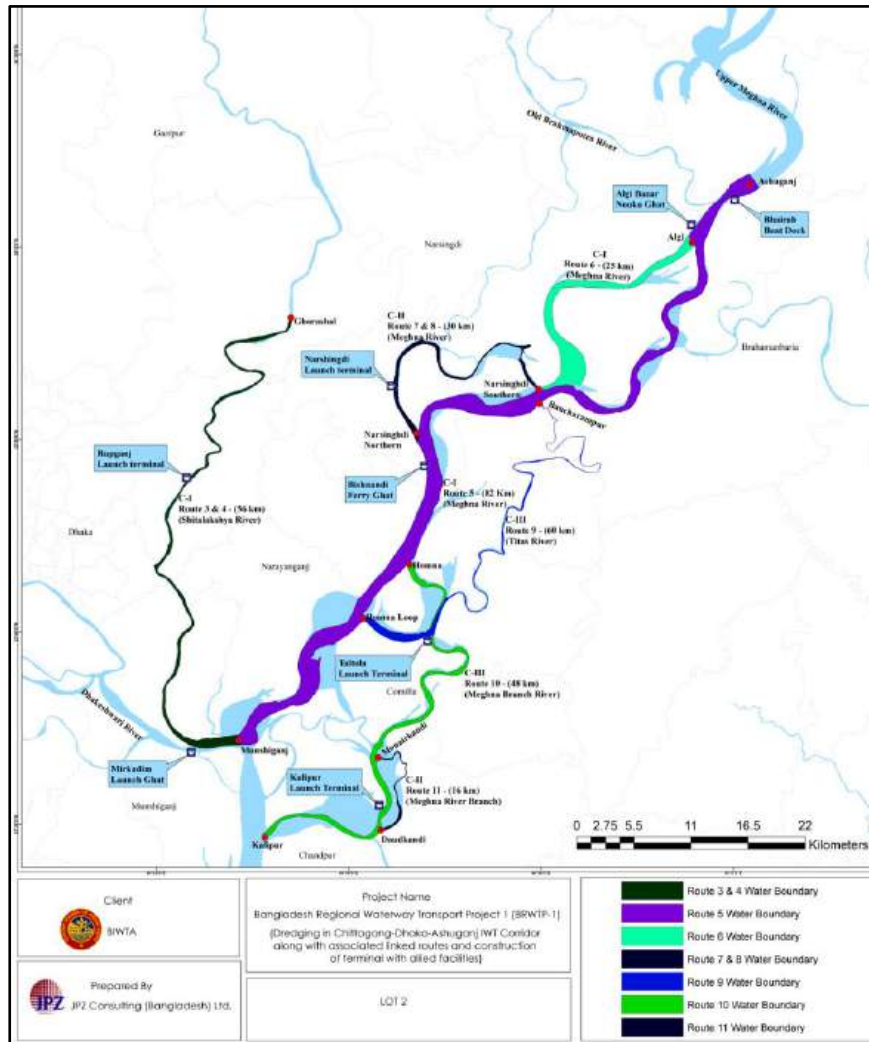


Table 1: River Routes Lot-2

Class	Route No	River/location	Length (Km)	Average width (m)	Shoal Length (km)
I	3 & 4	Shitalakshya (From Ghorashal to Munshiganj)	56	400	-
I	5	Meghna (From Ashuganj to Munshiganj)	82	1200	-
I	6	Meghna (Nabinagar Loop joining Route-5)	25	850	1.5
II	7 & 8	Meghna (Narsingdi Northern & Southern approaches)	30	450	5.8
III	9	Meghna (Bancharampur - Hona Loop)	60	180	19.5
III	10	Meghna (Hona-Doutkandi approach)	48	400	-
II	11	Gumti (Meghna loop approaching Dautkandi)	16	300	1.60
Total			317		28.40

LOT-3

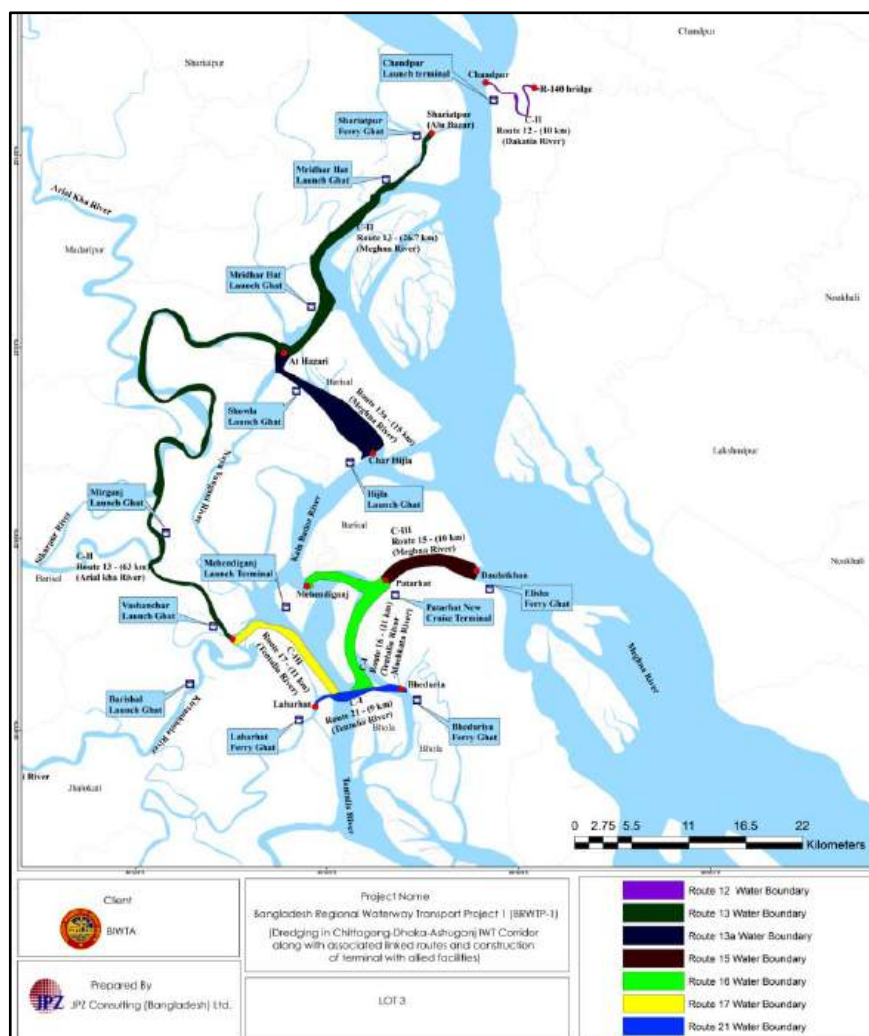


Figure 2: River Boundary, Lot-3

Table 2: River Routes Lot-3

Class	Route No	River/location	Length (Km)	Average width (m)	Shoal Length (km)
II	12	Dakatia (Chandpur to Gastola Bridge)	10	400	-
II	13	Meghna and Arial Khan (Shariatpur-Bheduria)	89.7	1200	-
II	13a	Meghna (Looping root Inside Char Hisla)	15	850	-
III	15	Meghna/ Tentulia (Patarhat-Daulatkhan)	10	450	-
I	16	Meghna/Tentulia (Mehendiganj-Bheduria)	19.6	180	2.1
III	17	Tentulia (Bheduria -Bhashanchar)	11	400	-
I	21	Tentulia (Bheduria -Laharhat)	9	300	2.3
Total			164.3		4.4

CHAPTER 02: SALIENT FEATURES & MONTHLY PROGRESS

2.1 PROGRESS OF BRWTP-S1A:

2.1.1 : Development and Maintenance Dredging Works and Monitoring Survey Records:

Lot-2:

Four dredgers were engaged, but only a few were operational throughout the month. Most of the time, the dredgers had to be shut down due to mechanical issues. The revised estimated BoQ volume for Phase 1 is 1,209,060 cubic meters, spanning 18 months. However, Phase 1 already expired on 15 June 2024.

From 01 August to 31 August 2024, approximately 42,316 cubic meters were dredged. The total dredged volume across all routes up to 31 August 2024 is 972,106 cubic meters, which is 80.4% of the revised estimated total BoQ volume. The remaining volume is approximately 229,954 cubic meters. If this trend continues and the contractor does not expedite the dredging work, completing 100% of the dredging volume within the requested extended timeframe under Phase 1 will be difficult.

Lot-3:

The Lot-3 contractor completed the Phase-1 capital dredging within the stipulated timeframe (June 15, 2024) Due to rising water levels during the monsoon season, no dredging was conducted in August 2024 on the River Routes of Lot-3. However, no dredgers were placed along Routes 12, 13, and 13a. Dredgers are only on standby for any emergency work on route 21. Additionally, no new Dike was constructed for dredged material disposal during this month.

Hydrographic Monitoring Survey Records:

Please see the Hydrographic Monitoring Survey Records at Annexure-VI with this report.

Status Report on Navigational Aids Installation at Dredging Sites:

The installation of Aids to Navigation was scheduled for completion during Phase 1 of the Capital Dredging project. Phase 1, with a duration of 18 months from its commencement, concluded on 15 June 2024. Below is the status of work for both Lot-03 and Lot-02 contractors regarding the installation of the required navigational aids:

Lot-03 Contractor:

The contractor was responsible for installing the following navigational aids along the specified routes:

- 06 Lighted Buoys along Route 21
- 05 Lighted Tower Beacons along Route 21
- 75 PC Poles with top marks along Routes 12, 13, 13a, 15, 16, 17, and 21

Current Status:

- PC Poles: The installation of all 75 PC poles with top marks has been completed for the designated routes.
- Lighted Tower Beacons: The essential components for 5 lighted tower beacons have been imported, inspected at the BANGA warehouse, and found satisfactory.
- Lighted Buoys: The imported cables and shackles for 6 lighted buoys have been inspected at BANGA's warehouse.
- Sinkers: Six sinkers, each weighing 3 tons, have been manufactured at BANGA's manufacturing yard, inspected, and found satisfactory.

Lot-02 Contractor:

The contractor was tasked with installing the following navigational aids along the specified routes:

- 33 Lighted Buoys along routes 03, 04, and 05
- 24 Lighted Tower Beacons along routes 03, 04, 05, and 06
- 100 PC Poles with top marks along routes 03, 04, 05, 09, 10, and 11

Current Status:

- PC Poles: The installation of all 100 PC poles with top marks has been completed for the designated routes.
- Lighted Tower Beacons: The essential components for 24 lighted tower beacons have been imported and inspected at the contractor's warehouse, with satisfactory results.
- Lighted Buoys: The imported cables and shackles for 33 lighted buoys have been inspected and found satisfactory.
- Sinkers: 33 sinkers of various weights have been manufactured at the contractor's yard, inspected, and deemed satisfactory.

All inspections were conducted by a joint inspection team comprising representatives from the Project Implementation Unit (PIU), BRWTP-S1A, the BIWTA Superintendence Committee for the installation of Aids to Navigation, and the contractors of Lot-2 and Lot-3.

Recommendations:

Both contractors should be urged to expedite the installation of the remaining Aids to Navigation items immediately to ensure timely completion.

2.1.2 Environmental Quality Assessment:

The S1A team reviewed the environmental data provided by the contractors' monitoring team. For this month (August 2024), monthly monitoring was conducted at Route 09: Bancharampur/Homna Loop named Salimganj under Lot-2, as well as River Routes 12 & 13 under Lot-3. The details of the sample collection locations are presented in the table below:

Table 3: Sample Collection Locations in this month (August2024)

Month	Environmental Variables.	Lot2	Lot-3
		River Name and Sample Collection Location	River Name and Sample Collection Location
August, 2024	Ambient air quality in and around the dredging site	<ul style="list-style-type: none"> • River Route-09 (Bancharampur/Homna Loop named Salimganj) 	<ul style="list-style-type: none"> • River Route- 12 : Dakatia (Chandpur to Gastola Bridge) • River Route-13: Meghna and Arial Khan (Shariatpur-Bheduria)
	Noise level quality assessments		
	Underwater Noise Level		
	Surface Water Quality		
	Riverbed Sediment		
	Dredged Material		
	Aquatic Fauna (Fish, Dolphin, Turtle)		

Environmental monitoring data for August 2024 indicate that the dredging work has not had any significant negative impact on any parameters. All laboratory data show values within the standard range and close to the baseline data (Annexure V).

Dredging operations, which aim to maintain river navigability, regulate depth and flow, improve water quality, and reduce flood risks, can also impact the benthic fauna inhabiting the riverbed. Consequently, continuous monitoring of the aquatic ecosystem's primary productivity is essential to prevent any negative impacts. S1A Consultant recommends placing special emphasis on monthly assessments of environmental quality to ensure sustainable practices.

2.1.3 Social and Resettlement Aspects:

In May 2024, during a meeting at the office of the Deputy Commissioner of Brahmanbaria, it was decided that the selection of dike locations would be overseen by the government administration, with the PIU, BIWTA, and the Consultant, BRWTP-S1A, coordinating as necessary. Following this decision, the PIU instructed that, no further Good Faith Agreements (GFAs) would be required between BRWTP-1 and landowners for the selection of dike locations.

So far, 74 disposal sites have been identified within the Lot-2 areas, with 17 of these sites newly selected and operated by the district administration of Brahmanbaria. The locations of these 17 dredged material disposal areas (selected after 2 May 2024) are provided in Annexure I.

In Lot-03, 22 disposal areas have been identified, with 16 GFAs currently in the process of being completed.

In total, 96 dredged material disposal sites have been selected across Lots 2 and 3. The dike selection process remains ongoing and involves representatives from government administration, local governments, and community members. Further details are outlined in the tables in Annexure I.

2.1.3.1 Land Acquisition/Requisition/Charity for Dike Location Selection:

A total of 96 dredged material disposal areas have been established in Lot-2 and Lot-3 up to August 31, 2024. The Social and Resettlement Expert Team of S1A is working to develop protocols for the structured selection of disposal areas across different river routes, in line with CEAP and contractual responsibilities. Starting this reporting period, the land selection process, particularly for Lot-2 sites, is being guided by decisions from the government administration.

Information regarding river dredging, dredged material disposal and land-related matters is being communicated to the public through consultation meetings held in local bazaars, Union Councils, villages, and schools.

2.1.3.2 Communication and Public Consultation:

Meetings and Consultations were conducted within this period regarding the dredging with the government administrating, PIU, and local community people for solving local community problems. The social and safeguard team of S1A Consultant has communicated at field level with local people, local administration, and local elites regularly. A discussion on dredging activities at Route 06 of Lot 2 contractor's site on 18 August 2024 was organized at BWDB, Executive Engineers Office, and Narsingdi. Representatives of BIWTA, PIU, Lot-2 contractor, and S1A team attended the meeting.

2.1.3.3 Field activities, BRWTP-S1A expert:

To monitor and supervise the field activities, BRWTP-S1A experts and field staff frequently visited sites when and where necessary. In this reporting period, preparatory work was done by both contractors.

Table 3: Field Activity of BRWTP-S1A at Lot-2 Sites (August 2024).

Serial No	Date	Activity	Route name & Route number	Remarks
1	02.08.2024	Field visit and single-beam equipment Inspection at route_06 & 09	Route 06 & 09, Lot 02	
2	03.08.2024	Hydrographic Monitoring survey and TBM Connection at route_09 (Bancharampur-Homna loop).	Lot_02, Route_09 (Bancharampur-Homna loop).	
3	09.08.2024	Hydrographic Monitoring survey at Route_06 (Nabinagar Loop (Joining Route_05)).	Lot_02, Route_06 (Nabinagar Loop (Joining Route_05)).	
4	10.08.2024	Hydrographic Monitoring survey at Route_06 (Nabinagar Loop).	Lot_02, Route_06 (Nabinagar Loop).	
5	11.08.2024	Hydrographic Monitoring survey at Route_06 (Nabinagar Loop).	Lot_02, Route_06 (Nabinagar Loop).	

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Serial No	Date	Activity	Route name & Route number	Remarks
6	14.08.2024	Hydrographic Monitoring survey at Route_7&8 (Narsingdhi Northern & Southern Approaches).	Lot_02, Route_7&8 (Narsingdhi Northern & Southern Approaches).	
7	15.08.2024	Hydrographic Monitoring survey & TBM Connection at (Narsingdhi Northern & Southern Approaches).	Lot_02, Route_7&8 (Narsingdhi Northern & Southern Approaches).	
8	16.08.2024	RTK Base Installation at Route_7&8 (Narsingdhi Northern & Southern Approaches).	Lot_02, Route_7&8 (Narsingdhi Northern & Southern Approaches).	
		Hydrographic Monitoring survey & TBM Connection at Route_7&8 (Narsingdhi Northern & Southern Approaches).	Lot_02, Route_7&8 (Narsingdhi Northern & Southern Approaches).	
9	17.08.2024	Hydrographic Monitoring survey & TBM Connection at Route_7&8 (Narsingdhi Northern & Southern Approaches).	Lot_02, Route_7&8 (Narsingdhi Northern & Southern Approaches).	
		Travelled to Solimganj for Stakeholder (Landowner) Consultation and dike visit.	Lot-02, Route 9	District: Brahman Baria.
10	18.08.2024	Site Supervision and Executive Engineer of BWDB in Narsingdi, they discussed Route_6 issues concerning the dredging activities with BIWTA, PIU, and SIA Consultant.	Narsingdi, Lot-2, Route-6	
		Discussion with the Landowners, about the river dredging activities, monitoring, and placement on the land.	Route 9: Dike no. 60 (24 decimal) & 61 (179 decimal)	Village: Bahirchar & Kadoir Union: Bishnurampur Upazilla:Banchampur Dist: Brahmanbaria.
11	19.08.2024	Discussion with the Landowners, about the river dredging activities, monitoring, and observing dredging on dike 63: placement on the fallow pond.	Route 9: Dike no. 62 (224 decimal), 63 (32 decimal) & 64 (45 decimal)	Village: Khalla Union: Choyfullakandi Upazilla:Banchampur Dist: Brahmanbaria
12	20.08.2024	Dike visit: Route 9, village: khalla, Bahar char and Kadoir, upazilla: Banchampur and Nabinagar, Dist: Brahman baria.	Lot-2, route 9, village: Khalla, Bahar char and Kadoir, upazilla: Banchampur and Nabinagar, Dist: Brahmanbaria.	
		Engineering survey by fish finder at route_09 (Bancampur-Homna loop).	Lot_02, Route_09 (Bancampur-Homna loop).	
		Discussion with the Land owners, about the river dredging activities, monitoring and Dike visit Dredging: Placement on the land.	Route 9: Dike no. 65 (120) decimal), 66 (62 decimal)	Village: Tezkhali and Noyar Char, Union: Tezkhali and SalimganjUpazila:Banchampur and Nabinagar,District: Brahman Baria.
13	21.08.2024	Discussion with the Landowners, about the river dredging activities, monitoring and Dike visit Dredging: Placement on the land	Route 6, Dike no. 01 (290 decimal), Route 7&8: Dike no. 04 (180) decimal), 05 (170 decimal)	Village: Sat para & Char Modhua.Union: Alokbal & Char Modhua, Upazila:Narsingdi Sadar & Roypura. Dist:Narsingdi.
14	22.08.2024	Dredging: Placement on the land, observation of impact on fishermen group, and Dike visit	Route-11 , Dike no. 01 (210 decimal), Dike no. 02 (293) decimal).	Village: Notun Hasnabad, Union: Daud Kandi, Upazila:Daud Kandi,District: Cumilla

2.1.3.4 : Progress and Coordination Meetings of S1A Consultant in August 2024:

Table 5: Interaction with Client/Contractors and another Stakeholder (A August, 2024)

SN	Date	Venue	Meeting Agenda	Participants
1	11.08.2024	PIU Conference room, Motijheel, Dhaka.	Coordination and progress meeting. Focused on various issues. S1A Consultant updated the dredging activities including Status of installation of Aids to Navigation.	BRWTP-W1A-Lot-1, Lot-2, BRWTP-W2 Lot-1, Lot-2, BRWTP-W3-Lot-1, Lot-2, Lot-3, Lot-4, BRWTP- G1A-02, BRWTP-S1A, BRWTP-S3 and BRWTP-S4 representatives.
2	18.08.2024	Conference room of S1A, Motijheel, Dhaka.	Internal coordination and progress meeting with S1A.	Representatives of Lot 2 and Lot 3 contractors and S1A experts.
3	20.08.2024	Conference room of S1A, Motijheel, Dhaka.	Monthly Coordination meetings discussed about the reason of slow expedition to installation of the Aids to Navigation along the various routes. However, all concerned have been requested to expedite the installation jobs.	S1A Consultant Experts and staff and Contractor representatives.

2.1.4 Grievance Redressal Mechanism (GRM):

Two Grievance Redress Committees (GRC) have been formed in the Lot-2 and Lot-3 project areas respectively, with one committee addressing site/local level issues and the other focusing on contractor-level gender-based violence (GBV) issues. Contractors, supported by S1A, conducted regular consultations to inform locals about reporting mechanisms. Grievance boxes were installed at project offices and dredging sites for people to submit their complaint letters and hotline numbers were provided for immediate contact.

Furthermore, the PIU, S1A, and senior project management of the government administration, along with all project officials, maintained contact with the local people during the reporting period, including holidays, to expedite the dredging activities of Lot 2. They were able to resolve obstacles through negotiation.

A. Complain regarding River Traffic management by the River users:

No complaints have so far been received from the river users during the last reporting period. The report will be updated accordingly.

B. Complain on public health in connection with the dredge material disposal on land: Dredge materials disposing on land whether any complaints are received or not from the local communities in connection with the malodor or effect on their health?

No complaints have so far been received from the river users during the last reporting period. The report will be updated accordingly.

C. Complain on fisherman groups on their livelihoods:

Dredging activities, whether any complaints are received or not from the fishermen groups whether dredging work affects their livelihoods under the Lot-2 & Lot-3 dredging activities?

No complaints have so far been received from the river users during the last reporting period. The report will be updated accordingly.

2.1.4.1 GBV/SEA/SH by workers and enforcement of the CoC

The local people have reported that the dredging workers/ laborers have no congenial or illicit sexual relationship with local inhabitants. No sexual exploitation, sexual violence, or gender-based violence was reported at work sites.

2.1.5 ESHS, Worker Employment, and OHS Status:

The S1A team assessed the ESHS situation, Worker Employment, and Working conditions, Occupational Health and Safety (OHS) status during the reporting period. Considering the safety of workers and the public during the dredging process, data were collected through field observation during site visits. The collected data is shown in the table below. It may be mentioned here that some fire extinguishers will expire in September 2024 and should be replaced by new ones.

Table 4: ESHS Status at a Glance in August 2024

ESHS Issues	Parameters	Lot-2	Lot-3
Occupational Health and Safety (OHS)	Set up a first aid clinic room, equipped with amedical treatment registration card for each employee.	First aid facilities were available at the project sites.	First aid facilities were available at project sites.
	Kitchen sanitation and cleanliness and food quality	Satisfactory	Satisfactory
	Sewage and wastewater discharge and Solid Waste Management	Good arrangements were kept in the Houseboat	Good arrangements were kept in the Houseboat
	Gas cylinder storage and maintenance	Maintained	Maintained
	Fire Extinguisher	Available (Outdated equipment should be replaced with new equipment.)	Available (Outdated equipment should be replaced with new equipment.)
	Safe Drinking Water	Accessible. Freshwater is collected daily from tube wells of nearby villages	Accessible. Freshwater is collected daily from tube wells of nearby villages
	Toilet facilities	Good	Good
Workers' Condition and Employment Situation	Total Employment (person) for all routes	38 (Thirty-eight)	60 (Sixty)
	Male Female Ratio	All employees are Male	No Female Employee
	Wage Status	Good arrangements were kept in the Houseboat	Good arrangements were kept in the Houseboat
	Force Labor/ Child Labor	Not Applicable in this month	Not Applicable in this month
Personal Protection Equipment (PPE) for all staff/workers working on the site.	Wearing appropriate PPE like helmets, safetygoggles, hand and arm protection, elbowprotection gloves, safety shoes, life jacket/vestsfor protection while working in the river, use ofhearing protection in case of loud noise for all officers/employees and laborers engaged in project work.	Safety helmet, Safety vest, safety shoes, Hand gloves, etc., observed at the site. But not adequate. All workers were not using PPEs.	Available at site level but needs awareness and monitoring for using PPEs
Traffic management	Provision for preventing accidents including nighttime.	The contractors' ESHS team visited the site and met all concerned manpower	The contractors' ESHS team visited the site and met all concerned staff
	Dredging sites were demarcated and protected to ensure community safety.	Adequate signs signals are posted to avoid any unwanted endangered while working.	Working hands are found to be careful about their personal safety and working safety as well.

Source: Field Information S1A Consultant Team

2.2 PROGRESS OF LOT-2 (GULF COBLA-KARNAFULY JV) CONTRACTOR:

2.2.1 Development and Maintenance Dredging Works:

The dredging depth and dredging volume in August are changed from time to time based on the hydrographic survey. The dredge volumes depend on route centerline, quality of MB/SB data, spacing of survey lines, and interpolation between these. The dredge volume for August 2024 is shown below.

Table 5: Description of dredging work for the month of August 2024, Lot-2 Site

Serial No.	Dredger Name	Period	Route No.	Place	Cutting Length(m)	Cutting Volume(cum.)
1.	Kafela -01	01 to 31 August	7&8	Khodadila	230	7,787
2.	Karnafuly -07	01 to 31 August	09	Hasannagar	35	1,443
3.	Reve_05	01 to 31 August	09	Khalla	1356	31,006
4.	SHAH YUVRAJ_09	01 to 31 August	11	Hasnabad	205	2,080
	Total					42,316

2.2.2 Environmental Quality Assessment of Lot-2 Sites:

In August 2024, environmental monitoring was conducted along Route 09 focusing on air quality, noise levels, and water quality. All measured parameters, including particulate matter, gaseous substances, and noise levels, were within national and international standards. Surface water sampling indicated no significant impact from ongoing dredging activities and no major pollution or safety issues were observed. Fisheries surveys identified 31 fish species and 3 crustacean species, with no fish mortality reported. Additionally, no Ganges River Dolphins or freshwater turtles were observed along the surveyed routes, and no grievances were raised, indicating a harmonious work environment. Details are in Annexure V.

2.2.3 Social and Resettlement Aspects at Lot-2 Site:

In May 2024, during a meeting at the office of the Deputy Commissioner of Brahmanbaria, it was decided that the selection of dike locations would be overseen by the government administration, with the PIU, BIWTA, and the Consultant, BRWTP-S1A, coordinating as necessary. Following this decision, the PIU instructed that, no further Good Faith Agreements (GFAs) would be required between BRWTP-1 and landowners for the selection of dike locations.

So far, 74 disposal sites have been identified within the Lot-2 areas, with 17 of these sites newly selected and operated by the district administration of Brahmanbaria. The locations of these 17 dredged material disposal areas (selected after 2 May 2024) are provided in Annexure I.

2.3 PROGRESS OF LOT-3, (DHARTI-BANGA JV) CONTRACTOR:

2.3.1 Development and Maintenance Dredging Works:

In August 2024, the situation of the river routes remained under observation, and dike construction will be undertaken as needed in accordance with the Contract. Environmental quality assessments were also conducted at two locations on Route 12 and 13 during the reporting month.

2.3.2 Environmental Quality Assessment of Lot-3 Site:

In August 2024, environmental monitoring focused on air quality, noise levels, and water quality across Routes 12 and 13, with all assessed parameters found within national and international standards. Surface water quality was also tested, showing no significant impact from prior dredging activities, and sediment and underwater noise levels were maintained below thresholds. No fish mortality, Ganges River Dolphins, or freshwater turtles were observed during the monitoring. Throughout the reporting period, all safety measures were effectively implemented, and no grievances or environmental issues were reported. 26 fish species and 5 crustacean species (prawn) were observed in river routes 12 and 13, with no visible fish mortality around the dredging site.

2.3.3 Social and Resettlement Aspects at Lot-3 Site:

At present **22** agreements are completed. In most places, people have willingly agreed to allow using their lands. General people of the project sites can get the news of river dredging, dredged materials disposal, and good faith agreements through several consultation meetings with local people in local Bazars, Union Council, villages, and the local Schools.

CHAPTER 03:

ACHIEVEMENT OF THIS MONTH'S AND NEXT MONTH'S PLAN

3.1 ACHIEVEMENT OF REPORTING MONTH:

S1A

- a) Survey and Dredging Monitoring Sheets were consistently submitted to the PIU and WB.
- b) Dredging activities on Routes 06, 7 & 8, 09, and 11 under Lot-2 were supervised and monitored regularly.
- c) Hydrographic charts were reviewed, and volumes were assessed for Routes 7 & 8, 9, and 11 under Lot-2.
- d) The pace of dredging in Lot-2 was accelerated through S1A's coordination and continuous oversight.
- e) The S1A Consultant team, along with PIU and BIWTA representatives, made regular visits to the sites in Lot-2 and Lot-3.
- f) Despite recent unavoidable nationwide disruptions, the S1A consultant continued field activities and ESHS supervision as planned.

LOT-2

- a) The contractor dredged 42,316 cubic meter in August, 2024.
- b) The total revised estimated BoQ volume is 12,09,060 cubic meters for Phase I (18 months). They dredged 9,72,106 cubic meters up to 31 August 2024 which is 80.4% of the estimated BoQ Volume of Phase-1 capital dredging.
- c) Related Environmental, Social, and GRM Activities have been conducted.
- d) Field visits were carried out by the S1A-ESHS team.

LOT-3

- a) Hydrographic Survey carried out along Routes of Lot-3.
- b) Related Environmental, Social, and GRM activities have been conducted.
- c) Field visits were carried out by the S1A-ESHS team.

3.2 NEXT MONTH PLAN:

S1A

- a) Ongoing intermittent hydrographic surveys will continue for Routes 06, 07 & 08, 09, and 11 under Lot-2.
- b) Reviewing and analyzing hydrographic charts, raw data, and calculating dredging volumes based on the contractor's submitted data for Routes 06, 07 & 08, 09, and 11 under Lot-2.
- c) Supervising and monitoring dredging activities, environmental quality, ESHS, and GRM activities for Lot-2 and Lot-3.
- d) Accelerating the navigational aid installation work plan submitted by the contractors for Lot-2 and Lot-3.
- e) Expediting dredging activities in Lot-2 to ensure 100% completion of dredging under Phase-1.
- f) Organizing meetings with the environmental teams of the Lot-2 and Lot-3 contractors.
- g) Supervising activities in preparation for Phase-2 capital dredging.

LOT-2

- a) The Lot-2 contractor will accelerate dredging activities to complete Phase-1 of the capital dredging.
- b) The Lot-2 contractor will expedite the installation of Aids to Navigation.
- c) The Lot-2 contractor's ESHS team is advised to conduct the recommended field visits.
- d) Preparatory work for Phase-2 of the capital dredging will commence.

LOT-3

- a) The Lot-3 contractor will continue hydrographic surveys for all routes, review relevant charts, and perform dredging work as necessary using standby dredgers.
- b) The Lot-3 contractor will accelerate the installation of Aids to Navigation.
- c) The Lot-3 contractor's ESHS team is advised to carry out the recommended field visits.
- d) Preparatory work for Phase-2 of the capital dredging will be undertaken.

CHAPTER 04:

CONCLUSION AND RECOMMENDATIONS

Both contractors were urged to expedite the installation of remaining Aids to Navigation. No further Good Faith Agreements will be needed for dike location selection as the government administration took over the responsibility of selecting the dike locations in coordination with PIU, the S1A Consultant, Contractors and local stakeholders. While dredging operations are crucial for maintaining river navigability, regulating depth and flow, improving water quality, and reducing flood risks, they can also impact the benthic fauna inhabiting the riverbed. Continuous monitoring of the aquatic ecosystem's primary productivity is essential to mitigate any negative effects. The S1A Consultant recommends placing special emphasis on monthly environmental quality assessments to ensure sustainable practices.

The Lot-2 and Lot-3 contractors will carry out all preparatory work required to commence Phase-2 of the capital dredging. This includes conducting all necessary joint pre-surveys before starting the dredging activities. These pre-surveys are essential to ensure that all conditions and requirements are met, and to coordinate effectively with all stakeholders involved.

CHAPTER 05: ANNEXURE

ANNEX I: The Progress and Status of Dike and Selected Disposal Areas

Status of Good Faith Agreements (GFA), Lot 2 (74 Dyke)

Dyke no.	Route No	Land Owner		Land			GFA
		Name and NID	Address	Description	Quantity (Decimal)	Quality of Land	
D1	9	Md. Monir Hossain NID: 6447046241	Village: Joy Nagar Upazila: Bancharampur	Plot No: 1117.1118, 10, 65, 1016, Mouza: Jay Nagar	95	Agriculture Land (Two Crops)	Done
D2	9	Siblu Mia NID:12104880917 72	Village: Imam Nagar Upazila: Bancharampur	Plot No:158, 155, 166, 147. Mouza: Imam Nagar	270	Agriculture Land (Two Crops)	Done
D3	9	Md. Afzal Hossain NID:12104880922 32	Village: Joy Nagar Upazila: Bancharampur	Plot No: 461, 711, 712, 713, 714, 715 1016. Mouza: Jay Nagar	150	School and School Field	Done
D4	9	Md. Monzur Mahabub NID: 1210488092428	Village: Imam Nagar Upazila: Bancharampur	Plot No:3473, 3474 Mouza: Imam Nagar	55	Agriculture land (One crop)	Done
D5	9	Jharna Begum NID:5546582981	Village: Barail Upazila: Nabinagar	Plot No: 316, 318, 397, 399, 314, 315, 401 Mouza: Borail.	132	Agriculture land (Two Crops)	Done
D6	9	Md. Dostogir NID:7813941536	Village: Barail Upazila: Nabinagar.	Plot No: 326, 353,314, 622, 312, 126, 319, 320, 321, 334 Mouza: Borail,	141	Agriculture land (Two Crops)	Done
D7	9	Monir Hossain NID:12104880921 009	Village: Imam Nagar Upazila: Bancharampur	Plot No.127 Mouza: Imam Nagar.	40	Agriculture land (Two Crops)	Done
D8	9	Abdus Salam NID: 1210488089240	Village: Aka Nagar Upazila: Bancharampur	Plot No.6021, 5622, 5627, 6620, 3277 Mouza: Aka Nagar.	90	Agriculture land (Two Crops)	Done
D9	9	Md. Zakir Hossain NID: 2693016135957	Village: Aka Nagar Upazilla: Bancharampur	Plot No. 2611, 2612, 6036 Mouza: Aka Nagar.	139	Agriculture land (Two Crops)	Done
D10	9	Md. Alamgir Kabir. NID: 1218575059084	Village: Nilukhi Upazila: Nabinagar	Plot no. 455. Mouza: Borail	52	Agriculture land (Two Crops)	Done
D11	9	Md. Kabir Hossain. NID: 10488088336	Village: Aka Nagar Upazilla: Bancharampur	Plot no. 5972/ 5380/5984 Mouza: Aka Nagar, Bancharampur,	139	Agriculture land (Two Crops)	Done
D12	9	Md. Nazrul Islam. NID: 8705507518	Village: Aka Nagar Upazila: Bancharampur	Plot no. 3053, Mouza: Aka Nagar.	50	Agriculture land (One Crop)	Done
D13	9	Md. Monirul Islam. NID: 8672153577	Village: Aka Nagar Upazila: Bancharampur	Plot no. 2422, 2423, 2412, 2417, 2424, 2425 Mouza: Aka Nagar.	190	Agriculture land (Two Crops)	Done
D14	9	Md. Salek Mia. NID: 7385849111 Mbl:01985708570	Village:Akanagar Union: Salimganj Upazila:Bancharampur District: Brahman Baria	Mouza: Akanagar, Plot no. 2948/2149/2150/ 2151/2152, BS-642 JL no. 13.	24	Agriculture land (One Crop)	Done

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Dyke no.	Route No	Land Owner		Land			GFA
		Name and NID	Address	Description	Quantity (Decimal)	Quality of Land	
D15	9	Abdul Halim NID: 2366199863 Mbl: 01819160113	Village:Akanagar Union: Tezkhal Upazila:Bancharampur District: Brahman Baria	Mouza: Akanagar, Plot no. 3395,3396 BS-khatian no. 496 JL no. 13.	67	Agriculture land (One Crop)	Done
D16	9	Md. Riazul Islam NID: 5533130141	Village: Joykalipur Upazila: Bancharampur	Plot no. CS 1370, BS 3002-3003, mouza: Borail	52	Agriculture land (One Crop)	Done
D17	9	1.Babuk Mia NID:5546760314 2.Rakat Ali NID:9132515710 3.Nobi Mia NID:5996942016	Village: Nilukhi Union: Solimgonj Upazila:Nabinagar District: Brahman Baria	Plot no. CS/SA 1373/1374, BS 3007, Mouja: Borail	90	Agriculture land (One Crop)	Done
D18	9	Kader Miah NID: 1210488088731 Mbl: 01712830171	Village:Akanagar Union: Tejkhal Upazila:Bancharampur District: Brahman Baria	Mouza: Akanagar, Plot no. 2948/2149/2150/ 2151/2152, BS 650-JL no. 13.	192	Agriculture land (One Crop)	Done
D19	9	Md. Kabir Hossain NID: 1210488087685 Mbl: 01789160113	Village:Akanagar Union: Tejkhal Upazila:Bancharampur District: Brahman Baria	Mouza: Akanagar, Plot no. 2948/2149/2150/ 2151/2152, BS-642 JL no. 13.	32	Agriculture land (One Crop)	Done
D20	9	1.Jasim Uddin NID: 7798370685 Mbl: 01717531207 2.Oli Mia NID: 9152173382 Mbl: 01720322353	Village: Bishnursmpur Union: Bishnursmpur Upazila:Bancharampur District: Brahman Baria	Mouza: Bishnursmpur SA Khatian: 11, Plot no: 1298,1428,1646,1655,1654 JL No 43	59	Agriculture land (One Crop)	Done
D21	9	Safar Ali NID: 2398388328 Mbl: 0191438148	Village:Akanagar Union: Tejkhal Upazila:Bancharampur District: Brahman Baria	Mouza: Akanagar, SA Khatian: 3610, Plot no: 3456,3460 JL No. 13	75	Agriculture land (One Crop)	Done
D22	9	Md. Milon Mia NID: 7348365565 Mbl: 01321822727	Village:Bahir char Union: Tejkhal Upazila:Bancharampur District: Brahman Baria	Mouza: Bahir char SA Khatian: 556, Plot no: 613,857 JL No. 41	84	Agriculture land (One Crop)	Done
D23	9	1.Alomgir Hossain NID: 197812104880000 39 Mbl: 01741735087 2. Md. Borhan Uddin NID: 1210488095770 Mbl: 01794735283	Village: Bishnursmpur Union: Tezkhal Upazila:Bancharampur District: Brahman Baria	Mouza: Bahirchar SA Khatian: 860,380 Plot no: 821,621,711,622,624,810,1 070,623,626,710,711,1179 JL No. 41	119	Agriculture land (One Crop)	Done
D24	9	Aminul Islam (Liton) NID: 9917405796 Mbl: 01310822838	Village: Bishnursmpur Union: Bishnursmpur Upazila:Bancharampur District: Brahman Baria	Mouza: Bishnursmpur SA Khatian: 92 Plot no: 1209,1205,1439,1430 JL No. 40	120	Agriculture land (One Crop)	Done
D25	9	Ilias Miazi NID: 199212164880001 30 Mbl: 01985728652	Village: Bishnursmpur Union: Tezkhal Upazila:Bancharampur District: Brahman Baria	Mouza: Bishnursmpur SA Khatian: 172, Plot no: 1308,1497,1448,427,1105 JL No 43	174	Agriculture land (One Crop)	Done

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Dyke no.	Route No	Land Owner		Land			GFA
		Name and NID	Address	Description	Quantity (Decimal)	Quality of Land	
D26	9	1. Gazi Kawsar NID: 3298455597 Mbl: 01713685001 2. Gazi abdu Salam NID: 2398479119 Mbl: 01740956081 3. Md. Zakir Hossain NID: 7348561049 Mbl: 01713585112 4. Chandra Kumar Das NID: 1210488090007 Mbl: 01740968121	Village: Aka Nagar Union: Tezkhal Upazila: Bancharampur District: Brahman	Mouza No: Aka Nagar SA Khatian: 3921,4096,3941 Plot No: 5760,5705,5707,5790,6370, 6698,5744,5711,5384,5715 J L No 13	310	Agriculture land (One Crop)	Done
D27	9	Md. Hanif NID: 5501395304 Mbl: 01717531207	Village: Bishnurampur Union: Bishnurampur Upazilla: Bishnurampur District: Brahman Baria.	Mouza: Bishnurampur SA Khatian: 894, Plot no. 108,111 Khatian No. 860/380 JL No. 41	154	Agriculture land (One Crop)	Done
D28	9	Habib Ulla NID: 2398391876 Mbl: 01817506254	Village: Bahirchar Union: Bishnurampur Upazila: Bancharampur District: Brahman Baria.	Mouza. Bahirchar Plot no. 603,714,1152,1545 Khatian No: 92 JL No: 41	79	Agriculture land (One Crop)	Done
D29	9	Abu Kalam NID: 1948451222 Mbl: 01985708523	Village: Bahirchar Union: Tezkhal Upazila: Bancharampur District: Brahman Baria.	Mouza. Bahirchar Plot no. 904, 608, 752, 1227 Khatian No: 617, 1487 JL No: 41	89	Agriculture land (One Crop)	Done
D30	9	1. Md. Farid Mia NID: 3298435581 Mbl: 01317622313 2. Abdul Wahab NID: 6894609699 Mbl: 01735786521	Village: Bahirchar Union: Tezkhal Upazila: Bancharampur District: Brahman Baria.	Mouza. Bahirchar Plot no. 119,1084,415 Khatian No: 551,61,108 JL No: 41	88	Agriculture land (One Crop)	Done
D31	9	Moin Uddin NID: 3748368614 Mbl: 01817506254	Village: Bahirchar Upazila: Bancharampur District: Brahman Baria.	Mouza. Bahirchar Plot no. 1134,1138,1135,18,1052 Khatian No: 217,541 JL No: 41	85	Agriculture land (One Crop)	Done
D32	9	Ali Ahammad Sarker NID: 3747074718 Mbl: 01715046233	Village: Nilokhi Union: Salimganj Upazila: Nabinagar District: Brahman Baria.	Mouza. Nilokhi Plot no. 1134,1138,1135,18,1052 Khatian No: 24/1, 106/1 JL No: 236	214	Agriculture land (One Crop)	Done
D33	9	1. Rasel Mia NID: 1947127799 Mbl: 01738424077 2. Parul Begum NID: 1210488095296 Mbl: 01735786521 3. Sova Akter NID: 8707793660 Mbl: 01735786521	Village: Nilokhi Union: Salimganj Upazila: Nabinagar District: Brahman Baria.	Mouza. Nilokhi Plot no. 1172,1208,1209,1199,1163, 1198,1170,1200,1232 Khatian No: 950, 992 JL No: 05	170	Agriculture land (One Crop)	Done

Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract

Dyke no.	Route No	Land Owner		Land			GFA
		Name and NID	Address	Description	Quantity (Decimal)	Quality of Land	
D 34	9	1. Md. Billal NID: 2398523114 Mbl: 01725835721 2. Arfat Ali NID:8257731771 Mbl: 01985789351	Village: Bahir Char Union: Tezkhal Upazila:Bancharampur District: Brahman Baria.	Mouza. Bahirchar Plot no. 25/400,217/652,268/418,62 8,708 Khatian No: 209,74 JL No: 41	84	Agriculture land (One Crop)	Done
D 35	9	1.Abdul Awal NID: 3746376999 Mbl: 01918578062 2.Abul Kalam NID: 8695983695 Mbl:01716592411 3.Abu Ishaq NID: 3712971580 Mbl: 01719834733 4.Nasir Uddin NID: 5546582717	Village: Barail Upazila:Nabinagar District: Brahman Baria.	Mouza. Barail Plot no. 1590,3267,3144,3274,3515, 1802,1803 Khatian No: 544,163,1560 JL No: 04	113	Agriculture land (One Crop)	Done
D 36	9	1.Abdul Mannan NID: 8248455720 Mbl: 01738424077 2.Md. Jalal Mia NID: 4648465153 Mbl: 01735786521 3. Tazul Islam NID: 9173793036 Mbl: 01735786521	Village: Bahir Char Union: Tezkhal Upazila:Bancharampur District: Brahman Baria.	Mouza. Bahirchar Plot no. 1286,1351,1649,144,1563,1 27 Khatian No: 549,600,996 JL No: 41	140	Agriculture land (One Crop)	Done
D37	9	Md. Swapon Mia NID: 8248495528 Cel: 01753828096	Village: Bahirchar Union: Tezkhal Upazila:Bancharampur, District: Brahman Baria.	Mouza No. Bahirchar Khatian No: 530/616/1464 Plot: 553/552/554 JL No:41	60	Agriculture land (One Crop)	Done
D38	09	1.Md. Nazim NID: 2421516085 Mbl: 01733123741 2. Apel Mahmud NID: 4201400373 Mbl: 01958705623 3. Aynal Hoque NID: 5554116691 Mbl: 01815237615 4. Abu Musa NID: 6448345691 Mbl: 01712578351 5. Mst. Razia khatun NID: 2848376618 Mbl: 01735892711 6. Marfot Ali NID: 197612104880000 18 Mbl: 01928705721 7. Abdul Mannan NID: 7812888217 Mbl: 01789256722	Village: Bahirchar Union: Tezkhal Upazila:Bancharampur District: Brahman Baria.	Mouza No. Bahirchar Khatian No: 751/439/120/889/743/70 Plot: 1282/1284/1285/1283/957/1 641/2221/955/1502/985/984 JL No:41	173	Agriculture land (One Crop)	Done
D39	9	Abu Sayem NID: 6890355958 Mbl: 01712853510	Village: Kadoir Union: Salimganj Upazila:Nabinagar District: Brahman Baria.	Mouza No. Kadoir Khatian No: 591 Plot: 421 JL No:63	50	Agriculture land (One Crop)	Done

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Dyke no.	Route No	Land Owner		Land			GFA
		Name and NID	Address	Description	Quantity (Decimal)	Quality of Land	
D40	09	Md. Jalu Mia NID: 4155505789 Mbl: 01712892751	Village: Bahirchar Union: Tezkhal Upazila: Bancharampur District: Brahman Baria.	Mouza No. Bahirchar Khatian No: 709 Plot: 440 JL No:41	100	Agriculture land (One Crop)	Done
D 41	09	1.Md. Kamal Mia NID: 7347275260 Mbl: 01724532687 2.Abdul Karim NID: 2397556354 Mbl: 01716161185	Village: Kadoir Union: Tezkhal Upazila: Bancharampur District: Brahman Baria.	Mouza No. Bahirchar Khatian No: 706 Plot: 486/350/352 JL No:10	111	Agriculture land (One Crop)	Done
D 42	09	1.Mst. Jahanara NID: 1210488096760 Mbl: 01986218781	Village: Nilokhi Union: Salimganj Upazila: Nabinagar District: Brahman Baria.	Mouza No. Nilokhi Khatian No: 262 Plot: 1129/1 JL No:05	31	Agriculture land (One Crop)	Done
D 43	09	1.Shakel Ahmed NID: 2. Sazzad Ahmed NID: Mbl: 3. Md. Alomgir NID: 2397009727 4. Rezaul Karim NID: 6455341013 5. Ziaul Karim NID: 5983496109 Mbl: 6. Fazlul Karim NID: 9132487969	Village: Badda Dakkhin Para Union: Salimganj Upazila: Nabinagar District: Brahman Baria.	Mouza No. Char Badda Khatian No: 1154/191/986 Plot: 486/350/352 JL No:14	197	Agriculture land (One Crop)	Done
D 44	09	1. Md. Alomgir NID: 2397009727 2. Rezaul Karim NID: 6455341013 3. Ziaul Karim NID: 5983496109 Mbl: 01713018040 4. Fazlul Karim NID: 9132487969	Village: Badda Dakkhin Para Union: Salimganj Upazila: Nabinagar District: Brahman Baria.	Mouza No. Jolli Khatian No: 175/1453 Plot: 122/233/325/ JL No:16	140	Fallow Pond	Done
D 45	09	1. Md. Alomgir NID: 2397009727	Village: Badda Dakkhin Para Union: Salimganj Upazila: Nabinagar District: Brahman Baria.	Mouza No. Jolli Khatian No: 1657 Plot: 291 JL No:16	22	Agriculture land (One Crop)	Done
D 46	09	Md. Jalu Mia NID: 4155505789 Mbl: 01712892751	Village: Bahirchar Union: Tezkhal Upazila: Bancharampur District: Brahman Baria.	Mouza No. Bahirchar Khatian No: 111 Plot: 222/223/577/496 JL No:41	97	Agriculture land (One Crop)	Done

Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract

Dyke no.	Route No	Land Owner		Land			GFA
		Name and NID	Address	Description	Quantity (Decimal)	Quality of Land	
D 47	09	1. Md. Abu Hanif NID: 7305030772 Mbl: 01712892751 2. Sohrab Hossain NID: 1975871797 Mbl: 01728356911	Village: Kadoir Union: Salimganj Upazila:Nabi Nagar District: Brahman Baria.	Mouza No. Kadoir Khatian No: 342 Plot: 438 JL No:10	68	Agriculture land (One Crop)	Done
D 48	09	1. Kamrul Hasan NID: 197912185750000 30 Mbl: 01716161185 2. Jaman Uddin NID: 2361962059 Mbl: 01859278912 3.Moshen Mia NID: 5107234883 Mbl: 01713925813 4.Dulal Mia NID: 7347018397 Mbl: 01712830195 5.Baijid Hasan NID: 5107234883 Mbl: 01915830112 6.Abdul Motin NID: 1218588035697 Mbl: 01913592311 7.Hanif Mia NID: 197012185750000 09 Mbl: 01713925813	Village: Char Badda Union: Salimganj Upazila:Nabi Nagar District: Brahman Baria.	Mouza No.Char Badda Khatian No: 404/344/160/606/557/605 Plot: 1531/1502/1537/860/941/12 82/1530/1531/1551/288/289 /316/493/1567 JL No:14	200	Agriculture land (One Crop)	Done
D 49	09	1.Kamal Uddin NID: 9148394498 Mbl: 01602208686 2.Forkan uddin NID: 1948433175 Mbl: 01711180780 3.Abdul Hashim NID: 8248455555 Mbl: 01733113742 4.Parul Begum NID: 4201436906 Mbl: 01716497968 5.Ismail Mia NID: 1523786984 Mbl: 01913777071 6.Amir Hossain Passport:0538242 Mbl: 01712835771 7.Farid NID: 3322198205 Mbl: 01852892821	Village: Bahir Char Union: Tezkhali Upazila:Bancharampur District: Brahman Baria.	Mouza No. Bahir Char Khatian No: 392/320/707/273/514/1071 Plot: 1105/617/1104/411/496/111 1/1110 JL No:41	179	Agriculture land (One Crop)	Done

Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract

Dyke no.	Route No	Land Owner		Land			GFA
		Name and NID	Address	Description	Quantity (Decimal)	Quality of Land	
D 50	09	1.Abul Kashem NID: 2398411542 Mbl: 01708665453 2.Humayun Kobir NID: 1210436157748 Mbl: 01983460221	Village: Moddho Nagar Union: Choyfullah Kandi Upazila:Nabinagar District: Brahman Baria.	Mouza No. Moddho Nagar Khatian No: 1054/1485 Plot: 1105/617/1104/411/496/111 1/1110 JL No:38	193	Agriculture land (One Crop)	Done
D 51	09	1.Murshid Mia NID: 3296986155 Mbl: 01852897257 2.Dulal Mia NID: 1218575054223 Mbl: 01719835021 3.Lal Chand Passport: 0363728 Mbl: 01719478351	Village: Char Badda Union: Salimganj Upazila:Nabinagar District: Brahman Baria.	Mouza No. Char Badda Khatian No: 525/263/675 Plot: 210/211/39/68 JL No:68	130	Agriculture land (One Crop)	Done
D 52	09	Shahin NID: 198212185750000 21 Mbl: 01734532462	Village: Bandey Bahir char Union: Salimganj Upazila:Nabinagar District: Brahman Baria.	Mouza No. Char Badda Khatian No: 1118 Plot: 26 JL No:14	32	Agriculture land (One Crop)	Done
D 53	09	Md. Monirul Islam NID: 8672153577 Mbl: 01711175171	Village: Joy Nagar Union: Salimganj Upazila:Nabinagar District: Brahman Baria.	Mouza No. Joy Nagar Khatian No:1154 Plot: 2374 JL No:11	75	Agriculture land (One Crop)	Done
D 54	09	Abdur Razzak NID: 9574183696 Mbl: 01747343757	Village: Bishnurampur Union: Tezkhali Upazila:Bancharampur District: Brahman Baria.	Mouza No. Bishnurampur Khatian No:1154 Plot: 1594 JL No:01	86	Fallow Land	Done
D 55	09	Shahjalal NID: 8242023813 Mbl: 01625888695	Village: Bishnurampur Union: Tezkhali Upazila:Bancharampur District: Brahman Baria.	Mouza No. Bishnurampur Khatian No:386 Plot: 1550 JL No:40	73	Fallow Land	Done
D 56	7&8	1.Hanif Mia NID: 6816020733136 2.Abu Kashed Mia NID: 6816020432149 3.Abul Kashem NID: 5501734684 4.Nuru Mia NID: 8218914904 5.Sushil Chandra Sutradhar NID: 6816020732471 Mbl: 01794391918, 01712766109	Village: Birgaon Union: Alokbali Upazila:Narsingdi Sadar District: Narsingdi	Mouza: Char Madhobpur SA Khatian No: 425/2010/2051 CS Plot No: 4212, 4219, 4262, 4341, 10070, 10037, 13062, 10064, 10062, 10061, 10091, 10204, 9689, 9690, 9653, 10079, 10056, 10205, 9798, 10118, 10111, 10114 JL No: 73, 62, 52	677	About 70% Fallow Land and 30% Agriculture land (One Crop)	Done

Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract

Dyke no.	Route No	Land Owner		Land			GFA
		Name and NID	Address	Description	Quantity (Decimal)	Quality of Land	
D 57	7&8	Md. Delwar Hossain NID: 9550769062 Mbl: 01712766109	Village: Bakhor nagar Union: Alokbal Upazila:Narsingdi Sadar District: Narsingdi	Mouza: Char Madhobpur SA Khatian No: 8723/4356/4126/4247 SA Plot No: 7879,7915,7880,8793,7891,796 0.7961,9730,9731,9732,8730,8 96,7496,7494,9756, 9757, 9727,9730, 9731, 9732,8726, 8743, 7891, 8793,7886, JL No: 62	328	Fallow Land	Done

Status and locations of 17 dredged material disposal areas are given below:

Dyke no.	Route No	Land Owner		Land			GFA
		Name and NID	Address	Description	Quantity (Decimal)	Quality of Land	
D 01	09	1.Abul Kashem NID: 2398411542 Mbl: 01708665453 2.Humayun Kobir NID: 1210436157748 Mbl: 01983460221	Village: Moddho Nagar Union: Choyfullah Kandi Upazila:Nabinagar District: Brahman Baria.	Mouza No. Moddho Nagar Khatian No: 1054/1485 Plot: 1105/617/1104/411/496/1111/11 10 JL No:38	193	Agriculture land (One Crop)	Agreement will be done by District administration
D 02	09	1.Murshid Mia NID: 3296986155 Mbl: 01852897257 2.Dulal Mia NID: 1218575054223 Mbl: 01719835021 3.Lal Chand Passport: 0363728 Mbl: 01719478351	Village: Char Badda Union: Salimganj Upazila:Nabinagar District: Brahman Baria.	Mouza No. Char Badda Khatian No: 525/263/675 Plot: 210/211/39/68 JL No:68	130	Agriculture land (One Crop)	Agreement will be done by District administration
D 03	09	Md. Shahin NID: 19821218575000021 Mbl: 01734532462	Village: Bandey Bahir char Union: Salimganj Upazila:Nabinagar District: Brahman Baria.	Mouza No. Char Badda Khatian No: 1118 Plot: 26 JL No:14	32	Agriculture land (One Crop)	Agreement will be done by District administration
D 04	09	Md. Monirul Islam NID: 8672153577 Mbl: 01711175171	Village: Joy Nagar Union: Salimganj Upazila:Nabinagar District: Brahman Baria.	Mouza No. Joy Nagar Khatian No:1154 Plot: 2374 JL No:11	75	Agriculture land (One Crop)	Agreement will be done by District administration
D 05	09	Abdur Razzak NID: 9574183696 Mbl: 01747343757	Village: Bishnurampur Union: Tezkhali Upazila:Banchampur District: Brahman Baria.	Mouza No. Bishnurampur Khatian No:1154 Plot: 1594 JL No:01	86	Fallow Land	Agreement will be done by District administration
D 06	09	Shahjalal NID: 8242023813 Mbl: 01625888695	Village: Bishnurampur Union: Tezkhali Upazila:Banchampur District: Brahman Baria.	Mouza No. Bishnurampur Khatian No:386 Plot: 1550 JL No:40	73	Fallow Land	Agreement will be done by District administration
D 07	09	Md. Aktar Hossain NID: 3725002590 Mbl: 01605208355	Village: Tezkhali Union: Tezkhali Upazila:Banchampur District: Brahman Baria.	Mouza No. Tezkhali Khatian No: 1852 Plot: 430/688/960/972/482 JL No: 42	120	Agriculture land (One Crop)	GFA done
D 08	09	Md. Ashikul Islam NID: 3268311275 Mbl: 01855997070	Village: Tezkhali Union: Tezkhali Upazila:Banchampur District: Brahman Baria.	Mouza No. Tezkhali Khatian No: 1852 Plot: 430/688/960/972/482 JL No: 42	120	Agriculture land (One Crop)	GFA done
D 09	09	Md. Masud NID: 4197522263 Mbl: 01625888695	Village: Noyar char Union: Salimganj Upazila: Nabinagar District: Brahman Baria.	Mouza No. Noyar char Khatian No: 689 Plot: 366/422/645/389 JL No: 67	62	Agriculture land (One Crop)	GFA done

Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract

Dyke no.	Route No	Land Owner		Land			GFA
		Name and NID	Address	Description	Quantity (Decimal)	Quality of Land	
D 10	09	Anowar Hossain Raza NID: 1948336233 Mbl: 01625888695	Village: Bishnurampur Union: Bishnurampur Upazila: Bancharampur District: Brahman Baria.	Mouza No. Bishnurampur Khatian No: 315 Plot: 365/254/423/546/259/121 JL No: 39	270	Agriculture land (One Crop)	GFA done
D 11	09	Md. Kawsar NID:	Village: Khalla Union: Choyfullakandi Upazila: Bancharampur District: Brahman Baria.	Mouza No. Khalla Khatian No: 1394 Plot: 4662 JL No: 1418	95	Agriculture land (One Crop)	Agreement will be done by District administration
D 12	7&8	Hazrat Ali NID: 7822420450 Mbl: 01935205783	Village: Birgaon Union: Alokballi Upazila: Narsingdi Sadar District: Narsingdi	Mouza: Char Madhobpur CS Khatian No: 122 SA Plot No: 12458/12466/12485 JL No: 52	91	Agriculture land (One Crop)	GFA done
D 13	7&8	1. Sukkur Ali NID: 4151539675 Mbl: 01987608661 2. Jahangir Alom NID: 2360551242 3. Md. Milon Kha NID: 4601748173	Village: Sat para Union: Alokballi Upazila: Narsingdi Sadar District: Narsingdi	Mouza: Char Madhobpur CS Khatian No: 3024/26/2068/98/4150 SA Plot No: 1841/7865/7877/7262/7869/7499/1815/1817/2089/7878/7885 JL No: 62	180	Agriculture land (One Crop)	GFA done
D 14	7&8	1. Md. Sheikh Farid NID: 6816020734834 Mbl: 01765-995824 2. Rezon Mia NID: 7358087984 Mbl: 01677556624	Village: Sat para Union: Alokballi Upazila: Narsingdi Sadar District: Narsingdi	Mouza: Char Madhobpur CS Khatian No: 121 SA Plot No: 6711/6512/6706/6727/6712/7364/7369/7794/7868 JL No: 62	170	Agriculture land (One Crop)	GFA done
D 15	06	2. Sahad Mia NID: 1481632832 Mbl: 01855992870 2. Md. Jalal Fakir NID: 5851625392 Mbl: 01759252667	Village: Char Modhua Union: Char Modhua Upazila: Roypura District: Narsingdi	Mouza: Char Modhua CS Khatian No: 637 SA Plot No: 1062/1011/894/1131/42/131/806/811/913/1042/1181/1188 JL No: 123	290	Agriculture land (One Crop)	GFA done
D 16	11	Abul Kasem NID: 1913621823408 Mbl: 01724340171	Village: Notun Hasnabad Union: Daud Kandi Upazila: Daud Kandi District: Cumilla	Mouza: Nando pur CS Khatian No: 44 Plot No: 158/44/41/150/67 JL No: 98	210	Agriculture land (One Crop)	GFA done
D 17	11	Foyez Uddin NID: 1913621824175 Mbl: 01928932815	Village: Notun Hasnabad Union: Daud Kandi Upazila: Daud Kandi District: Cumilla	Mouza: Nando pur CS Khatian No: 39 Plot No: 160/39/151/155/44 JL No: 92	293	Agriculture land (One Crop)	GFA done

This list will be updated time to time including the dredged soil volume disposed in the dike and the amount of revenue deposited to government treasury.

Status of Good Faith Agreements (GFA), Lot 3 (23 Dyke)

Dike no.	Route No	Land Owner		Land			GFA
		Name and NID	Address	Description	Quantity (Decimal)	Quality of Land	
D 01	21	Salam Fakir NID: 8223014047 Mbl # 01766-138946	Village: Ghagoria Union: Ghagoria Upazila: Mehendiganj District: Barishal	Mouza: Ghagoriya. Plot no. 1901/56	200	Agriculture land (One Crop)	Leased money yet to be paid to land owner by PIU
D 02	21	Mizan Fakir NID: 6860475422 Mbl # 01712-878285	Village: Bheduriya Union: Bhola Sadar Upazila: Bhola Sadar District: Bhola	Mouza: Bheduria Plot no. 1901/28	120	Agriculture land (One Crop)	Leased money yet to be paid to land owner by PIU

Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract

Dike no.	Route No	Land Owner		Land			GFA
		Name and NID	Address	Description	Quantity (Decimal)	Quality of Land	
D 03	21	Salam Fakir NID: 8223014047 Mbl # 01766-138946	Village: Ghagoria Union: Ghagoria Upazila: Mehendiganj District: Barishal	Mouza: Ghagoriya. Plot no. 1901/56	224	Agriculture land (One Crop)	Leased money yet to be paid to land owner by PIU
D 04	21	Jahangir Hossain NID: Mbl # 01620-487692	Village: Shreipur Union: Mehendiganj Upazila: Mehendiganj District: Barishal	Mouza: Ghagoriya. Plot no. 1501	80	Agriculture land (One Crop)	Leased money yet to be paid to land owner by PIU
D 05	21	Mizanur Rahman NID: 6860475422 Mbl # 01712-878285	Village: Ghagoria Union: Mehendiganj Upazila: Mehendiganj District: Barishal	Mouza: Ghagoriya. Plot no. 1107,1181,1182, 2123,2124,2119,2125	300	Agriculture land (One Crop)	Leased money yet to be paid to land owner by PIU
D 06	21	Nur Nabi Vhuyia NID: 616213050970 Mbl # 01846-565388	Village: Ghagoria Union: Mehendiganj Upazila: Mehendiganj District: Barishal	Mouza: Ghagoriya. Plot no. 1468 (DP Khotiyan-385, DP Plot: 4662)	355	Agriculture land (One Crop)	Leased money yet to be paid to land owner by PIU
D 07	21	Nur Nabi Vhuyia NID: 616213050970 Mbl # 01846-565388	Village: Ghagoria Union: Mehendiganj Upazila: Mehendiganj District: Barishal	Mouza: Ghagoriya. Plot no. 1479 (DP Khotiyan-385, DP Plot: 4662)	435	Agriculture land (One Crop)	yet to be done
D 08	21	Zhariul Islam Nakib NID: 4192286039 Mbl # 01711-320785	Village: Bheduriya Union: Bhola Sadar Upazila: Bhola Sadar District: Bhola	Mouza No. Char Bheduriya Khatian No: 1319 JL No: 56	157	Agriculture land (One Crop)	yet to be done
D 09	21	Kabi Hossain Mridha NID: 6878485082 Mbl # 01735-802399	Village: Ghagoria Union: Mehendiganj Upazila: Mehendiganj District: Barishal	Mouza No. Ghagoria Khatian No: 296 JL No: 118	1204	Agriculture land (One Crop)	yet to be done
D 10	21	Md. Hakim uddain NID: 1928737947 Mbl # not given	Village: Bheduria Union: Bhola Sadar Upazila: Bhola Sadar District: Bhola	Did not collect yet	768	Agriculture land (One Crop)	yet to be done
D 11	21	Ruhul amin NID: 0616213050968 Mbl # 01762-447287	Village: Shreipur Union: Mehendiganj Upazila: Mehendiganj District: Barishal	Mouza. Shreepur Survey no. 47 Khatian No: 502,525,526 JL No: 120	444	Agriculture land (One Crop)	yet to be done
D 12	21	Harun chairman NID: Under processing Mobile # 01712-404378	Village: Shreipur Union: Mehendiganj Upazila: Mehendiganj District: Barishal	Did not collect yet	73	Agriculture land (One Crop)	yet to be done
D 13	21	Harun chairman NID: Under processing Mobile # 01712-404378	Village: Shreipur Union: Mehendiganj Upazila: Mehendiganj District: Barishal	Did not collect yet	128	Agriculture land (One Crop)	yet to be done
D 14	21	Mizanur Rahman Harun NID: 6860475422 Mobile # 01712-878285	Village: Shampur Union/post: Kalupur Upazila: Bhola Sadar	Did not collect yet	1017	Agriculture land (One Crop)	yet to be done
D 15	21	Mizanur Rahman Harun NID: 6860475422 Mobile # 01712-878285	Village: Sreepur Union: Mehendiganj Upazila: Mehendiganj District: Barishal	Did not collect yet	1572	Agriculture land (One Crop)	yet to be done
D 16	21	Kamal hossain (member) NID: Not given by contractor Mbl:	Village: Ghagoria Union: Bhola Sadar Upazila: Bhola Sadar District: Bhola	Did not collect yet	1000	Agriculture land (One Crop)	yet to be done

Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract

Dike no.	Route No	Land Owner		Land			GFA
		Name and NID	Address	Description	Quantity (Decimal)	Quality of Land	
D 17	21	Salam Fakir NID: 8223014047 Mbl # 01766-138946	Village: Ghagoria Union: Ghagoria Upazila: Mehendiganj District: Barishal	Did not collect yet	84	Agriculture land (One Crop)	yet to be done
D 18	21	Harun chairman NID: under process Mbl # under process	Village: Ghagoria Union: sreepur Upazila: Mehendiganj District: Barishal	Did not collect yet	171	Agriculture land (One Crop)	yet to be done
D 19	16	MD.Amir hossain Jomaddar NID: 8225574485 Mbl # 01718051191	Village: Sadequepur Union: Mehendiganj Upazila: Mehendiganj District: Barishal	Did not collect yet	1443	Agriculture land (One Crop)	yet to be done
D 20	16	1. Adv. Md Khorshed NID: 7328539411 2. Adv.Md Jakir Hossain NID: 0616213038313 Mbl # 01770198608	Village: Char Mitua Union: Alimabad Upazila: Mehendiganj District: Barishal	Mouza: Char mohisa. Plot no. 324, 325, 326, 344, 345, 346	1294	Agriculture land (One Crop)	yet to be done
D 21	13	Md. Ali Bapari NID: not given Mbl # 01739224610	Village: Narshinshopur Union: Shokhipur Upazila: Bhedorganj District: Shariotpur	Did not collect yet	574	Agriculture land (One Crop)	yet to be done
D 22	13	Government land	Village: Lokkhir char Union: Upazila: Chandpur sadar District: Chandpur	Did not collect yet	400	Fallow Land	N/A
D 23	13	1. Md. Dulal Khan NID: Not given by land owner Mbl # 01729-505858 2.Md. Monir Hossain NID: Not given by land owner Mbl # 01791-330411	Village: Narshinshopur Union: Shokhipur Upazila: Bhedorganj District: Shariotpur	Did not collect yet	446	Agriculture land (One Crop)	yet to be done

ANNEX II: Photos of Project Activities (August 2024)

Progress Meetings, Communication, Consultation, Field Visit, Survey, and Sample Collection::



ANNEX III:
Laboratory Test Results of Environmental Parameters, August, 2024

Laboratory Test Result of Lot-2:



Ref: ELRC/Air Quality/2024307912

Project Name	:	BRWTP-1, LOT-2: OPBC Works of Development Dredging with maintenance and Aids to Navigation with installation along inland waterway Routes- 3 & 4, 5, 6, 7 & 8, 9,10, and 11
Monitoring Activity	:	Ambient Air Quality
Location	:	AQ1: 23.810180° 90.860455°; Near Salimganj Bridge Brahmanbaria; Route 9 AQ2: 23.847961° 90.843801°; Khalla Brahmanbaria; Route 9
Monitoring Date	:	19.08.2024
Reporting Date	:	03.09.2024

Description of Analysis:

Location	Sampling Date	Ambient Air Pollutants' Concentration in µg/m3					CO mg/m3
		SPM	PM10	PM2.5	SO2	NO2	
AQ1	19/08/2024	127.96	62.18	28.47	24.82	29.52	0.5
AQ 2	19/08/2024	123.51	60.84	27.71	23.36	30.82	0.5
Air Pollution (control) rules, 2022*		-	150	65	80	80	5
Method of Analysis Instrument Use: Haz-Scanner TM (HIM, 6000)		Particulates Sensor Light Scattering Nephelometer			High Sensitivity Electrochemical		

Note: * Air Pollution (Control) Rules, 2022

Legend: PM₁₀ -Particulate Matter of a diameter of 10 microns or less. PM_{2.5} -Particulate Matter of a diameter of 2.5 microns or less. SO₂ -Sulphur Dioxide; NO₂ -Nitrogen-Dioxide; CO -Carbon Monoxide



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Ref: ELRC/Noise Level/2024307913

Project Name	:	BRWTP-1, LOT-2: OPBC Works of Development Dredging with maintenance and Aids to Navigation with installation along inland waterway Routes- 3 & 4, 5, 6, 7 & 8, 9,10, and 11.
Monitoring Activity	:	Noise Level
Location	:	NL1: 23.810190° 90.860346°; Near Salimganj Bridge Brahmanbaria; Route 9 NL2: 23.847776° 90.843877°; Khalla Brahmanbaria; Route 9
Monitoring Date	:	19.08.2024
Reporting Date	:	03.09.2024

Description of Analysis:

Location	Noise level (dB(A))			Bangladesh Standard (dB(A)) *	IFC EHS Guideline (2007)	Location setting
	Leq _{day}	L _{max}	L _{min}	Day	Day	Mixed area
NL1	56.8	70.2	32.2	60	70	
NL2	53.6	68.8	31.6	60	70	

Note:

*Ministry of Environment, Forest, and Climate Change. (2006). Noise Pollution (Control) Rules, 2006 (S.R.O. No. 212-Law/2006). The People's Republic of Bangladesh.

A-weighted decibel, abbreviated dB(A), is an expression of the relative loudness of sounds in air as perceived by the human ear. In the A-weighted system, the decibel values of sounds at low frequencies are reduced, as the ear is less sensitive to low audio frequencies, especially below 1000 Hz, than to high audio frequencies.



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Ref: ELRC/Underwater Noise Level/2024307914

Project Name	:	BRWTP-1, LOT-2: OPBC Works of Development Dredging with maintenance and Aids to Navigation with installation along inland waterway Routes- 3 & 4, 5, 6, 7 & 8, 9,10, and 11.
Monitoring Activity	:	Noise Level
Location	:	UWNL1: 23.808623° 90.864417°, Titas River; Route 9
Monitoring Date	:	19.08.2024
Reporting Date	:	03.09.2024

Description of Analysis:

Code	Location	L _{Avg} [dB (A)]	*Standard
UWNL1	Titas River; Route 9	58.2	No International/ GoB Standard



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Ref: ELRC/Surface Water Quality/2024307915

Project Name	: BRWTP-1, LOT-2: OPBC Works of Development Dredging with maintenance and Aids to Navigation with installation along inland waterway Routes- 3 & 4, 5, 6, 7 & 8, 9,10, and 11.
Description of Sample	: Surface Water – Lot 2
Location	: SW1 - 23.815052° 90.856015° - Titas River; Route 9 SW2 - 23.804622° 90.876337° - Titas River; Route 9
Sampling Date	: 19.08.2024
Reporting Date	: 03.09.2024

Description of Analysis:

Parameters	Unit	Concentration Present		Bangladesh Standard
		SW1	SW2	
Temperature	°C	26.3	26.4	-
EC	μS/cm	320	332	-
Turbidity	NTU	4.6	4.9	-
pH	-	7.76	7.80	6-9
TDS	ppm	165	170	1000
DO	mg/L	6.3	6.4	5 of more
Potassium	mg/L	21	27	-
Calcium	mg/L	33	38	-
Magnesium	mg/L	20	27	-
Phosphate	mg/L	1.4	1.6	-
Chloride	mg/L	24	28	-
Fluoride	ppm	0.7	0.7	-
Nitrate	mg/L	0.6	0.6	7
BOD5 (at 20°C)	mg/L	3.5	3.7	6 of less
Sulfate	mg/L	21	26	-
TSS	mg/L	190	203	-

Note: Bangladesh Environment Conservation Rules, 1997- Schedule 3 (Standards for Inland Surface Water). DO: Dissolved Oxygen; BOD: Biological Oxygen Demand; EC: Electric Conductivity; TDS: Total Dissolved Solids; TSS: Total Suspended Solids



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Ref: ELRC/ Dredge Material /2024307917

Project Name	:	BRWTP-1, LOT-2: OPBC Works of Development Dredging with maintenance and Aids to Navigation with installation along inland waterway Routes- 3 & 4, 5, 6, 7 & 8, 9,10, and 11.
Description of Sample	:	Dredge Material – Lot 2
Location	:	DM1 - 23.809851° 90.858637° - Khalla; Route 9
Sampling Date	:	19.08.2024
Reporting Date	:	03.09.2024

Description of Analysis:

Parameter	Unit	Dredge Material – Lot 2	Methodology	Dutch Environmental Standard (mg/kg)
		DM1		
Lead	mg/kg	11.62	ICPMS	85
Cadmium	mg/kg	0.07	ICPMS	0.8
Chromium	mg/kg	16.28	ICPMS	100
Zinc	mg/kg	19.44	ICPMS	140
Arsenic	mg/kg	11.62	ICPMS	29

Note: ICPMS - Inductively coupled plasma mass spectrometry



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Laboratory Test Result of Lot-3:



Ref: ELRC/Air Quality/ AQMM2024-07

Project Name	: BIWTP -I, LOT-3: OPBC Works of Development Dredging with maintenance and Aids to Navigation with installation along inland waterway Routes- 12,13,13a, 15 & 16, 17 and 21
Monitoring Activity	: Ambient Air Quality
Monitoring Date	: 21.08.2024
Monitoring Location	: Route 13; (AQ-1)- 23°10'45.15"N 90°34'58.50"E

Description of Analysis:

Location	Sampling Date	Ambient Air Pollutants' Concentration in $\mu\text{g}/\text{m}^3$					CO mg/m3
		SPM	PM ₁₀	PM _{2.5}	SO ₂	NO ₂	
AQ-1 Route 13	21/08/2024	56.44	32.10	16.38	12.29	15.03	0.3
Air Pollution (control) rules, 2022*		-	150	65	80	80	5
Method of Analysis		Particulates Sensor			High Sensitivity		
Instrument Use:		Light Scattering Nephelometer			Electrochemical		
Haz-Scanner TM (HIM, 6000)							

Note: * Air Pollution (Control) Rules, 2022

Legend: PM₁₀-Particulate Matter of a diameter of 10 microns or less. PM_{2.5}-Particulate Matter of a diameter of 2.5 microns or less. SO₂-Sulphur Dioxide; NO₂-Nitrogen-Dioxide; CO -Carbon Monoxide

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Ref: ELRC/Noise Level/ NLMM2024-07

Project Name	:	BIWTP -1, LOT-3: OPBC Works of Development Dredging with maintenance and Aids to Navigation with installation along inland waterway Routes- 12,13,13a, 15 & 16, 17 and 21
Monitoring Activity	:	Noise Level
Location	:	NL1 23°10'46.09"N 90°34'58.57"E, (Route 13) NL2 23°13'51.21"N 90°38'27.92"E, (Route 12)
Monitoring Date	:	21.08.2024

Description of Analysis:

Location	Noise level (dB(A)) ¹			Bangladesh Standard (dB(A)) ²	IFC EHS Guideline (2007) ³	Location setting
	Leq _{day}	L _{max}	L _{min}	Day	Day	
NL1	57.38	75.62	34.41	-	-	-
NL2	68.32	80.28	36.72	60	70	Mixed Area

Note:

¹Ministry of Environment, Forest, and Climate Change. (2006). Noise Pollution (Control) Rules, 2006 (S.R.O. No. 212-Law/2006). The People's Republic of Bangladesh.

A-weighted decibel, abbreviated dB(A), is an expression of the relative loudness of sounds in air as perceived by the human ear. In the A-weighted system, the decibel values of sounds at low frequencies are reduced, as the ear is less sensitive to low audio frequencies, especially below 1000 Hz, than to high audio frequencies.

¹ A-weighted decibel, abbreviated dB(A), is an expression of the relative loudness of sounds in air as perceived by the human ear. In the A-weighted system, the decibel values of sounds at low frequencies are reduced, as the ear is less sensitive to low audio frequencies, especially below 1000 Hz, than to high audio frequencies.

²Ministry of Environment, Forest, and Climate Change. (2006). Noise Pollution (Control) Rules, 2006 (S.R.O. No. 212-Law/2006). The People's Republic of Bangladesh.

³ Guidelines values are for noise levels measured out of doors. Source: Guidelines for Community Noise, World Health Organization (WHO), 1999

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Ref: ELRC/ Underwater Noise Level/ UWNL2024-07

Project Name	:	BIWTP -1, LOT-3: OPBC Works of Development Dredging with maintenance and Aids to Navigation with installation along inland waterway Routes- 12,13,13a, 15 & 16, 17 and 21
Monitoring Activity	:	Underwater Noise Level
Location	:	UWNL1 23°10'49.73"N 90°35'0.44"E, Route-13 UWNL2 23°13'32.80"N 90°38'46.61"E, Route-12
Monitoring Date	:	21.08.2024

Description of Analysis:

Code	Location	L _{Avg} [dB (A)]	*Standard
		[dB (A)]	
UWNL1	Route 13	60.30	No standard of International / GoB
UWNL2	Route 12	73.66	

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Ref: ELRC/Surface Water Quality/ SWMM2024-07

Project Name	:	BIWTP -I, LOT-3: OPBC Works of Development Dredging with maintenance and Aids to Navigation with installation along inland waterway Routes- 12,13,13a, 15 & 16, 17 and 21
Description of Sample	:	Surface Water
Location	:	Route- 13 & 12.
		SW1 - 23°10'43.60"N 90°34'59.59"E, Route 13
		SW2 - 23°13'38.73"N 90°38'42.22"E, Route 12
Sampling Date	:	21.08.2024

Description of Analysis:

Parameters	Unit	Concentration Present (Route – 13 & 12)		Bangladesh Standard
		SW1	SW2	
Temperature	°C	25.3	25.8	-
EC	µS/cm	215	165	-
Turbidity	NTU	11.3	10.5	-
pH	-	7.40	7.15	6 - 9
TDS	ppm	103	71	1000
DO	mg/L	6.9	6.2	5 or more
Potassium	mg/L	7.2	7.9	-
Calcium	mg/L	<0.01	<0.01	-
Magnesium	mg/L	17	14	-
Phosphate	mg/L	<0.01	<0.01	0.05
Chloride	mg/L	4.3	5.6	-
Fluoride	ppm	0.10	0.19	-
Nitrate	mg/L	0.6	0.8	7.0
BOD5 (at 20°C)	mg/L	1.5	1.7	6 or less
Sulfate	mg/L	16	12	-
TSS	mg/L	40	32	-

Note: * Bangladesh Environment Conservation Rules-2023, Schedule 2(Ka) (Water Usable for Fisheries). DO: Dissolved Oxygen; BOD: Biological Oxygen Demand; EC: Electric Conductivity, TDS: Total Dissolved Solids; TSS: Total Suspended Solids

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Ref: ELRC/ Riverbed sediment / SDMM2024-07

Project Name	:	BIWTP -I, LOT-3: OPBC Works of Development Dredging with maintenance and Aids to Navigation with installation along inland waterway Routes- 12,13,13a, 15 &16, 17 and 21
Description of Sample	:	Riverbed sediment – Lot 3
Sampling Date	:	21.08.2024

Location Details:

Code	Route No.	GPS Location
SedQ1	Route 13	23°10'47.05"N 90°35'0.21"E
SedQ2	Route 12	23°13'34.85"N 90°38'44.95"E

Description of Analysis:

Parameter	Unit	Riverbed sediment – Lot 3		Methodology	Dutch Environmental standard (mg/kg)
		SedQ1	SedQ2		
Lead	mg/kg	8.58	9.16	ICPMS	85
Cadmium	mg/kg	0.060	0.063	ICPMS	0.8
Chromium	mg/kg	13.32	15.87	ICPMS	100
Zinc	mg/kg	15.22	20.14	ICPMS	140
Arsenic	mg/kg	1.62	1.77	ICPMS	29

Note: ICPMS - Inductively coupled plasma mass spectrometry

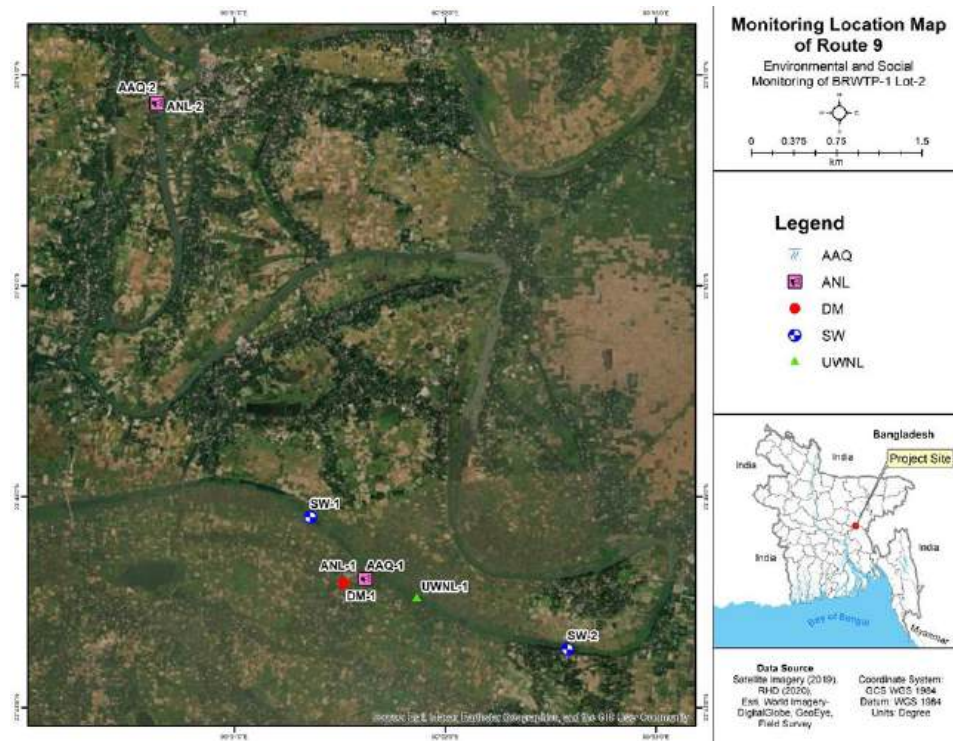
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ANNEX IV: Location of Environmental Sample Collection

Location Map Environmental Sample Collection at Lot-2 sites:



ANNEX V:

Environmental Quality Assessment and Compliance Status for August 2024

Table 1: Environmental Quality Assessment for August 2024 for Lot-2

Sl No.	Item	Parameters	Baseline Data of Route 09	Route-9	SIA Remarks August 2024
			January 2023	August 2024	
1	Air Quality	SPM	140.34	127.96	*WAL
		PM10	58.34	62.18	WAL
		PM2.5	31.43	28.47	WAL
		SO2	15.29	24.82	WAL
		NO2	12.75	29.52	WAL
		CO	1.3	0.5	WAL
2	Noise Level	LEQ day	61.6	56.8	WAL
		Lmax	76	70.2	WAL
		Lmin	42.8	32.2	WAL
3	Underwater Noise Level	LAvg [dB (A)]	-	57.7	WAL
4	Surface Water Quality	Temperature	22.1	26.3	WAL
		EC	170	320	WAL
		pH	7.20	7.76	WAL
		TDS	160	165	WAL
		DO	4.5	6.3	WAL
		BOD5	10	3.5	WAL
		TSS	83	190	WAL
		Lead (Pb)	9.79	-	WAL
5	Riverbed Sediment	Cadmium (Cd)	0.054	-	WAL
		Chromium(Cr)	15.94	-	WAL
		Zinc (Zn)	26.32	-	WAL
		Arsenic (As)	1.96	-	WAL
		Lead (Pb)	-	11.62	WAL
6	Dredged Material	Cadmium (Cd)	-	0.07	WAL
		Chromium (Cr)	-	16.28	WAL
		Zinc (Zn)	-	19.44	WAL
		Arsenic (As)	-	1.26	WAL
		Lead (Pb)	-	11.62	WAL

*WAL=Within Approved Limit; - = Sample was not collected.

Table 2: Compliance Status for August 2024 for Lot-2

Visual Monitoring Compliance								
Potential Aspects	Description	EMP Measures (Proposed in the EIA)	Measures Already Implemented	Compliance Status			Remarks/ Recommendation	Recommended deadline for implementing the corrective measures
				C	P	N		
Aquatic Flora & Fauna including Plankton, Benthos, fish, dolphin	Observations included 31 fish species and 3 crustacean species, with no fish mortality recorded. One Ganges River Dolphin was sighted near Char Modhua during the monitoring period. No freshwater turtles were observed, and locals confirmed their absence in recent months.	Mitigation measures not required	No mitigation measure was suggested by the Lot 2 monitoring team.	-	P	-	It is recommended to communicate with the Department of Fisheries regarding the conservation of endangered species and the destructive fishing gear used by local fishermen. The water level is currently high, increasing the possibility of dolphins venturing into the river. It is recommended to dedicate ample time to observation	
Sediment Dispersion	Not measured	-	-	-	-	N	Contractors were notified to measure sediment plume on the 1st of March 2023, followed by verbal instruction and reminder emails	No action taken or data provided by the contractors yet. Will be reminded again.

Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract

Visual Monitoring Compliance								
Potential Aspects	Description	EMP Measures (Proposed in the EIA)	Measures Already Implemented	Compliance Status			Remarks/ Recommendation	Recommended deadline for implementing the corrective measures
				C	P	N		
Riverbank Erosion	There were no issues regarding riverbank erosion or flooding.	Dredger stopped and relocated	Dredger stopped and relocated some protection measures taken	C	-	-	Stop dredging and relocate	Recommended reporting to the authorities and stop dredging
Hydrological Conditions	Surveyed before dredging			C				
Drainage Congestion	No remarkable congestion was observed at the dredged material disposal sites.			-	P	-	No reports of any drainage congestion. Regular monitoring	Keep clear all drainage channels. Regular monitoring
River Traffic/ Transport	River traffic-related signboards have already been fixed to ensure a safe river traffic movement		No mitigation measure is required		P	-	Install river traffic and navigation-related signboards	Urged to expedite the installation of the remaining Aids to Navigation items immediately to ensure timely completion.
Accidental Spillage	No reports yet	Oil spill emergency plan. 24/7 ready plan	-		P	-	Logbook to be maintained, in case, of any incident, report to the authority	No action taken yet
Sediment leakages from pipes and sediment disposal	No significant leakages were observed with the floater and/or delivery pipe	Maintain pipes	Pipes regularly checked	-	P	-	Stop dredging, fix the problem before resumption; and report to the authority	
Drinking water & sanitation	Safe drinking water is being supplied	Source to be mentioned	-	-	C	-	-	Source of drinking water to be mentioned
Safety of workers	Occupational safety		PPEs provided	-	-	P	Monitor the use of PPEs	Regular monitoring, punitive measures for not using PPEs, or Awareness programs for using PPEs. Besides, need to provide an adequate number of PPEs.
Waste management	Waste bins have been placed on the houseboat as well as in the dredger and maintained		-	-	C	-	Colored collection bins for organic and non-organic solid wastes; no wastes in the river	Mention later stages, what happens after collection from waste bins
Cultural and archeological Sites	Preservation of such sites		x	-	x	x	Stop dredging, report to the authorities	-
Wastewater	Drained properly		-	-	-	P	-	-

Note: The table was prepared based on observations from the field visit.

Table 3: Environmental Quality Assessment for August 2024 for Lot 3

SI No.	Item	Parameters	Baseline Data of Route 13	Route 13	Baseline Data of Route 12	Route 12	SIA Remarks August 2024
				August 2024		August 2024	
1	Ambient Air Pollutants' Concentration in $\mu\text{g}/\text{m}^3$	SPM	181.92	56.44	189.34	-	WAL
		PM10	92.79	32.10	104.36	-	WAL
		PM2.5	51.34	16.38	58.93	-	WAL
		SO2	24.66	12.29	28.51	-	WAL
		NO2	32.92	15.03	39.60	-	WAL
		CO	1.2	0.3	1.6	-	WAL
2	Noise Level	LEQ day	62.3	57.38	51.3	68.32	WAL
		Lmax	84.0	75.62	43.7	80.28	Mixed Area.
		Lmin	35.2	34.41	30.9	36.72	WAL
3	Under Water Noise Level	LAvg [dB (A)]	-	60.30	-	73.66	WAL
		Temperature	22.4	25.3	22.3	25.8	WAL
		EC	280	215	300	165	WAL

Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract

Sl No.	Item	Parameters	BaselineData of Route 13	Route 13	BaselineData of Route 12	Route 12	S1A Remarks August 2024
				August 2024		August 2024	
4	Surface Water Quality	pH	7.57	7.40	6.67	7.15	WAL
		TDS	140	103	150	71	WAL
		DO	6.3	6.9	4.4	6.2	WAL
		BOD5	0.5	1.5	2.1	1.7	WAL
		TSS	30	40	39	32	WAL
5	Riverbed Sediment	Lead	10.91	8.58	8.10	9.16	WAL
		Cadmium	0.037	0.060	0.078	0.063	WAL
		Chromium	21.35	13.32	25.03	15.87	WAL
		Zinc	28.02	15.22	46.14	20.14	WAL
		Arsenic	2.48	1.62	3.83	1.77	WAL

*WAL=Within Approved Limit.

Table 4: Compliance Status for August 2024 for Lot-3

Visual Monitoring Compliance								
Potential Aspects	Description	EMP Measures (Proposed in the EIA)	Measures Already Implemented	ComplianceStatus			Remarks/ Recommendation	Recommended deadline for implementing the corrective measures
				C	P	N		
Aquatic Flora and Fauna including Plankton, Benthos, fish, dolphin	26 fish species and 5 crustacean species (prawn) were observed in river routes 12 and 13, with no visible fish mortality around the dredging site. The monitoring team did not observe any Ganges River Dolphins within 500m upstream or downstream of the dredging site, nor any freshwater turtles in the dredging or adjacent areas.	Mitigation measures not required	No mitigation measure is required in the reporting period	-	P	-	Lo2 and Lot 3 ESHS staff were advised to be physically present while dredging is ongoing to give more effort and to spend more time on regular monitoring of the habitat and biodiversity.	To be practiced every month
Sediment Dispersion	Not measured	x	No mitigation measure is required in the reporting period	-	-	N	Contractors were notified to measure the sediment plume on the 1st of March 2023. Reminders were given verbally and by email	No action taken or data provided by the contractors yet. Will be reminded again
Riverbank Erosion	No reports of riverbank erosion or flooding occurred during the reporting month.	Regular monitoring		-	P	-		Regular monitoring
Hydrological Conditions	Surveyed before dredging							
Drainage Congestion	No drainage congestion was observed during this month.				P	-	No reports of any drainage congestion	To be monitored regularly, early mornings and evenings

Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract

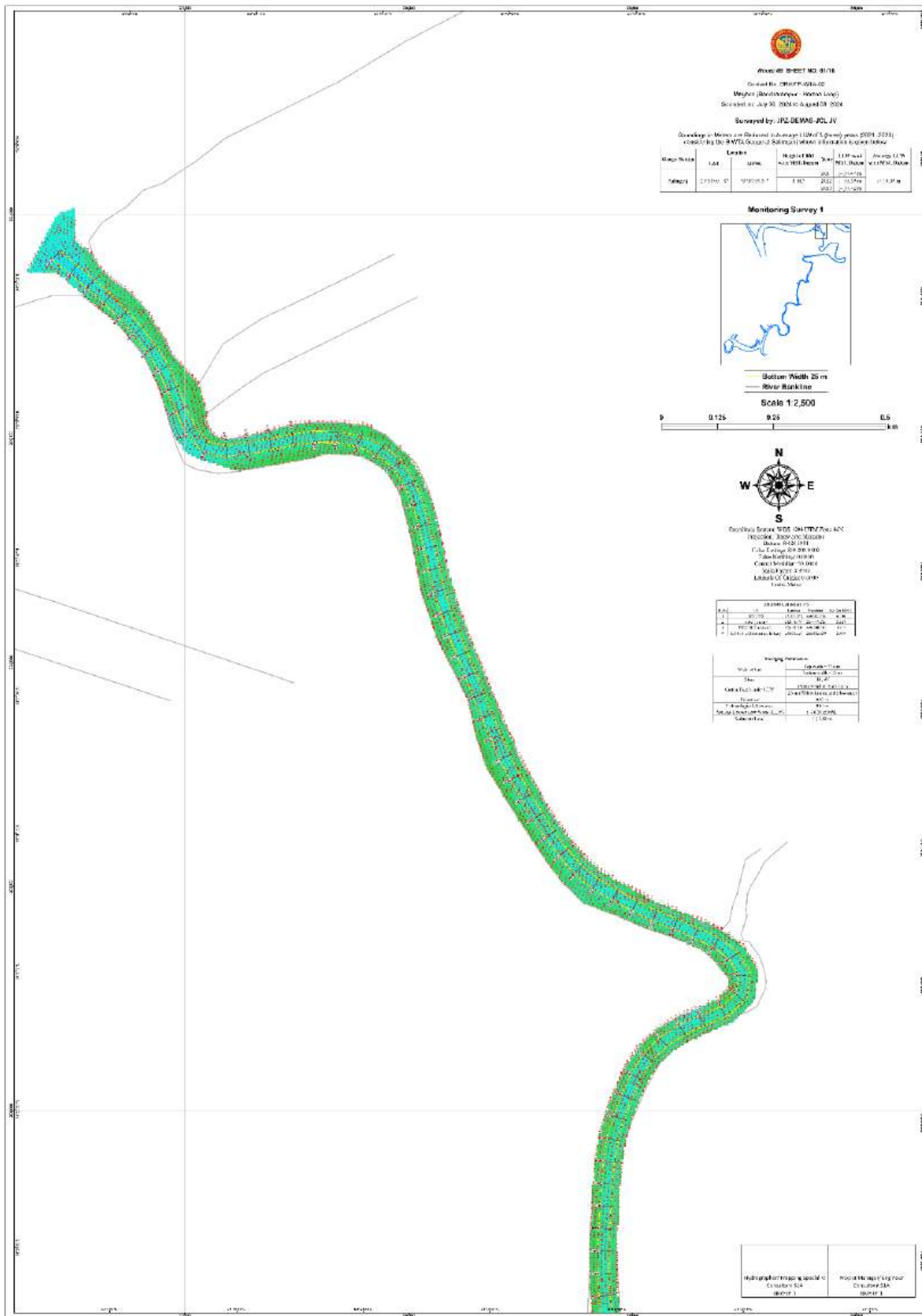
Visual Monitoring Compliance								
Potential Aspects	Description	EMP Measures (Proposed in the EIA)	Measures Already Implemented	Compliance Status			Remarks/ Recommendation	Recommended deadline for implementing the corrective measures
				C	P	N		
River Traffic/Transport	No traffic-related problems were identified	Appropriate aids to navigation to be installed	Procurement of aids to navigation under process	-	P	-	River traffic-related sign boards observed	Appropriate aids to navigation to be installed soon, some.
Accidental Spillage	No reports yet	Monitoring and preparedness to handle any accidental spillage	No spills from chemical storage	-	P	-	Emergency oil spill management plan	Emergency Plan in place, to be updated if necessary
Sediment leakages from pipes and sediment disposal	No reports of any leakage	Maintain pipes, regular checking	During this reporting month, no leakage was found in the dredge pipe. Pipes regularly checked	-	P	-	No reports of leakage	Stop dredging, fix the problem before resumption; and report to the authority
Drinking water & sanitation	Safe drinking water is being supplied			C	-	-		Drinking water source to be mentioned
Safety of workers	Occupational safety		PPEs provided	-	-	N	Awareness of using PPEs	Give warning notice to workers
Waste management	Waste bins have been placed on the houseboat as well as in the dredger and maintained		-	C	-	-	Colored collection bins for organic and non-organic solid wastes; no wastes in the river	Mention the end process where does the waste go from the bins?
Cultural and archeological Sites	Preservation of such sites		x	-	x	x	Stop dredging, report to the authorities	-
Wastewater	From houseboats, dikes, etc.	Treated, release after settling	Not described	-	-	N	To be treated before release	-

ANNEX VI:
Monitoring Survey Conducted by S1A Consultant:

Monitoring Survey conducted by S1A Consultant:

Lot 2						
SL No.	Date			Route No.	Chainage	Length (km)
1	30-Jul-24	to	7-Aug-24	Route - 09	00+000 km to 60+000 km	60
2	9-Aug-24	to	13-Aug-24	Route - 06	00+000 km to 25+000 km	25
3	14-Aug-24	to	16-Aug-24	Route – 07 & 08	00+000 km to 30+000 km	30
4	23-Aug-24	to	23-Aug-24	Route – 11	00+000 km to 16+000 km	16
5	26-Aug-24	to	28-Aug-24	Route - 05	00+000 km to 15+000 km	15
Total (km)						146

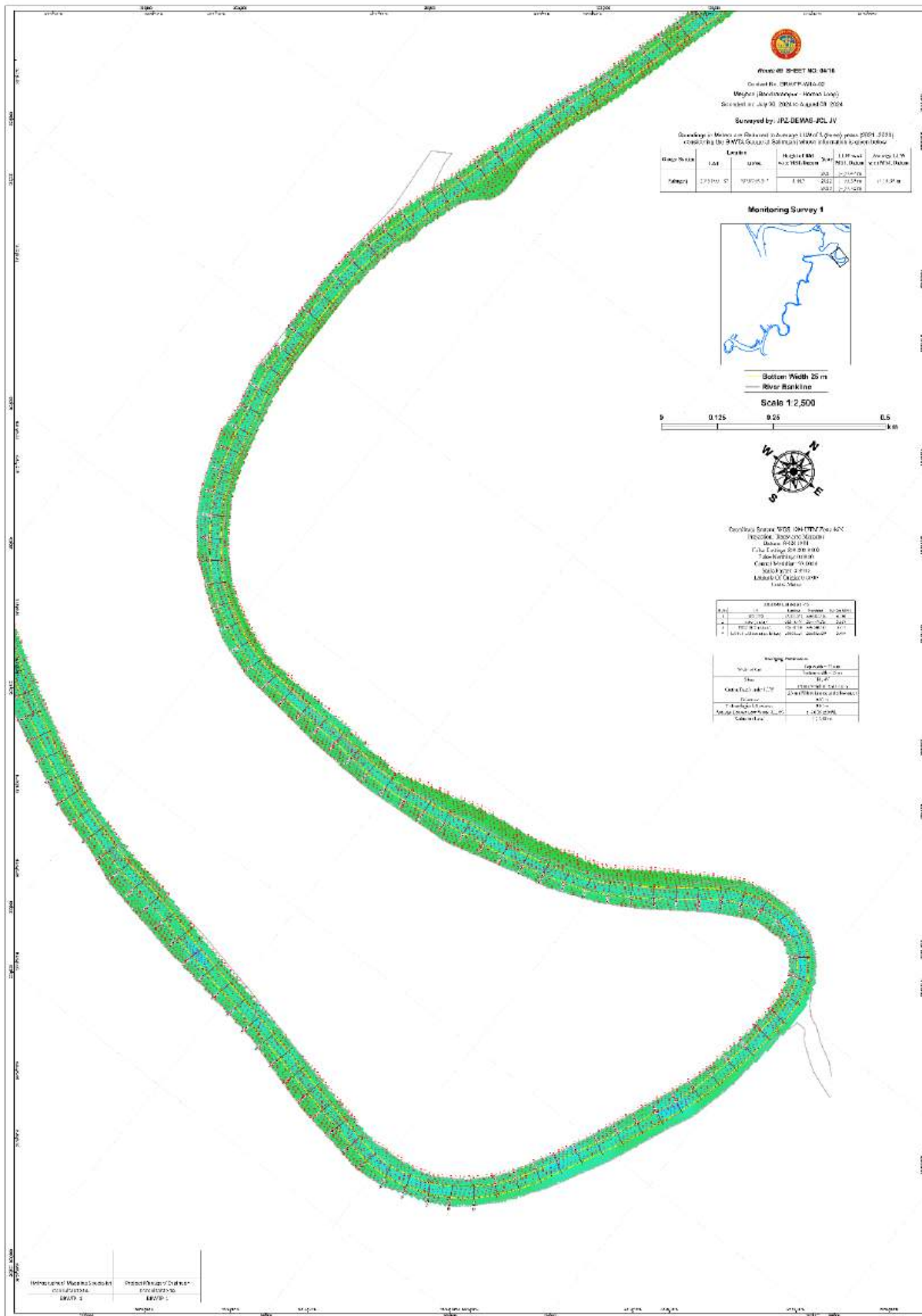
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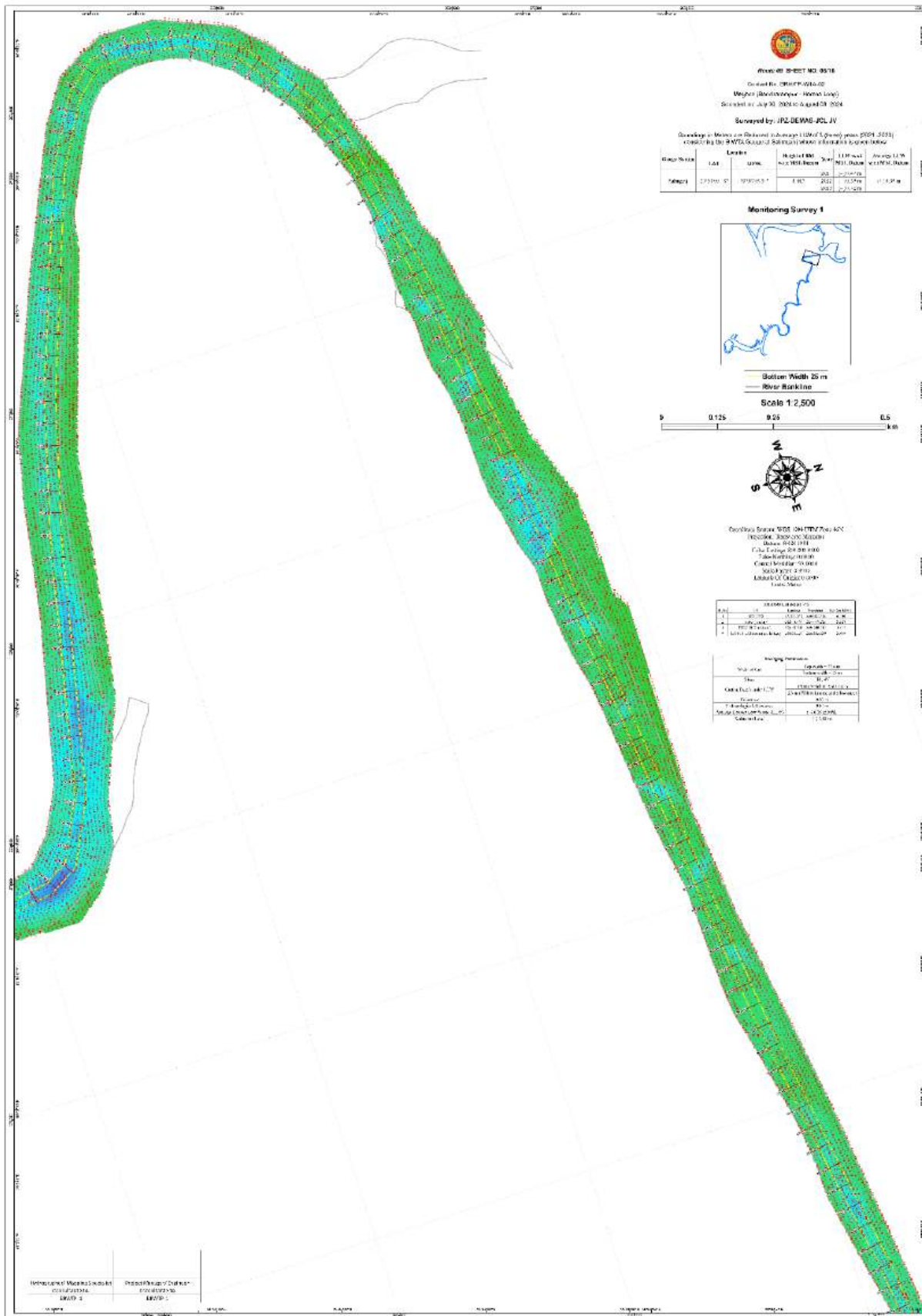
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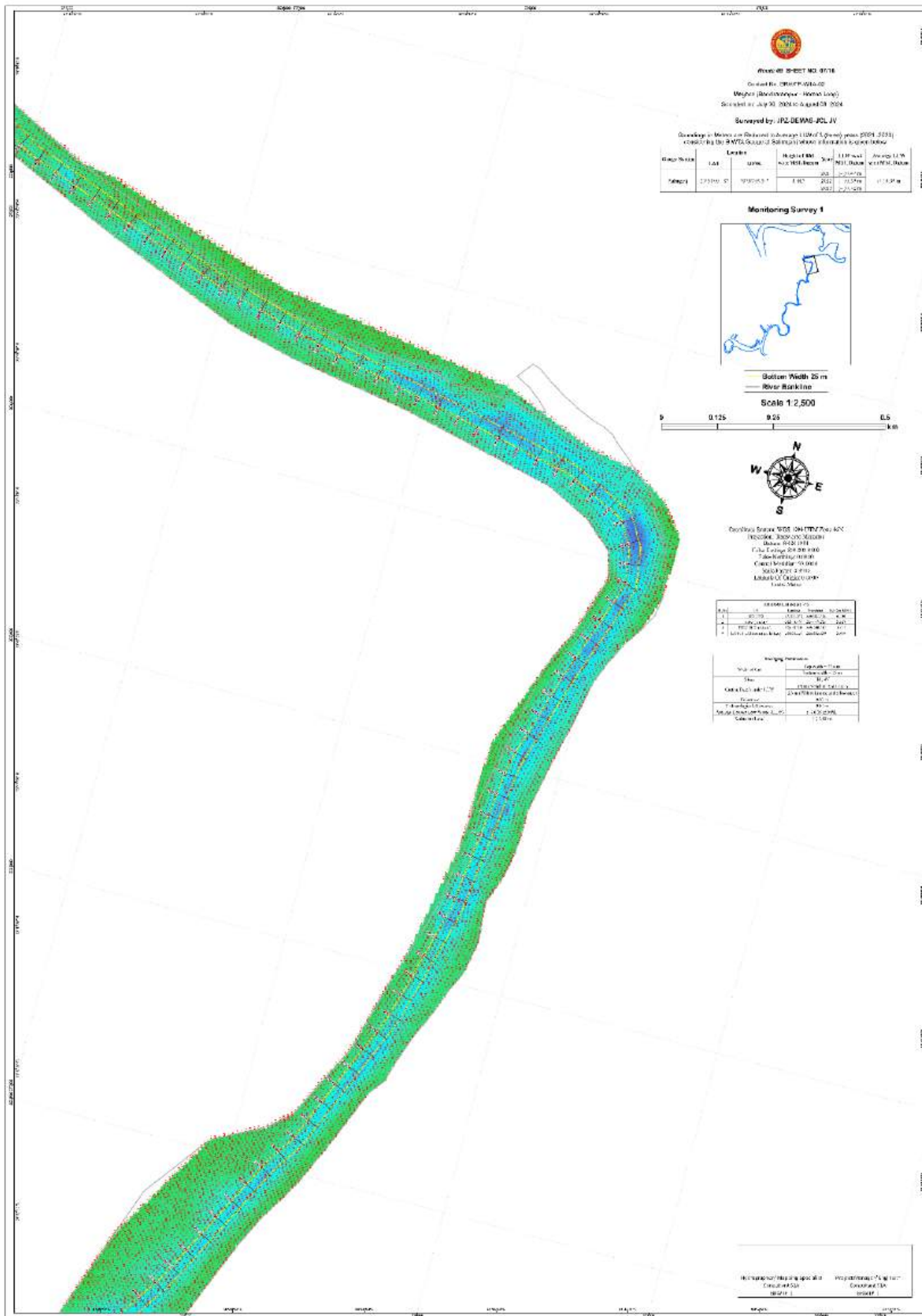
Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



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Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



Monitoring Survey 1

Scale 1:2,500

0 0.125 0.25 0.5 km

Legend

- Bottom Width 25 m
- River Markings

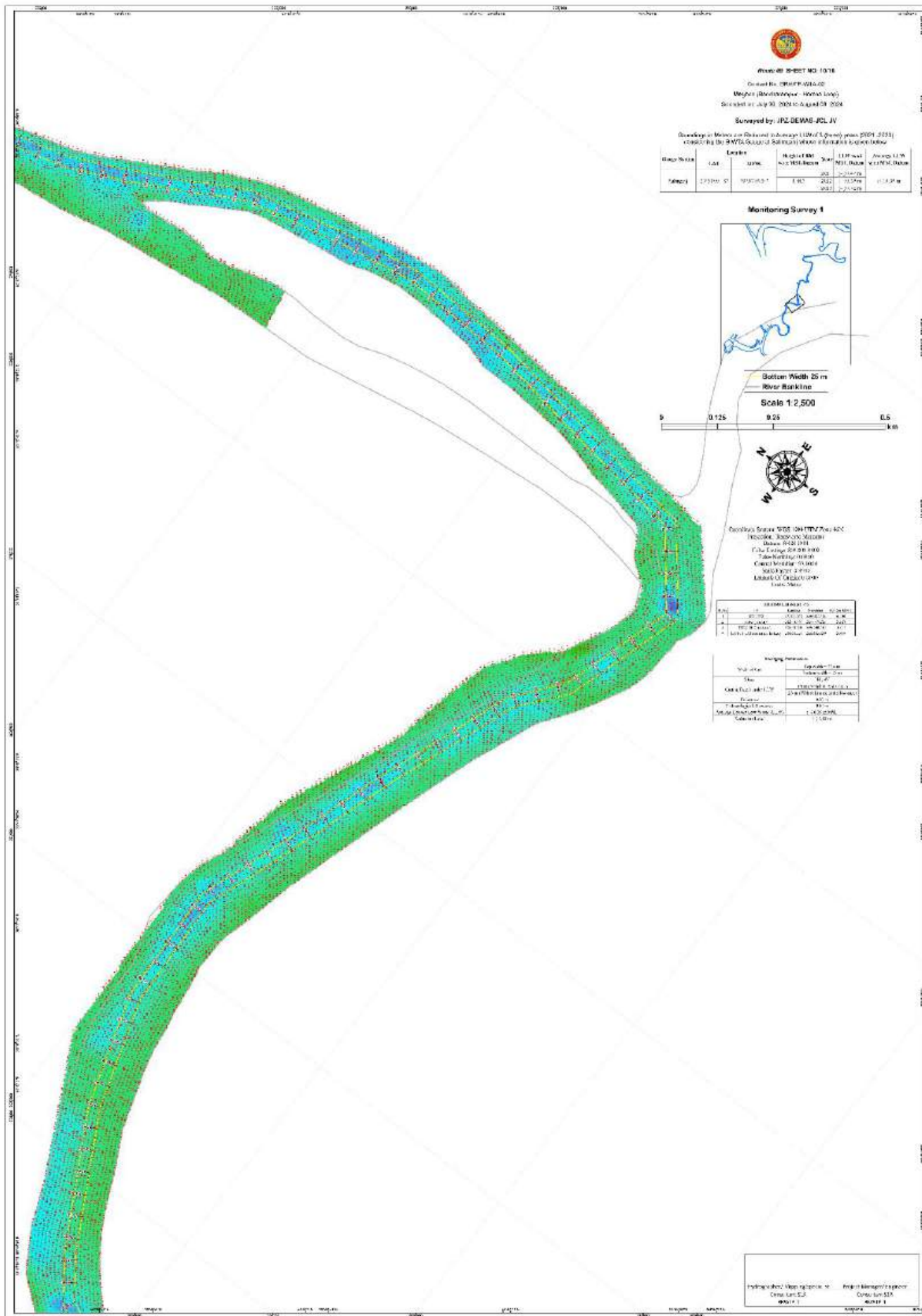
Coordinates

Latitude: 13° 00' 00" S
Longitude: 33° 00' 00" E

Table 1: River Measurements

Station	Depth (m)	Width (m)	Flow (m³/s)
1	1.5	10	10
2	2.0	15	15
3	2.5	20	20
4	3.0	25	25
5	3.5	30	30
6	4.0	35	35
7	4.5	40	40
8	5.0	45	45
9	5.5	50	50
10	6.0	55	55
11	6.5	60	60
12	7.0	65	65
13	7.5	70	70
14	8.0	75	75
15	8.5	80	80
16	9.0	85	85
17	9.5	90	90
18	10.0	95	95
19	10.5	100	100
20	11.0	105	105
21	11.5	110	110
22	12.0	115	115
23	12.5	120	120
24	13.0	125	125
25	13.5	130	130
26	14.0	135	135
27	14.5	140	140
28	15.0	145	145
29	15.5	150	150
30	16.0	155	155
31	16.5	160	160
32	17.0	165	165
33	17.5	170	170
34	18.0	175	175
35	18.5	180	180
36	19.0	185	185
37	19.5	190	190
38	20.0	195	195
39	20.5	200	200
40	21.0	205	205
41	21.5	210	210
42	22.0	215	215
43	22.5	220	220
44	23.0	225	225
45	23.5	230	230
46	24.0	235	235
47	24.5	240	240
48	25.0	245	245
49	25.5	250	250
50	26.0	255	255
51	26.5	260	260
52	27.0	265	265
53	27.5	270	270
54	28.0	275	275
55	28.5	280	280
56	29.0	285	285
57	29.5	290	290
58	30.0	295	295
59	30.5	300	300
60	31.0	305	305
61	31.5	310	310
62	32.0	315	315
63	32.5	320	320
64	33.0	325	325
65	33.5	330	330
66	34.0	335	335
67	34.5	340	340
68	35.0	345	345
69	35.5	350	350
70	36.0	355	355
71	36.5	360	360
72	37.0	365	365
73	37.5	370	370
74	38.0	375	375
75	38.5	380	380
76	39.0	385	385
77	39.5	390	390
78	40.0	395	395
79	40.5	400	400
80	41.0	405	405
81	41.5	410	410
82	42.0	415	415
83	42.5	420	420
84	43.0	425	425
85	43.5	430	430
86	44.0	435	435
87	44.5	440	440
88	45.0	445	445
89	45.5	450	

Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



Kumbhariya River Siltation Monitoring Survey 1

Location: Kumbhariya River, Siltation Monitoring Survey 1

Scale: 1:2,500

Legend:

- Bottom Width 25 m
- River Markings

Scale 1:2,500

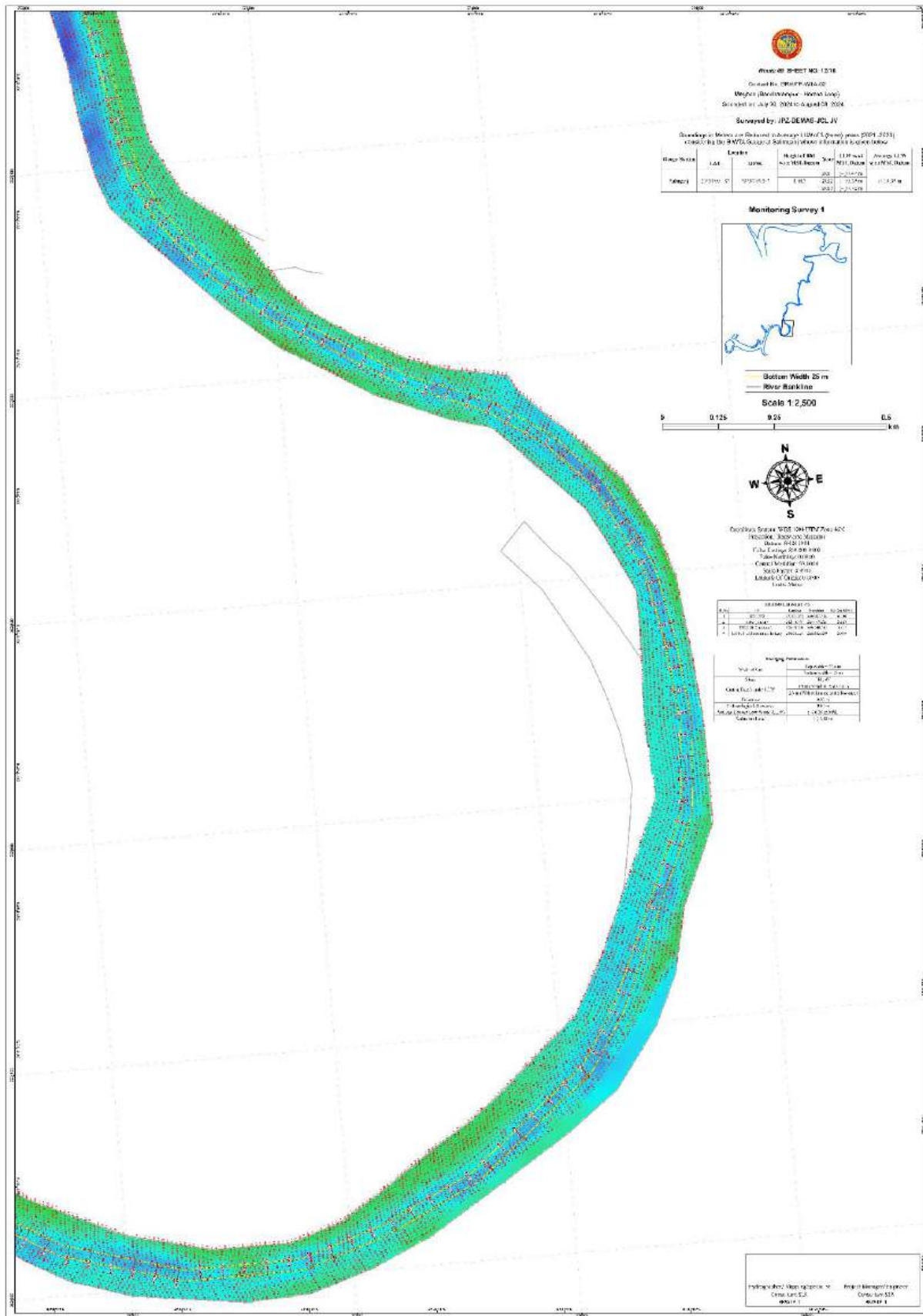
0 0.125 0.25 0.5 1.0 km

North Arrow

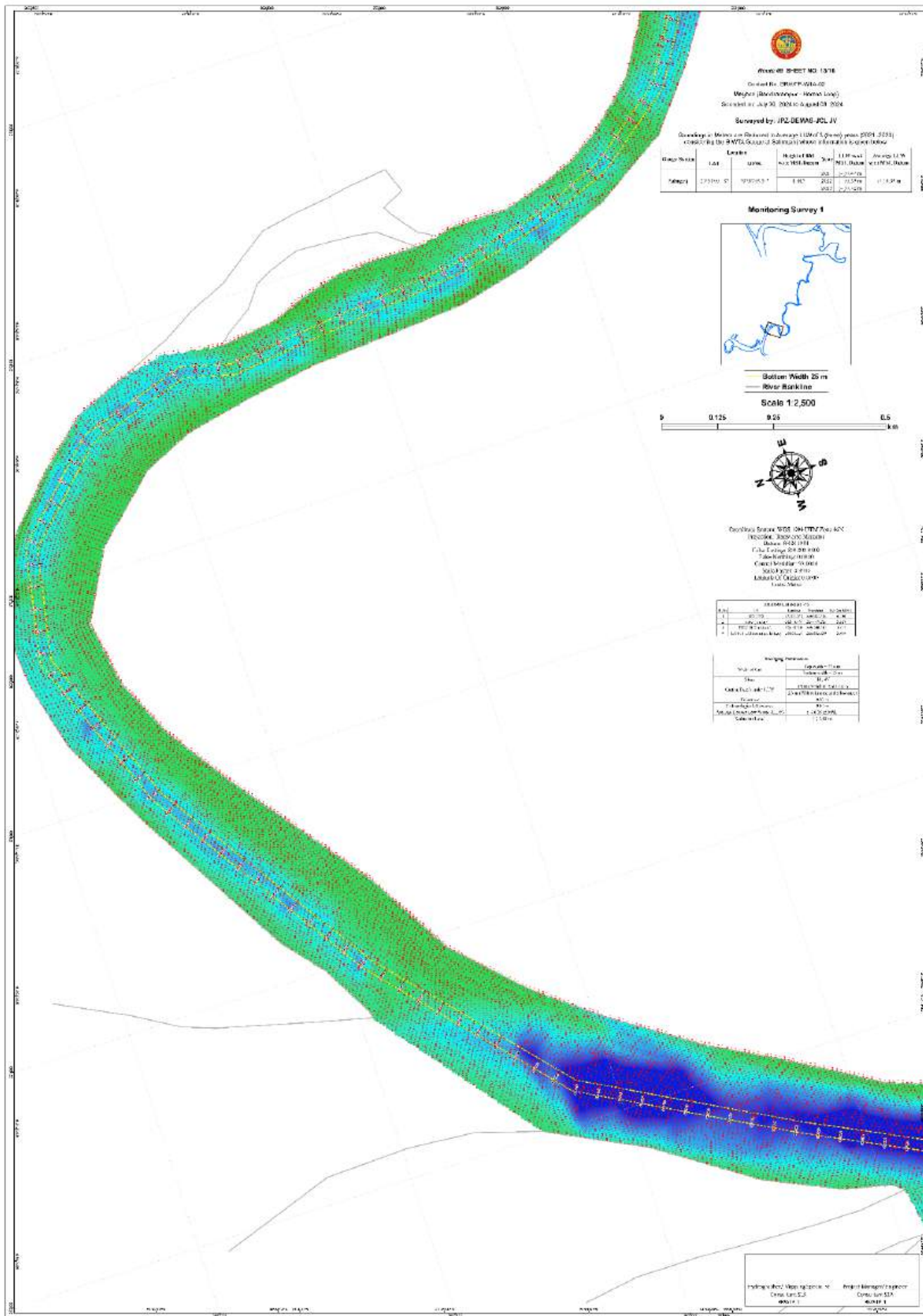
Survey Data:

Date	Time	Location
10/01/2018	10:00 AM	Kumbhariya River, Siltation Monitoring Survey 1

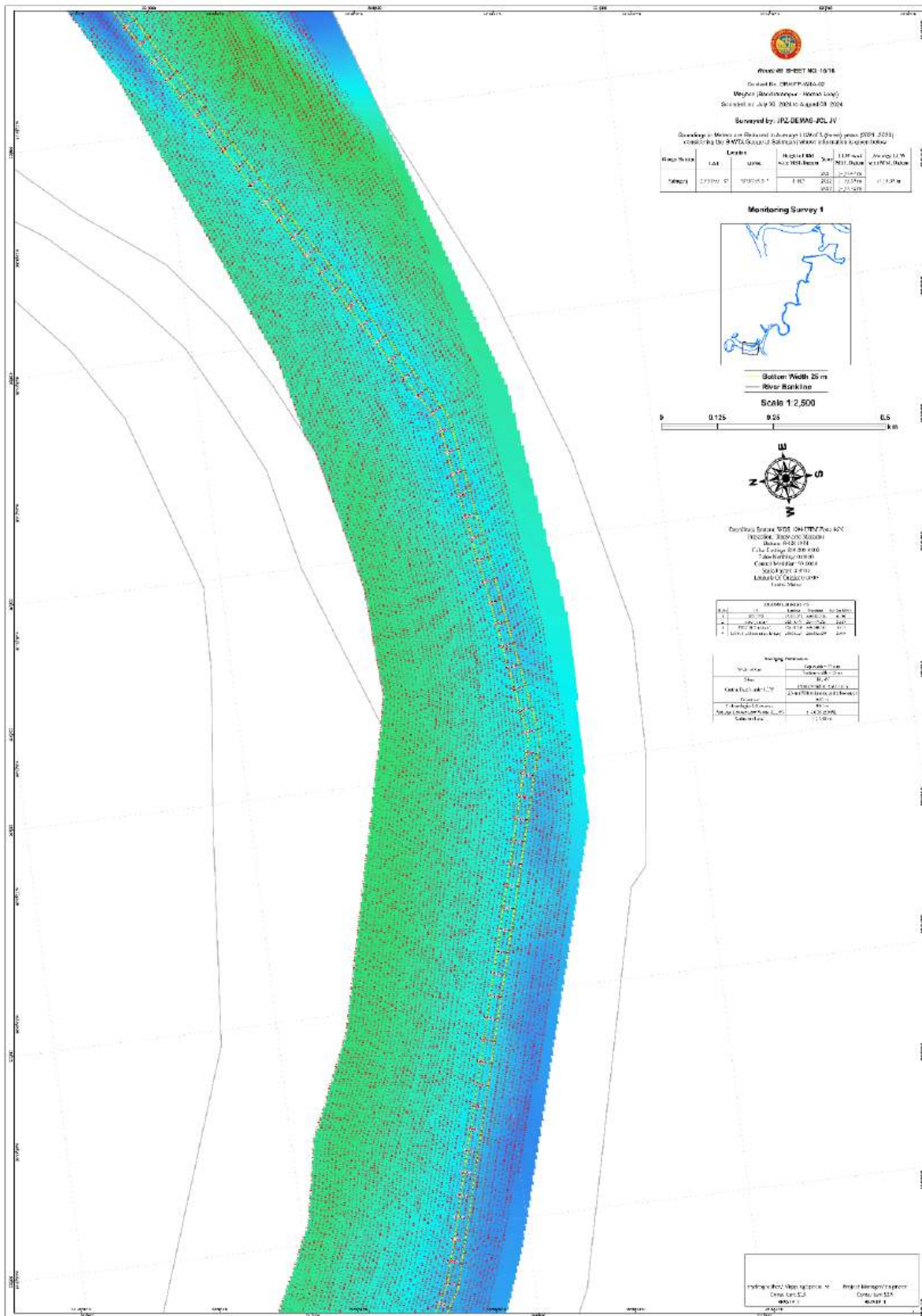
Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



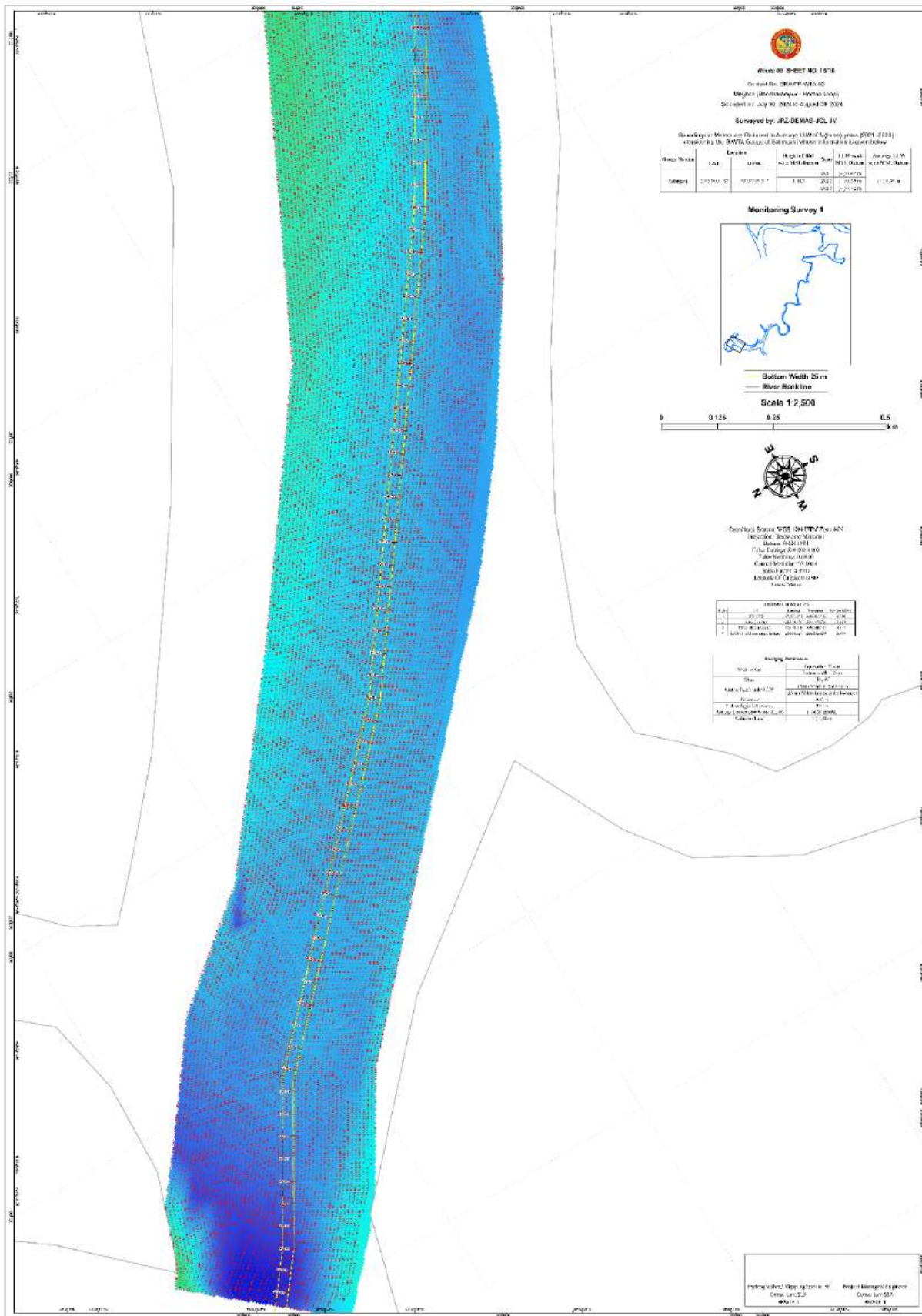
Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract

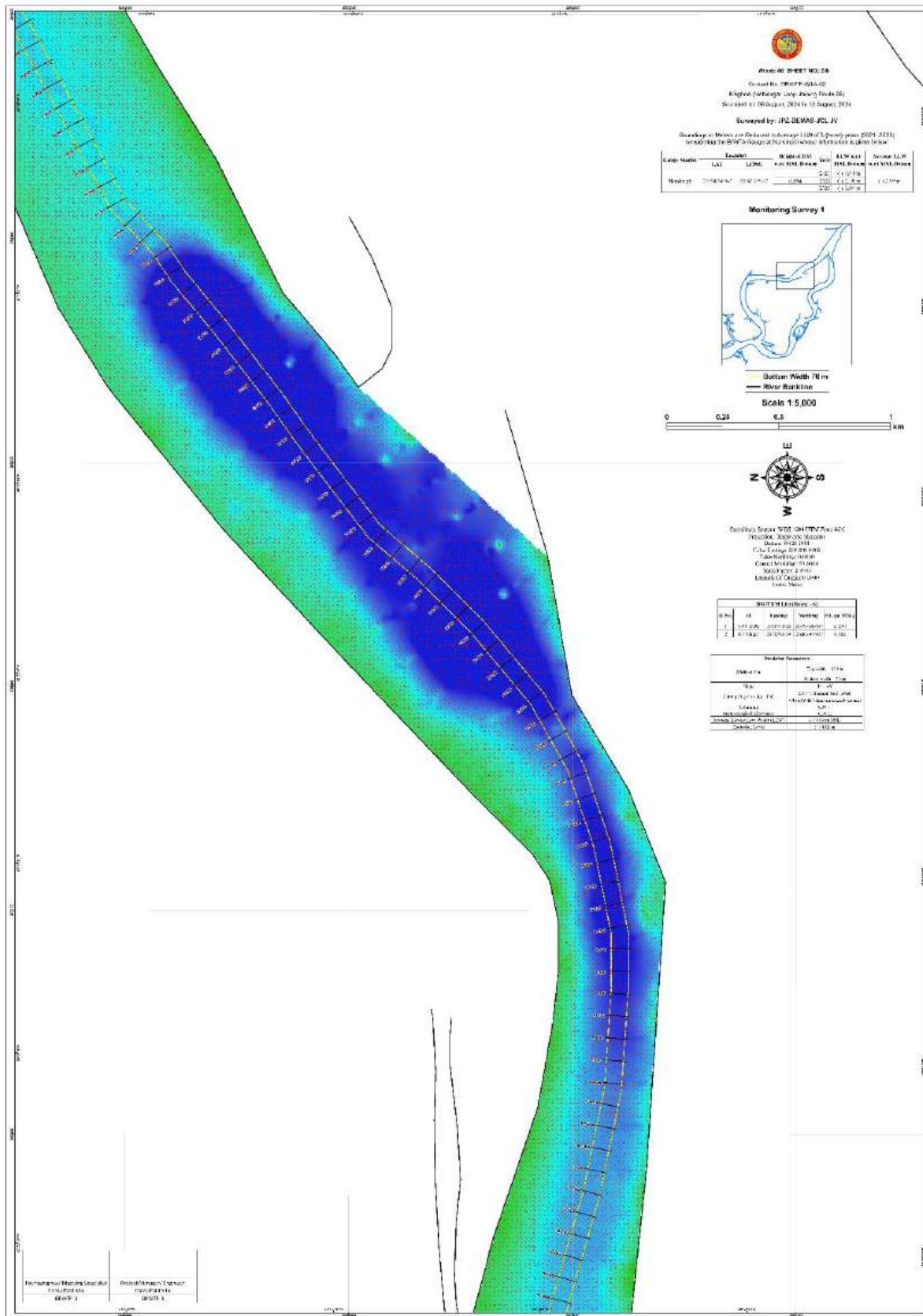


Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract

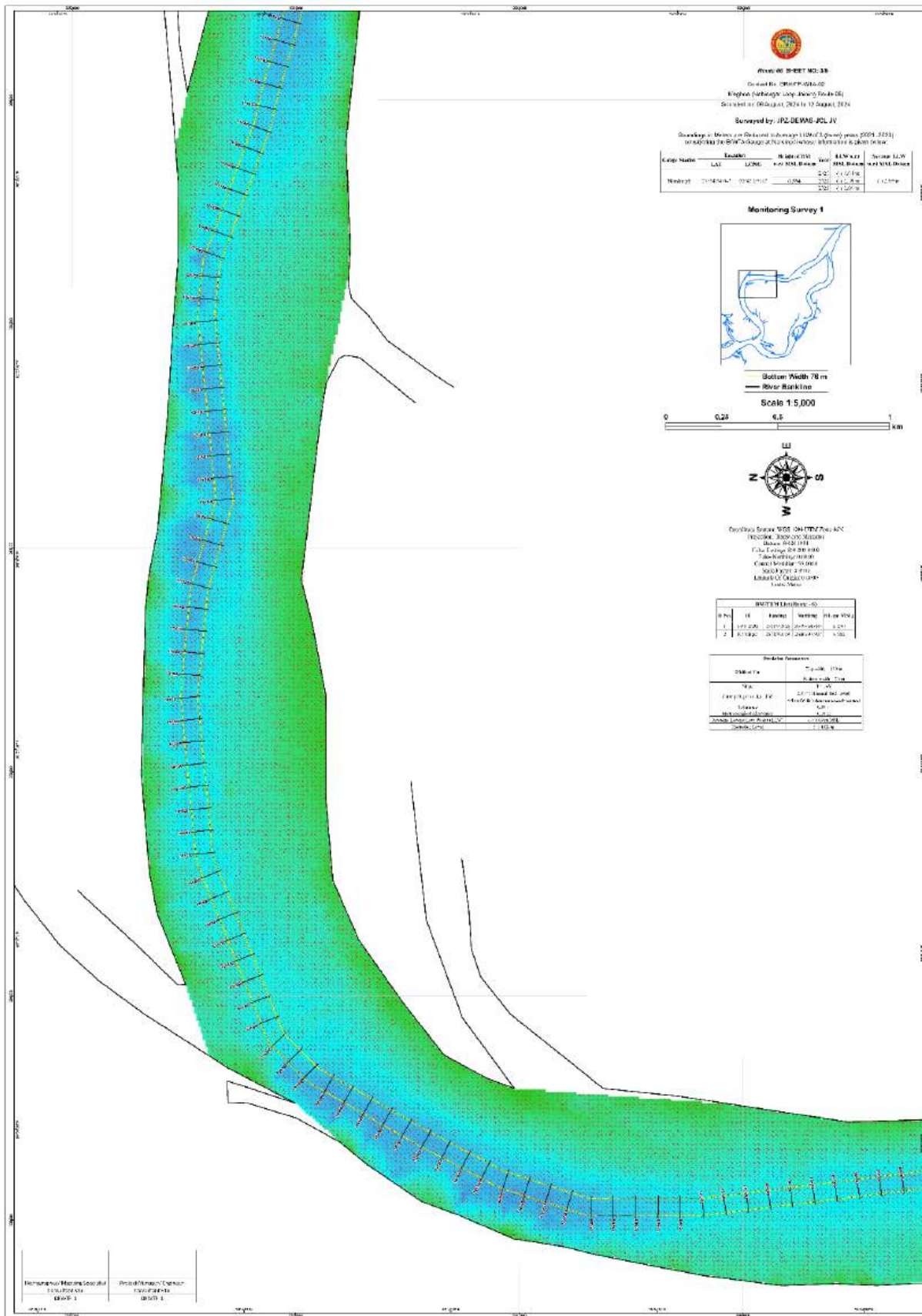


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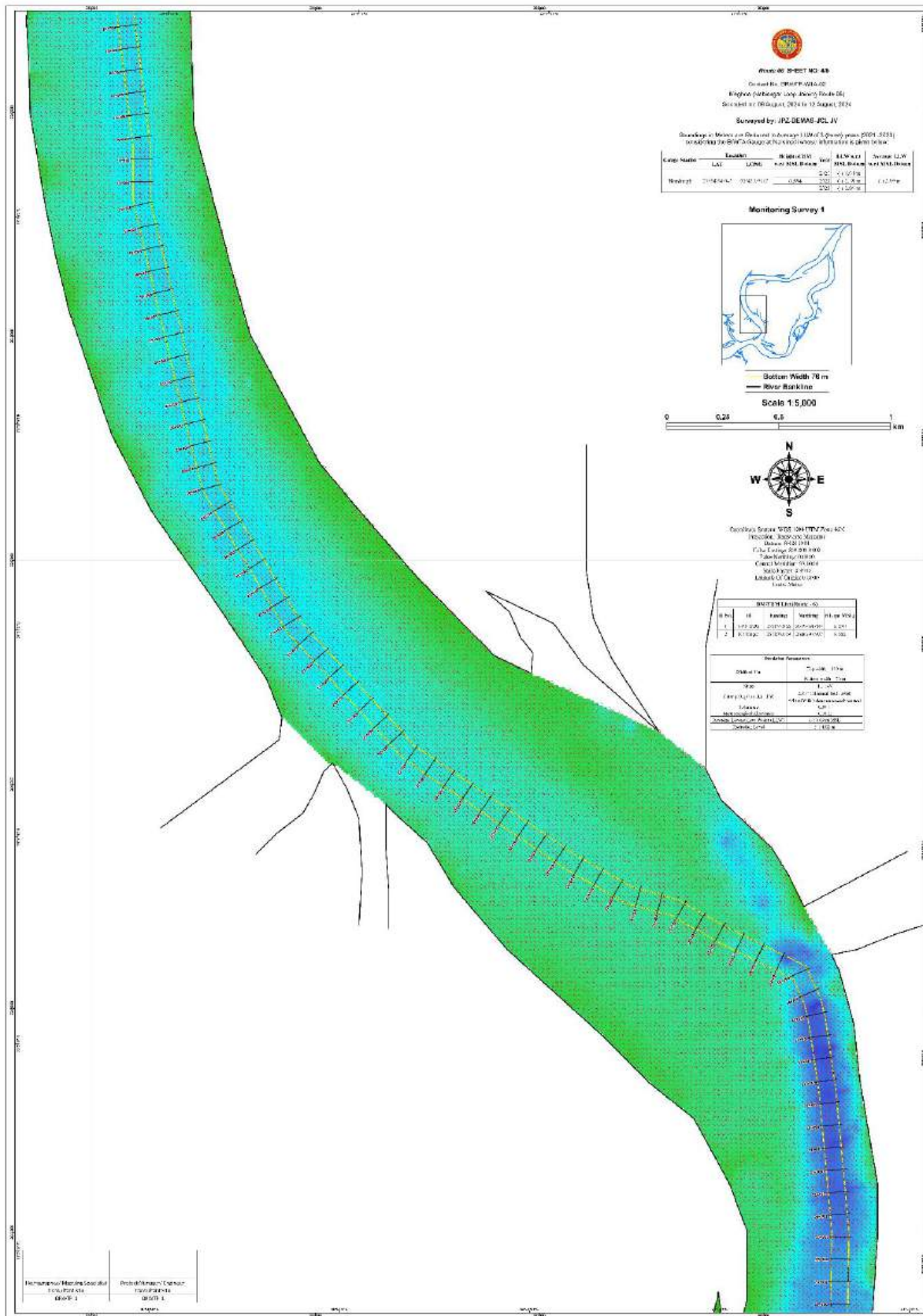
Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



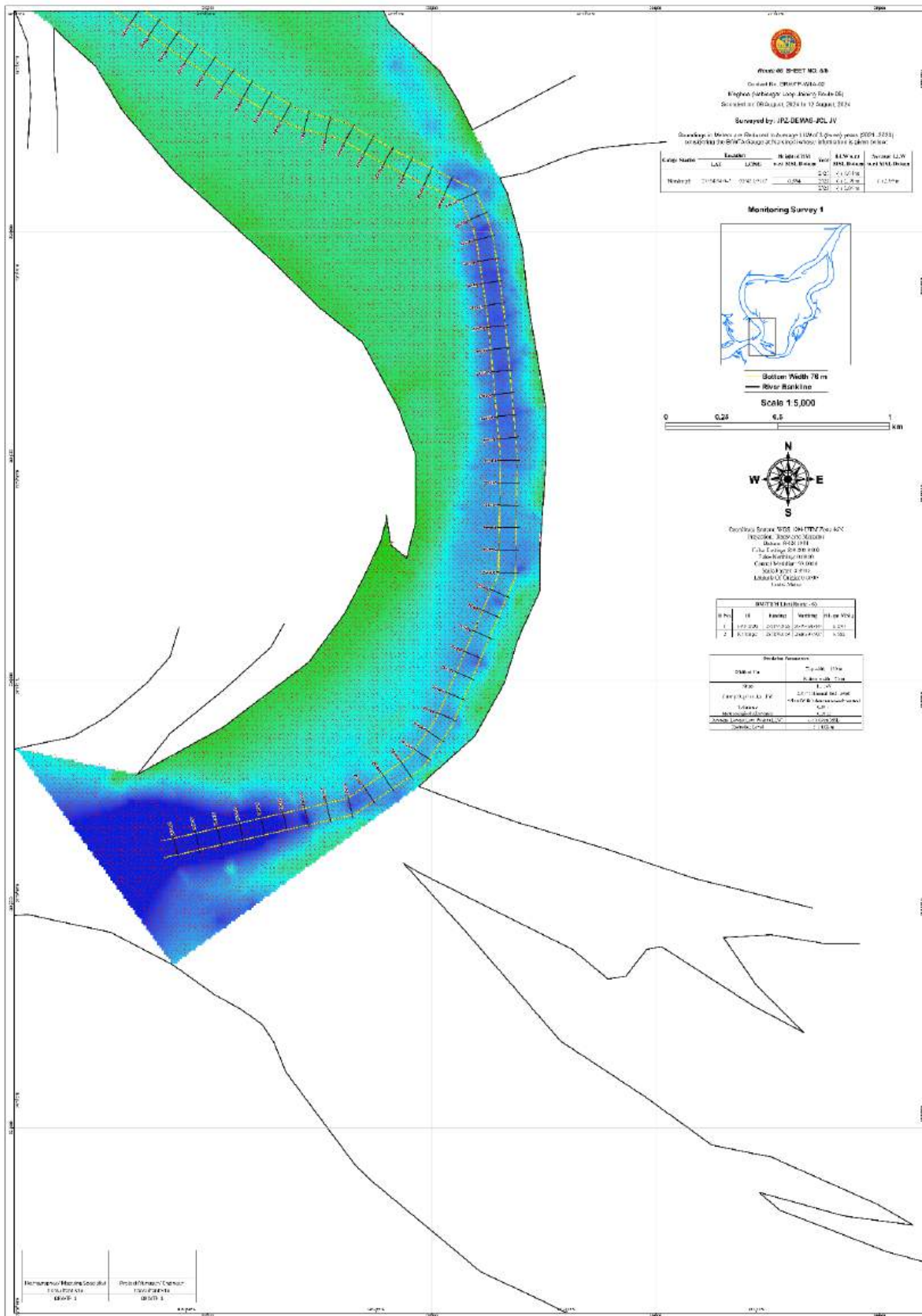
Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



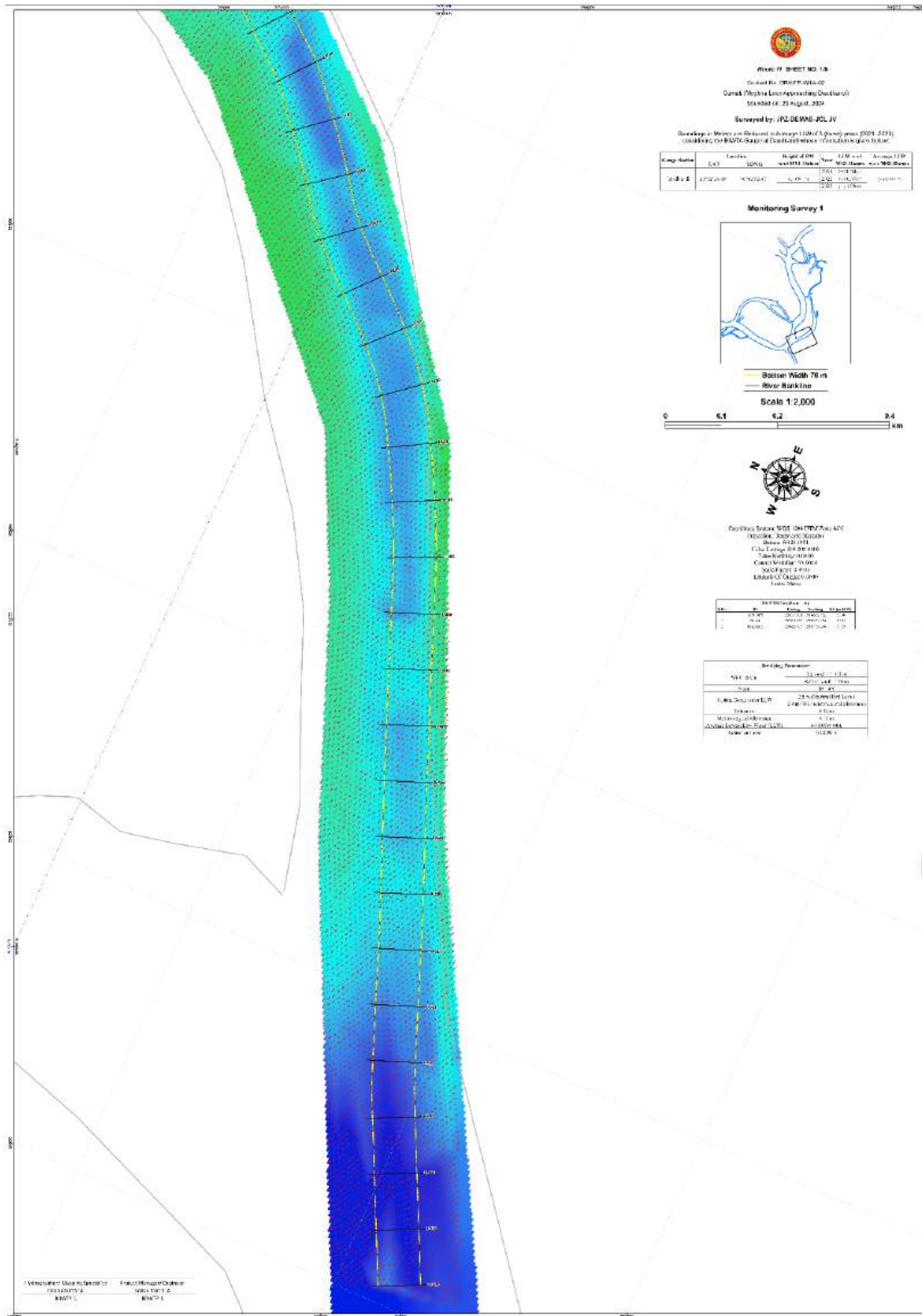
Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



Project: Kosi River Survey
 Date: 2023-08-25
 Surveyed by: JPC DEWAS JPL JV
 (According to the Kosi River Survey Report, 2023, 2024)
 (According to the Kosi River Survey Report, 2023, 2024)

Category	Location	Depth (m)	Area (km²)	Volume (km³)
Shallow	0-10m	1000	1000	1000
Deep	10-20m	2000	2000	2000

Monitoring Survey 1

Scale 1:2,000

0 6.1 6.2 9.4 km

North Arrow

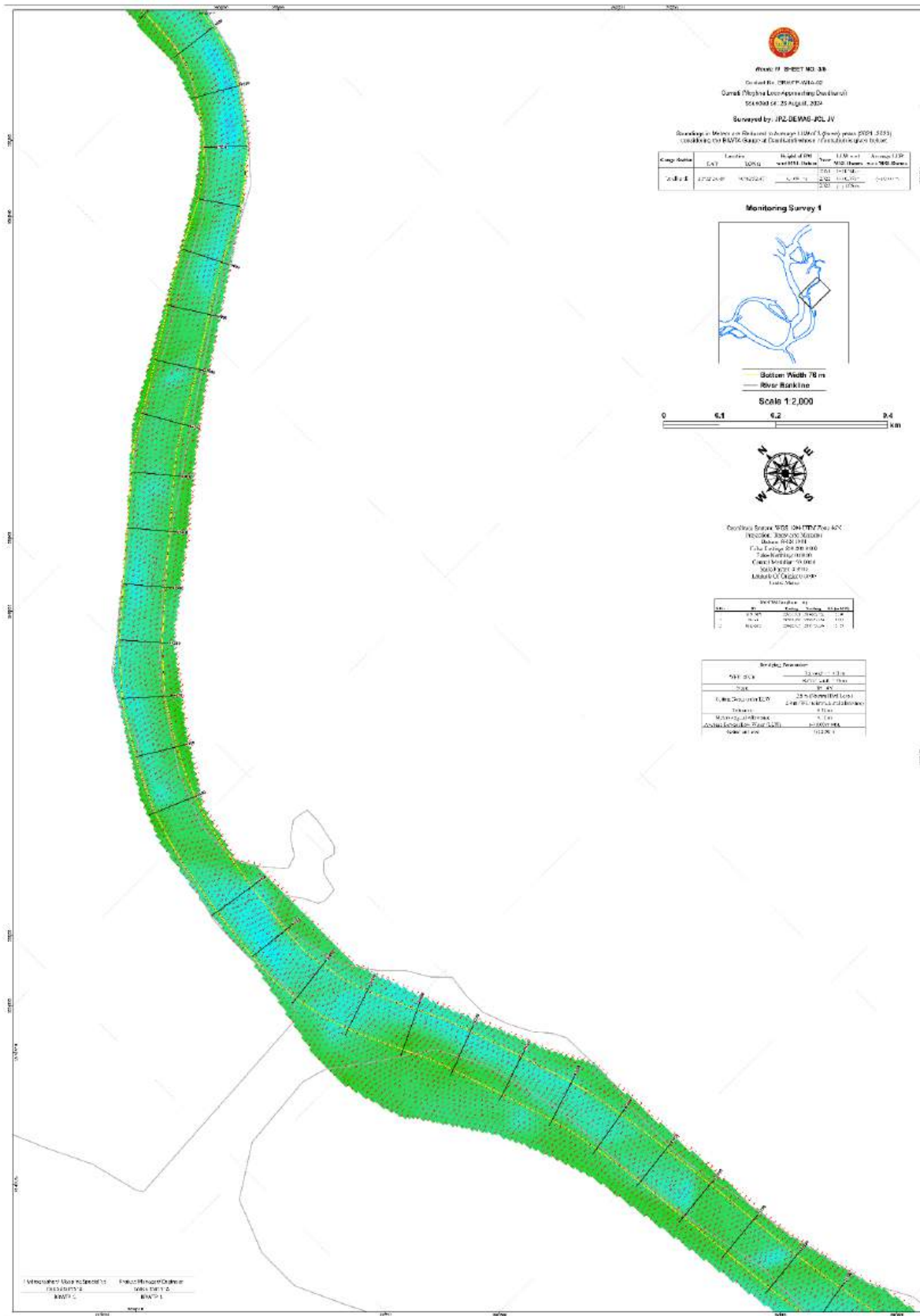
Coordinates: 25° 15' 00" N, 85° 15' 00" E
 (According to the Kosi River Survey Report, 2023, 2024)
 (According to the Kosi River Survey Report, 2023, 2024)

Category	Location	Depth (m)	Area (km²)	Volume (km³)
Shallow	0-10m	1000	1000	1000
Deep	10-20m	2000	2000	2000

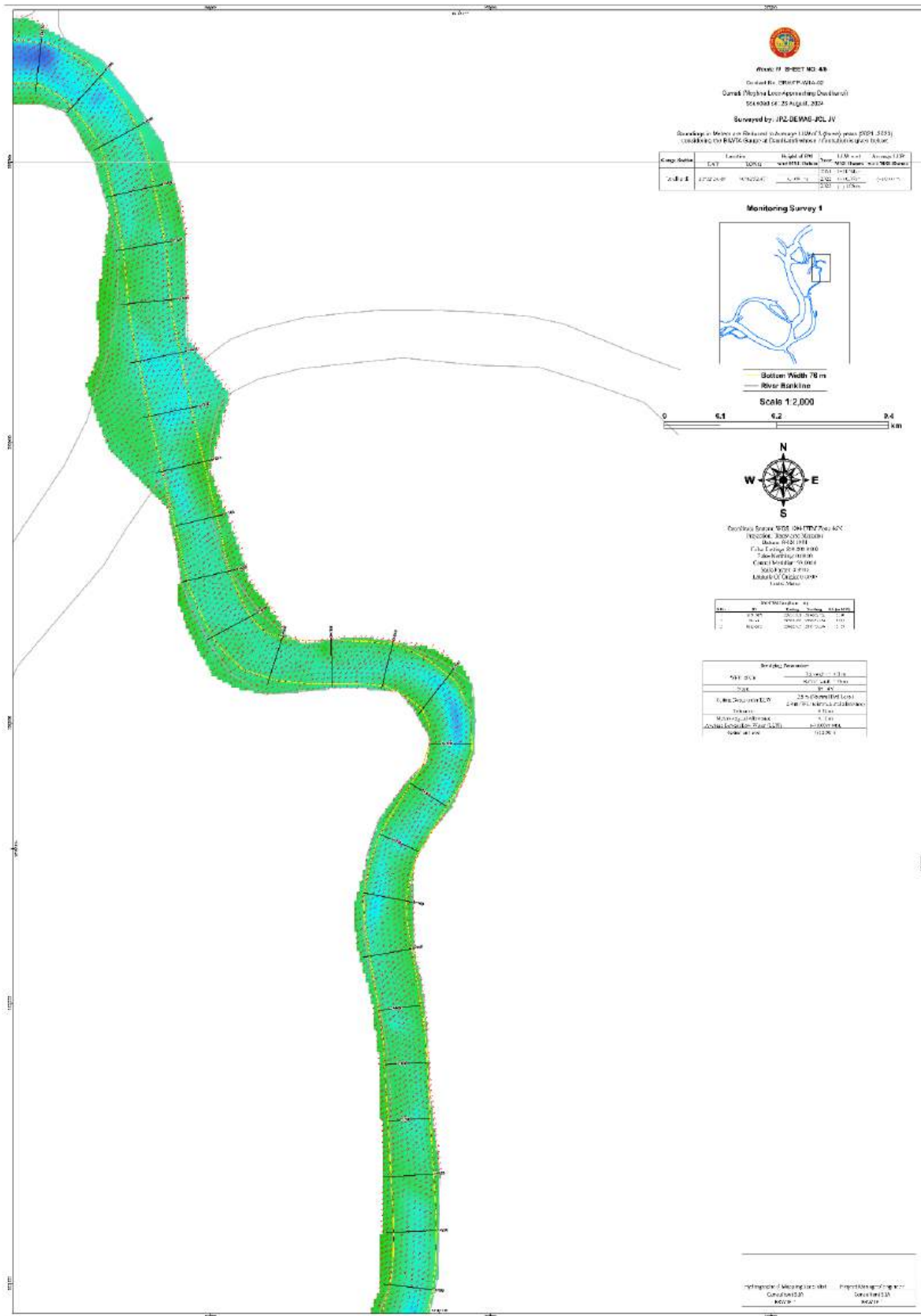
Survey Data

Category	Location	Depth (m)	Area (km²)	Volume (km³)
Shallow	0-10m	1000	1000	1000
Deep	10-20m	2000	2000	2000

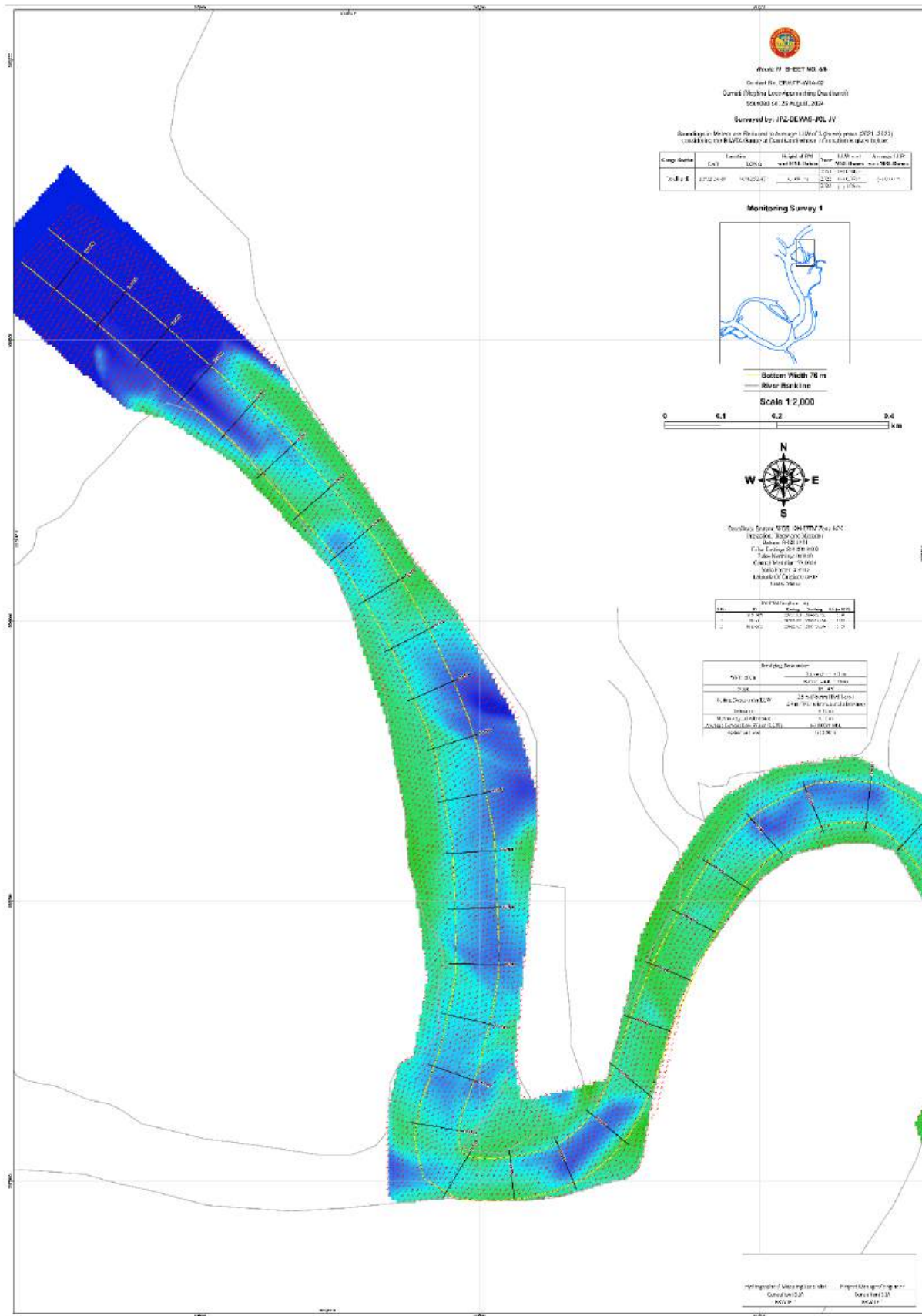
Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



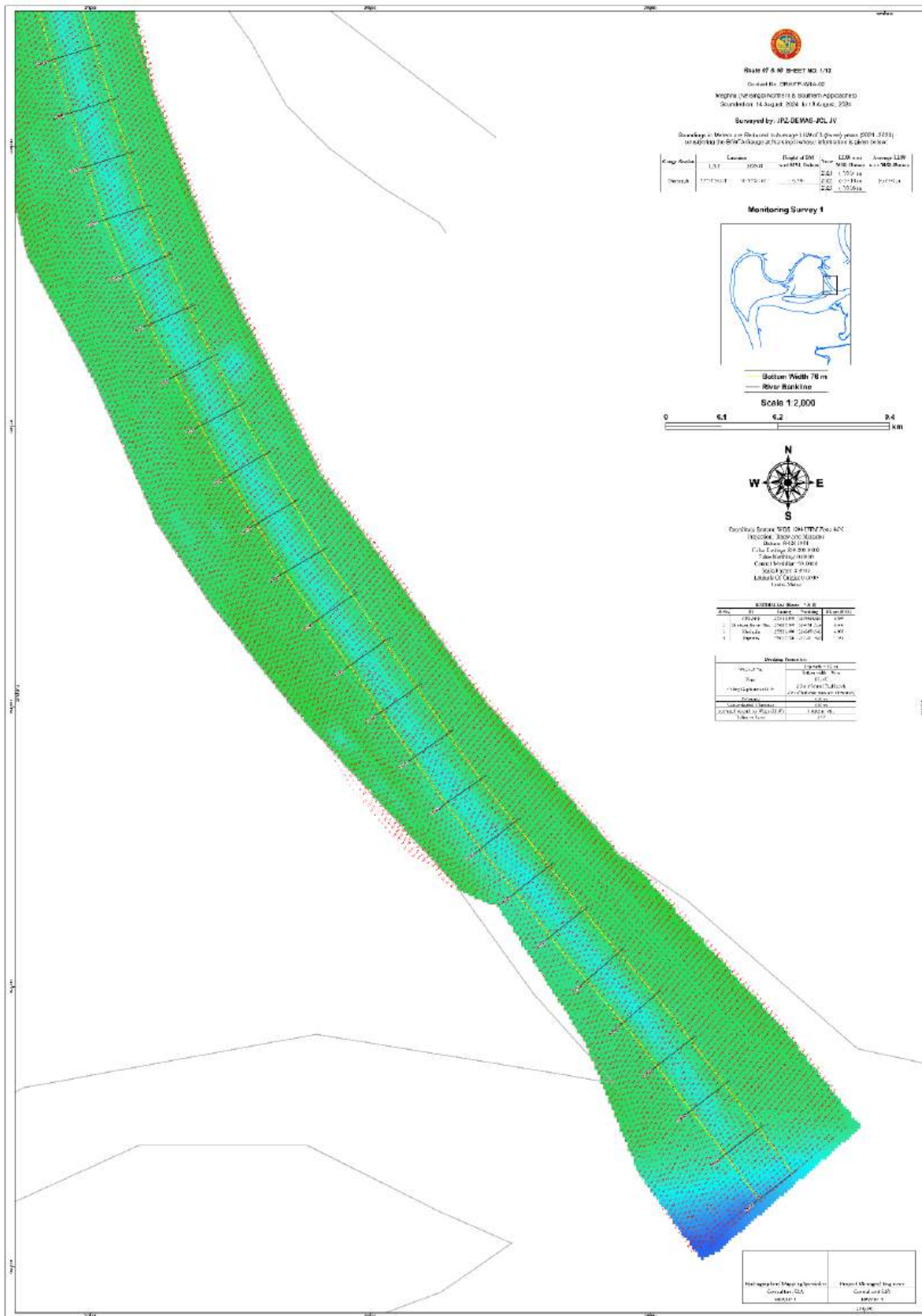
Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



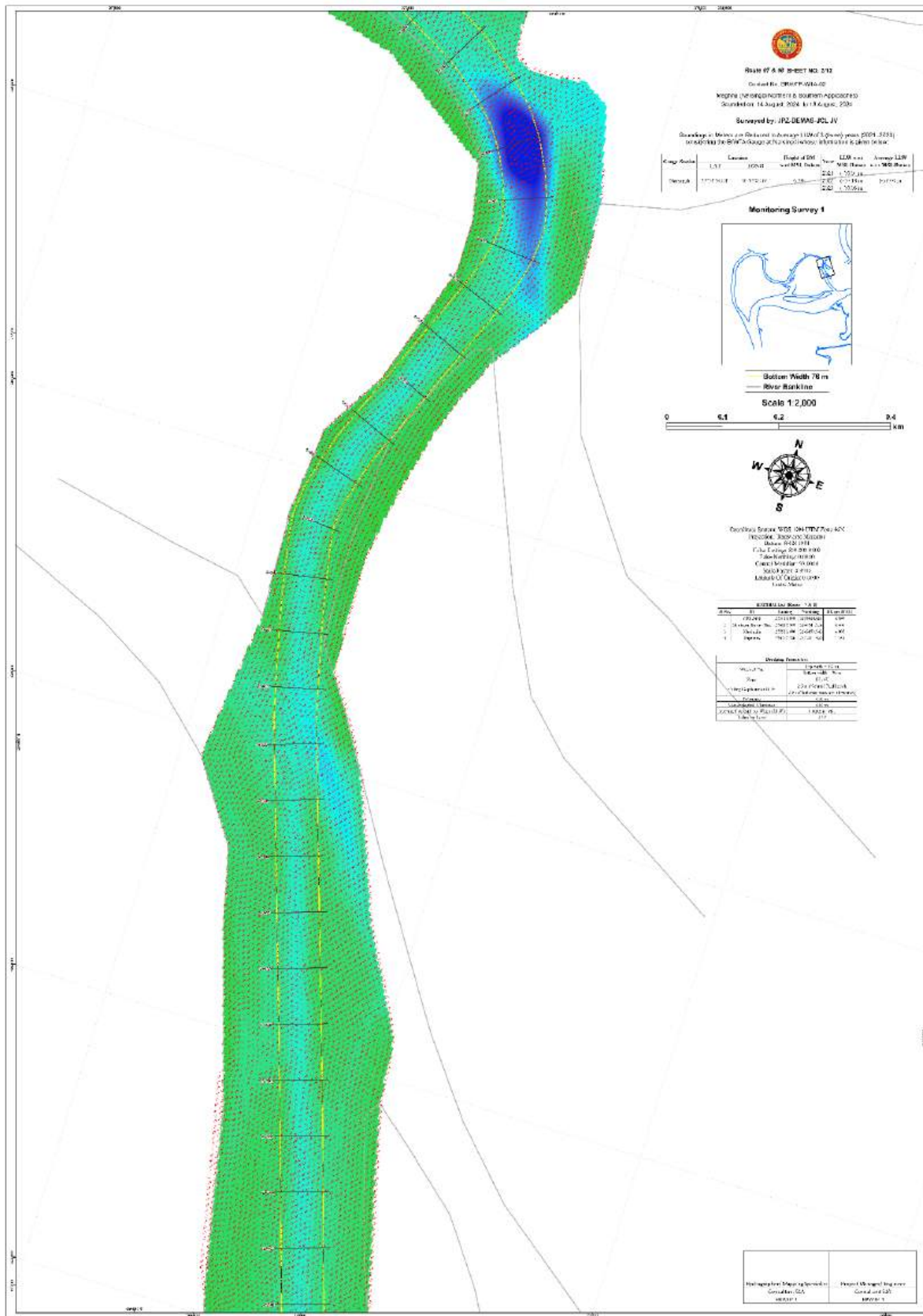
Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



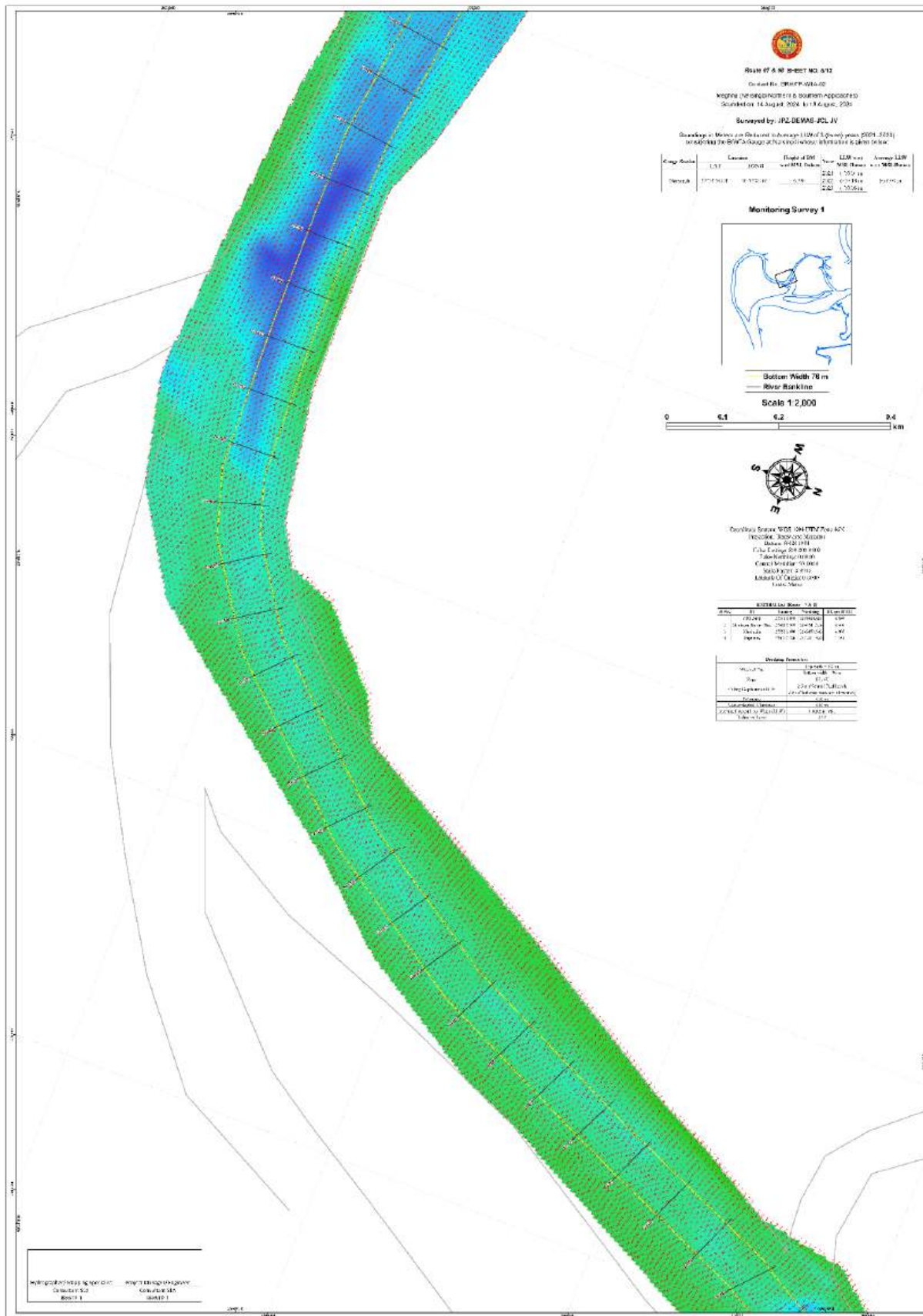
Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



State of Botswana MOA
 Ministry of Agriculture, Forestry and Fisheries
 Botswana
 Surveyed by: J.R. DEWANE-J.R. J.V.
 Surveyed on: 14 August 2024, to 14 August 2024
 Surveyed by: J.R. DEWANE-J.R. J.V.
 Surveyed on: 14 August 2024, to 14 August 2024
 Surveyed by: J.R. DEWANE-J.R. J.V.
 Surveyed on: 14 August 2024, to 14 August 2024

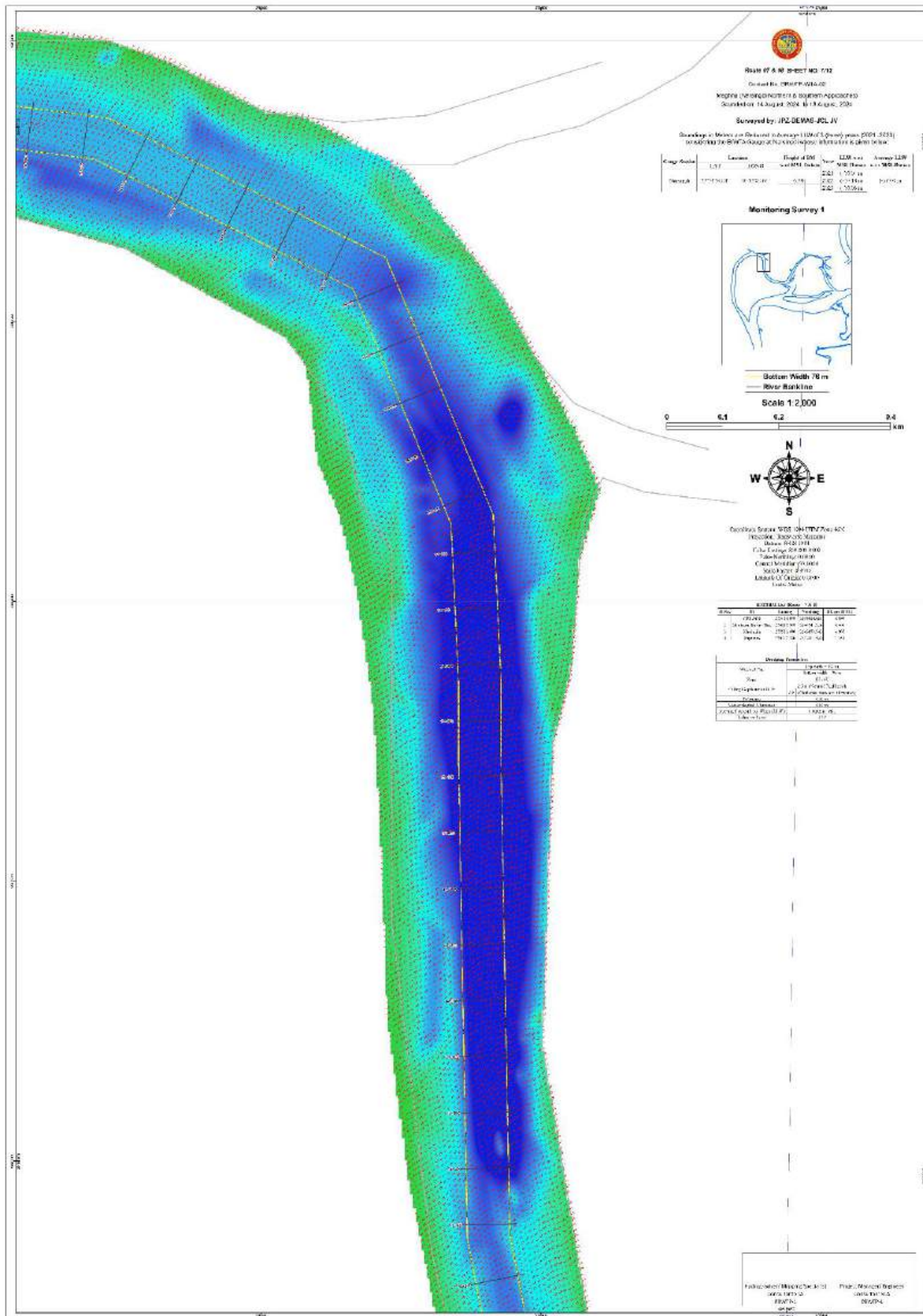
Station No.	Elevation	Width	Area
1	1000.00	100.00	100.00
2	1000.00	100.00	100.00
3	1000.00	100.00	100.00
4	1000.00	100.00	100.00
5	1000.00	100.00	100.00
6	1000.00	100.00	100.00
7	1000.00	100.00	100.00
8	1000.00	100.00	100.00
9	1000.00	100.00	100.00
10	1000.00	100.00	100.00
11	1000.00	100.00	100.00
12	1000.00	100.00	100.00
13	1000.00	100.00	100.00
14	1000.00	100.00	100.00
15	1000.00	100.00	100.00
16	1000.00	100.00	100.00
17	1000.00	100.00	100.00
18	1000.00	100.00	100.00
19	1000.00	100.00	100.00
20	1000.00	100.00	100.00
21	1000.00	100.00	100.00
22	1000.00	100.00	100.00
23	1000.00	100.00	100.00
24	1000.00	100.00	100.00
25	1000.00	100.00	100.00
26	1000.00	100.00	100.00
27	1000.00	100.00	100.00
28	1000.00	100.00	100.00
29	1000.00	100.00	100.00
30	1000.00	100.00	100.00
31	1000.00	100.00	100.00
32	1000.00	100.00	100.00
33	1000.00	100.00	100.00
34	1000.00	100.00	100.00
35	1000.00	100.00	100.00
36	1000.00	100.00	100.00
37	1000.00	100.00	100.00
38	1000.00	100.00	100.00
39	1000.00	100.00	100.00
40	1000.00	100.00	100.00
41	1000.00	100.00	100.00
42	1000.00	100.00	100.00
43	1000.00	100.00	100.00
44	1000.00	100.00	100.00
45	1000.00	100.00	100.00
46	1000.00	100.00	100.00
47	1000.00	100.00	100.00
48	1000.00	100.00	100.00
49	1000.00	100.00	100.00
50	1000.00	100.00	100.00
51	1000.00	100.00	100.00
52	1000.00	100.00	100.00
53	1000.00	100.00	100.00
54	1000.00	100.00	100.00
55	1000.00	100.00	100.00
56	1000.00	100.00	100.00
57	1000.00	100.00	100.00
58	1000.00	100.00	100.00
59	1000.00	100.00	100.00
60	1000.00	100.00	100.00
61	1000.00	100.00	100.00
62	1000.00	100.00	100.00
63	1000.00	100.00	100.00
64	1000.00	100.00	100.00
65	1000.00	100.00	100.00
66	1000.00	100.00	100.00
67	1000.00	100.00	100.00
68	1000.00	100.00	100.00
69	1000.00	100.00	100.00
70	1000.00	100.00	100.00
71	1000.00		

Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



[illegible]

Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



State of N.W. District No. 812
Kumbhariya River
Surveyed by: J.R. DEWANE-JUL 14
Scale: 1:2,000

0 0.6 1.2 1.8 2.4 km

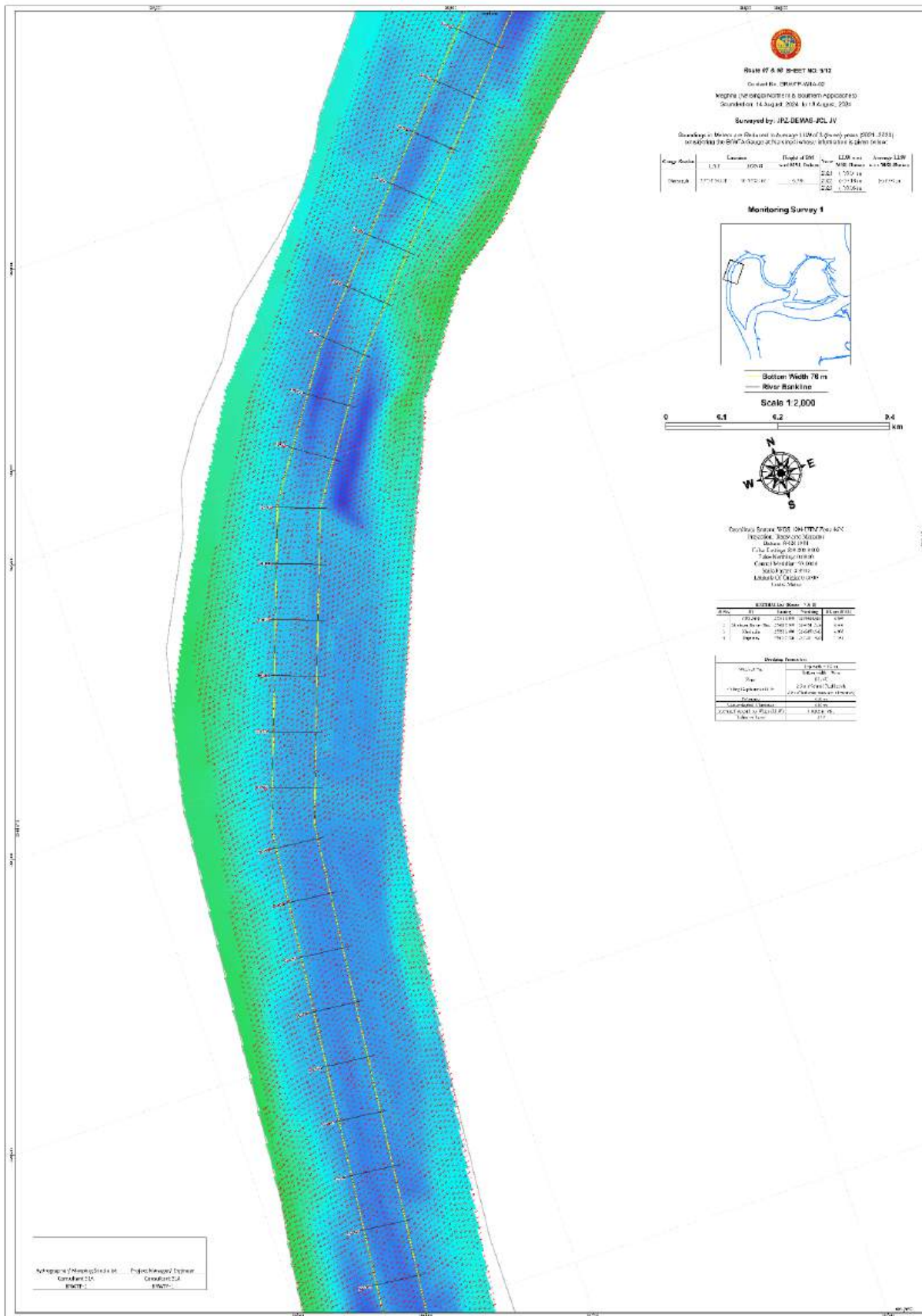
0.0m 0.2m 0.4m 0.6m 0.8m 1.0m

70m Width

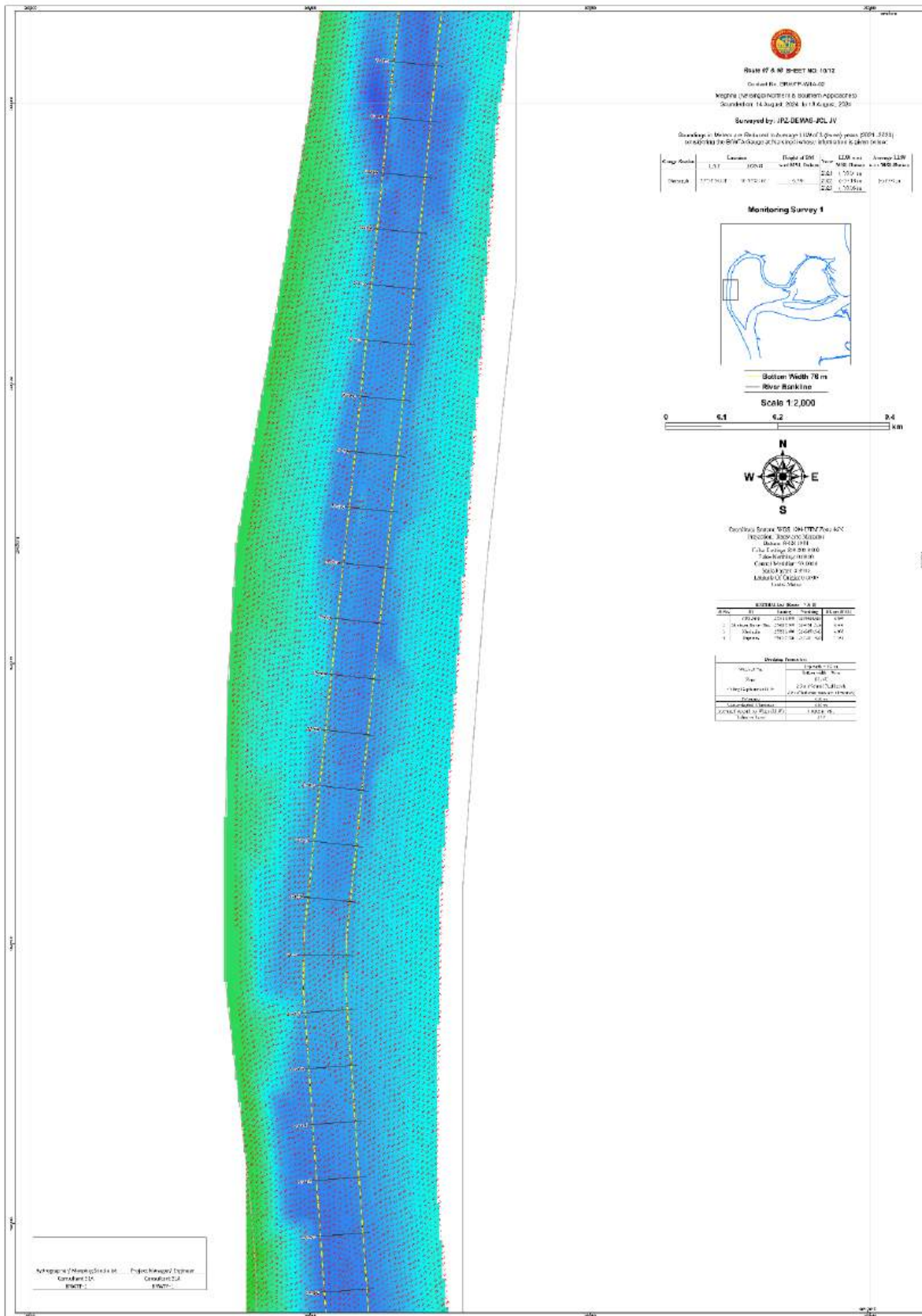
North Arrow

Inset Map

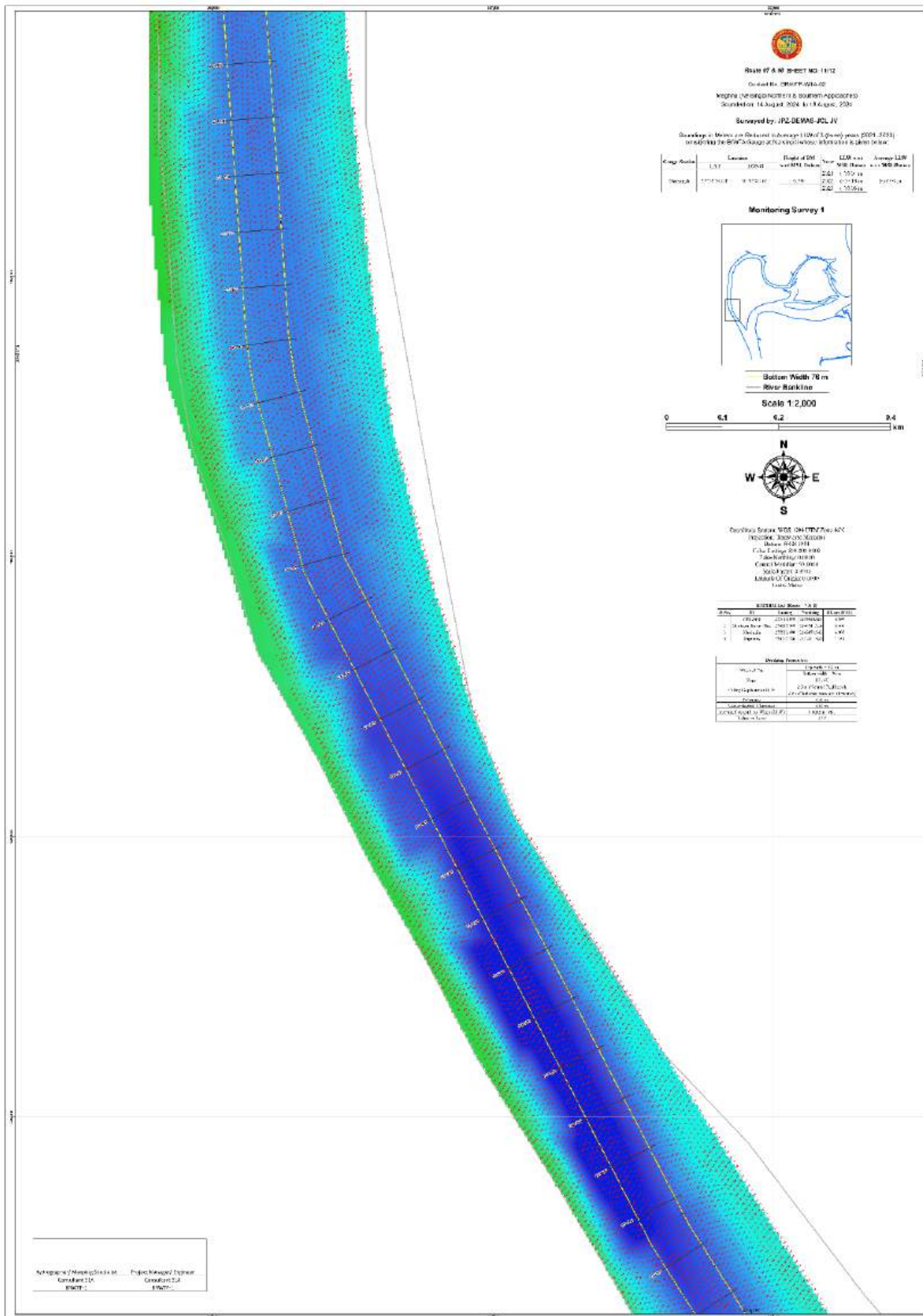
Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



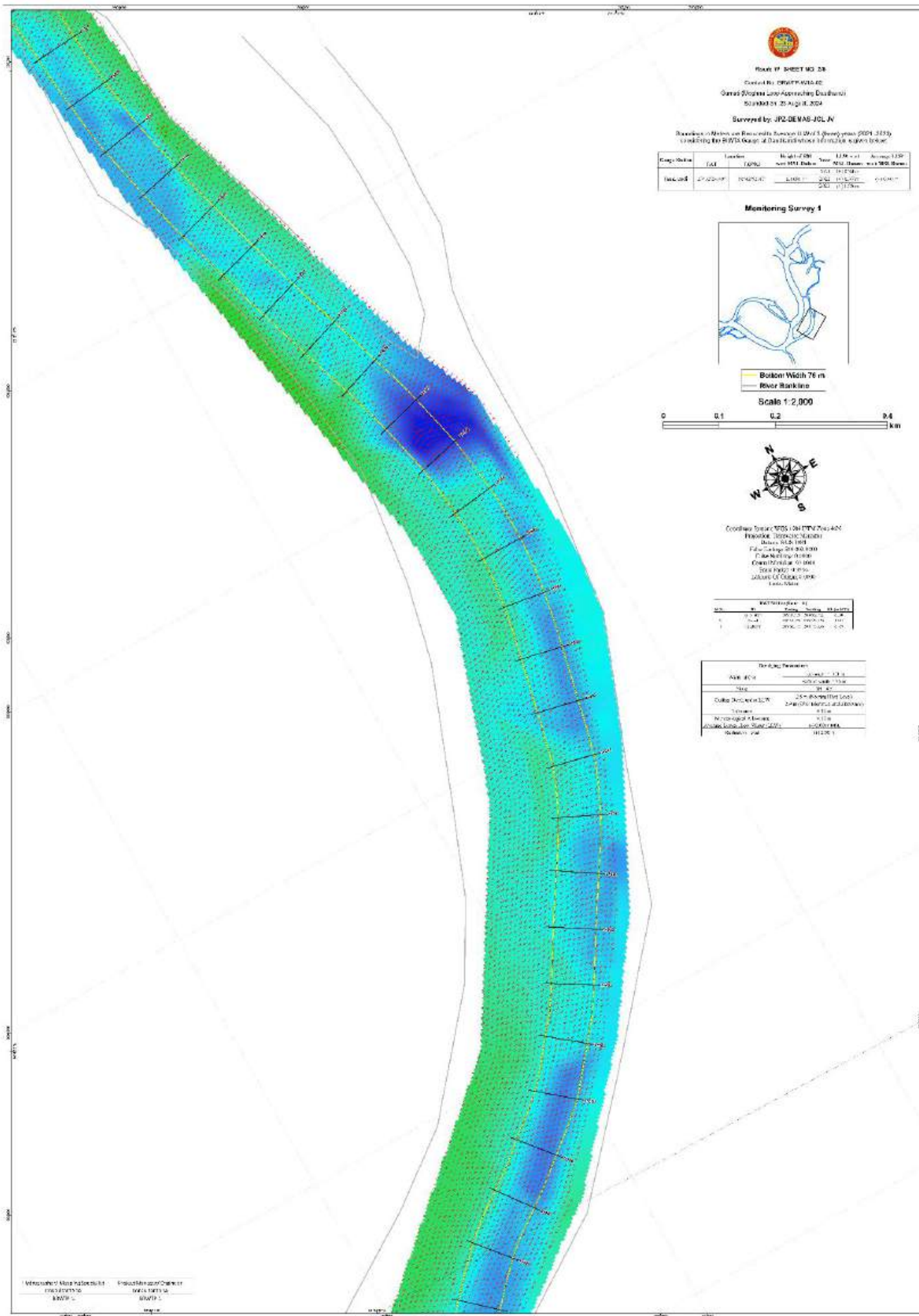
Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



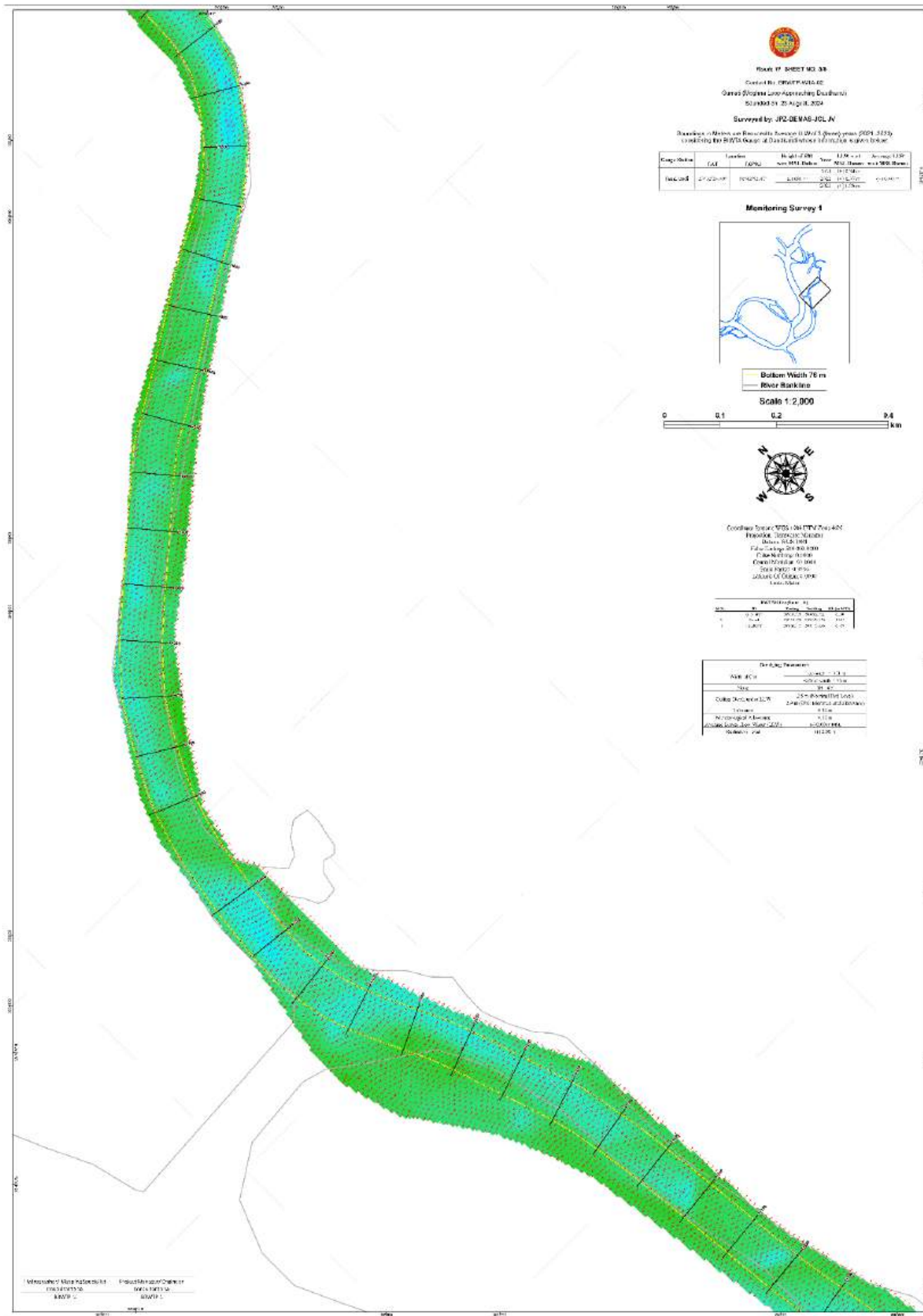
[illegible]

[illegible]

Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract

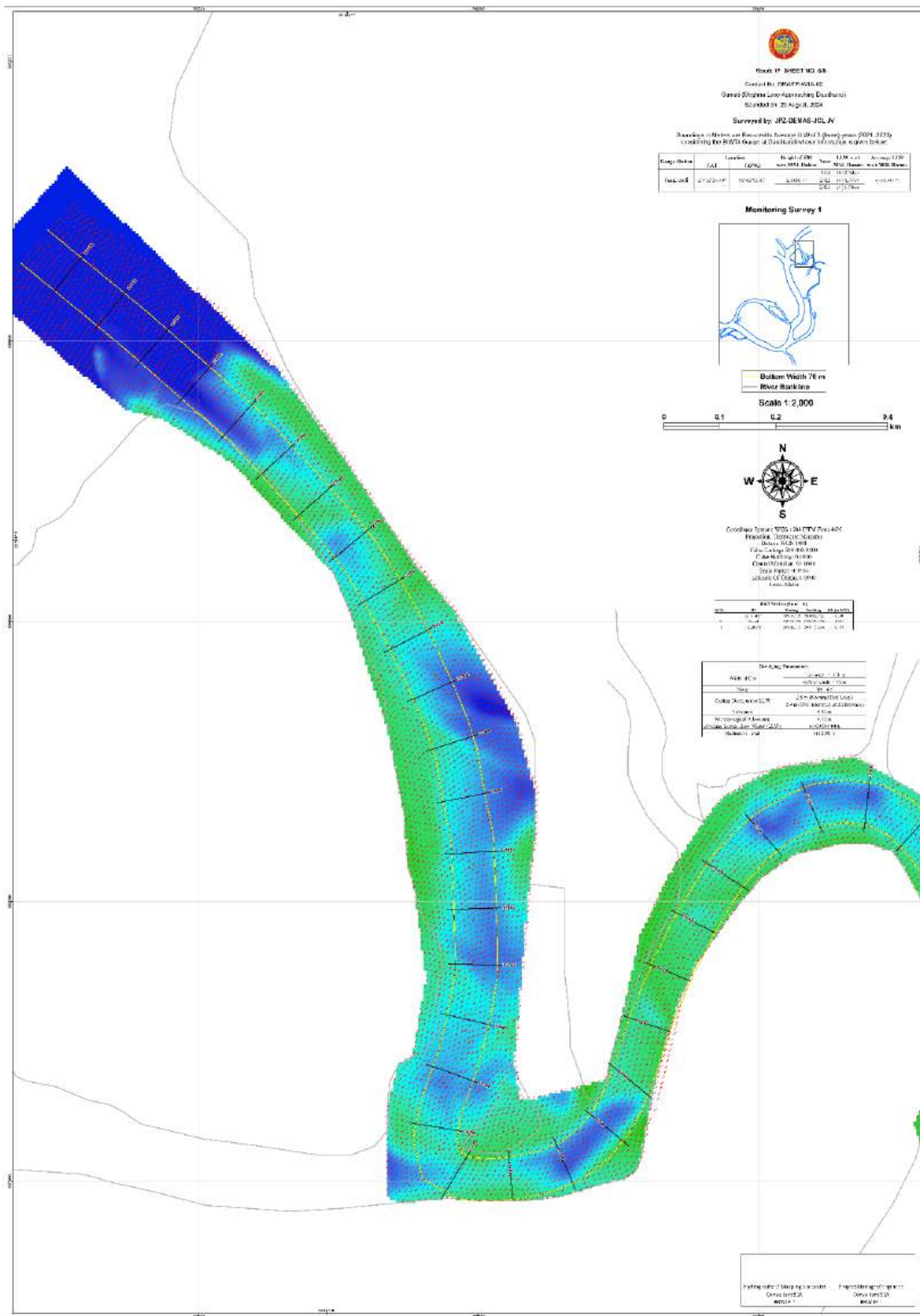


Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract

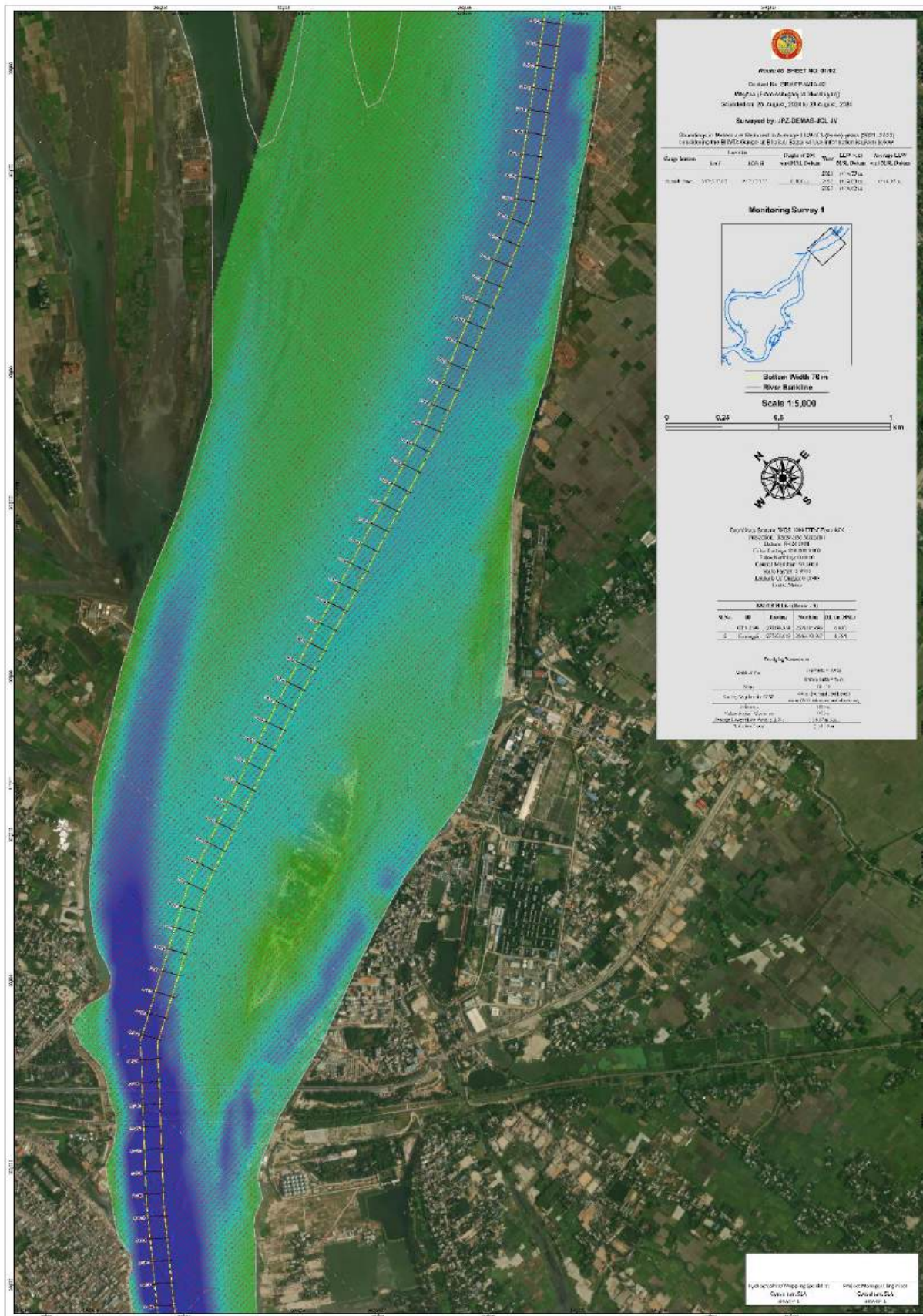


[illegible]

Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



Consultancy Services for: Supervision and Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation and Maintenance of Navigational Aids along the Navigational Routes under the Contract



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