Government Of The People's Republic Of Bangladesh
Ministry Of Shipping

Bangladesh Inland Water Transport Authority (BIWTA)

FIRST MONTHLY PROGRESS REPORT (As On December 2022)

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

Bangladesh Regional Waterway Transport Project 1 (BRWTP-1)

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1. Introduction

Bangladesh lies predominately within the Bengal basin, the world's largest delta formed by the Ganges, Brahmaputra (Jamuna) and Meghna (GBM) river system and its tributaries and distributaries (**Figure 1.1**). Bangladesh is a riverine country with some 700 rivers, streams and canals with a total length of about 24,000 km. Approximately 6,000 km are navigable during the monsoon (wet) period for different size vessels, shrinking to about 3,900 km in the dry periods. While the larger rivers are up to 50 meters (m) depth in places and the lower Meghna (the main trafficked route on the Dhaka Chittagong Corridor or DCC) is generally 10-25m depth. Navigation is hindered by very shallow depths on bars, especially in the delta area, at the confluences of the major rivers and their tributaries, river bends and mouths. Navigation is further complicated by the braided nature of the main rivers. These are characterized by high sediment delivery and extremely low gradients, leading to very low sediment throughput. In total, the GBM System annually carries up to one billion tons of sediment and drains into the Bay of Bengal principally through the Shahbazpur and Hatia estuaries in the Mouths of the Ganges - feeding the Bengal Fan, the largest depositional system in the world.

Inland Water Transport carries over 50 percent of all Bangladesh's cargo traffic and one quarter of all passenger traffic. There are over 22,300 registered vessels engaged in this trade, mainly transporting dry and liquid cargoes in bulk or break-bulk form. Investment by the vibrant shipping and inland water transport industry in Bangladesh totals approximately US$ 4 billion. The Government has identified 65 main river navigation routes that are essential to passenger and freight transport within Bangladesh.

Table 1: Main River navigation routes that are essential to passenger and freight transport within Bangladesh

Class	Max Vessel Draft/ Least Advertised River Depth	Length	%
I	3.65 m/ 3.96 m	683 km	11%
II	2.13 m/ 2.43 m	1,000 km	17%
III	1.52 m/ 1.82 m	1,886 km	32%
IV	<1.52 m	2,400 km	40%

The routes are categorized as Classes I through IV depending on their advertised depths as given below (Table 1):

The development and control of Inland Water Transport (IWT) is the responsibility of the Bangladesh Inland Water Transport Authority (BIWTA), under the Ministry of Shipping (MoS). Among its functions for passenger traffic, BIWTA is responsible to:

- Develop, maintain and operate inland river routes to maintain the advertised Least Available Depth (LAD) and width by necessary surveys and dredging works including maintaining the necessary navigation measures to operate the vessels effectively;
- Develop, maintain and operate inland river ports, landing ghats and terminal facilities in such ports or ghats; and,

Develop the most economical facilities for passenger traffic to ensure comfort, safety and speed on mechanized craft.

In order to improve key multi-modal transport corridors and networks that would address current transport bottlenecks in Bangladesh, the World Bank is financing the Bangladesh Regional Waterway Transport Project I (BRWTP-1). It is centered on the main Dhaka-Chittagong IWT route, with branches to Ashuganj, Ghorashal and Barisal

Major Components of BRWTP-1 includes the following:

- Capital and maintenance dredging, installation and operation of aids to navigation and construction and maintenance of Vessel Storm Shelters (VSS) / Idle Berthing Centers (IBC);
- Development of Cargo Terminals;
- Development of Passenger Terminals; and,
- Development of Landing Ghats.

The main objective of this consultancy service is to monitor, supervise, and administer the contracts for performance-based dredging works, installation and operation of aids to navigation along the navigational routes under the BR WTP-W 1 A package.

The above-mentioned works are to be undertaken under an output and performance-based method of contracting. Output and Performance-Based Contracting for Inland Water Navigation (OPBC-IWN) is a results-oriented contracting method that focuses on the outputs, quality, or outcomes and ties at least a portion of a contractor's payment, contract extensions, or contract renewals to the achievement of specific, measurable performance standards and requirements. Supervision of OPBC-IWN contracts is to be done with due care and diligence following the highest professional practices and International Hydrographic Organization (IHO) S-44 5th edition standards and surveys.

This report is titled as the Monthly progress report, which includes Commencement of Work, Mobilization, Document Review and Inception, Workshop and Training Program, Managing, Supervision and Monitoring of the OPBC-IWN Contract, Technical and Management Support to Client, Monitoring and Supervision of Environmental and Social Outputs etc. from 6 December 2022 to 17 January,2023.

2. Work Programme

The work programme showing the main activities to be performed by the consultant is presented in Bar Chart showing **Figure 1, 2 & 3.**

TECH 5 : WORK SCHEDULE AND PLANNING FOR DELIVERABLES

Consulting Services for Supervision & Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation & Maintenance of Navigational Aids along the Navigational Routes under the Contract
[Bangladesh Regional Waterway Transport Project 1 (BRWTP-1)]

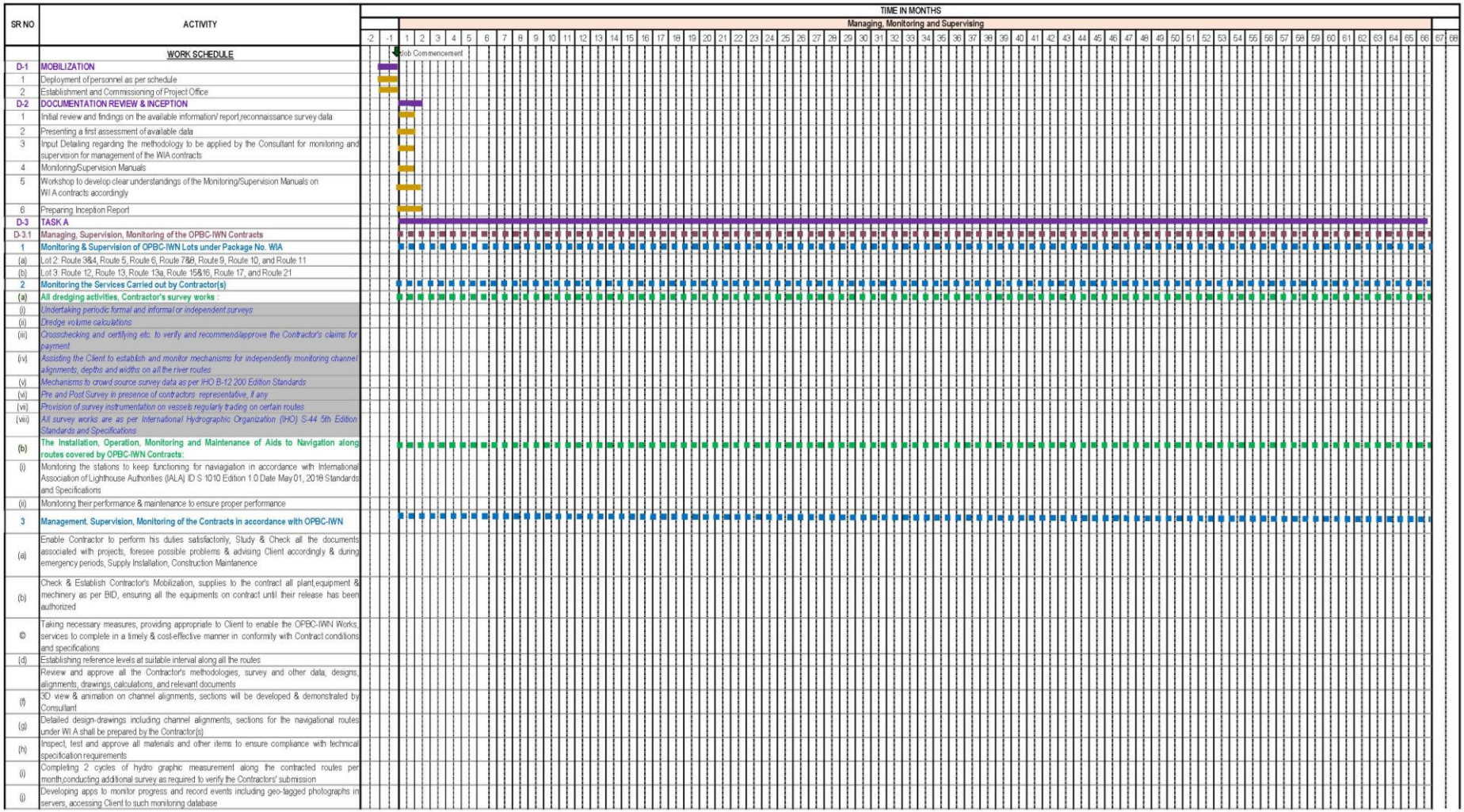

Figure 1: Work Plan- Page 1

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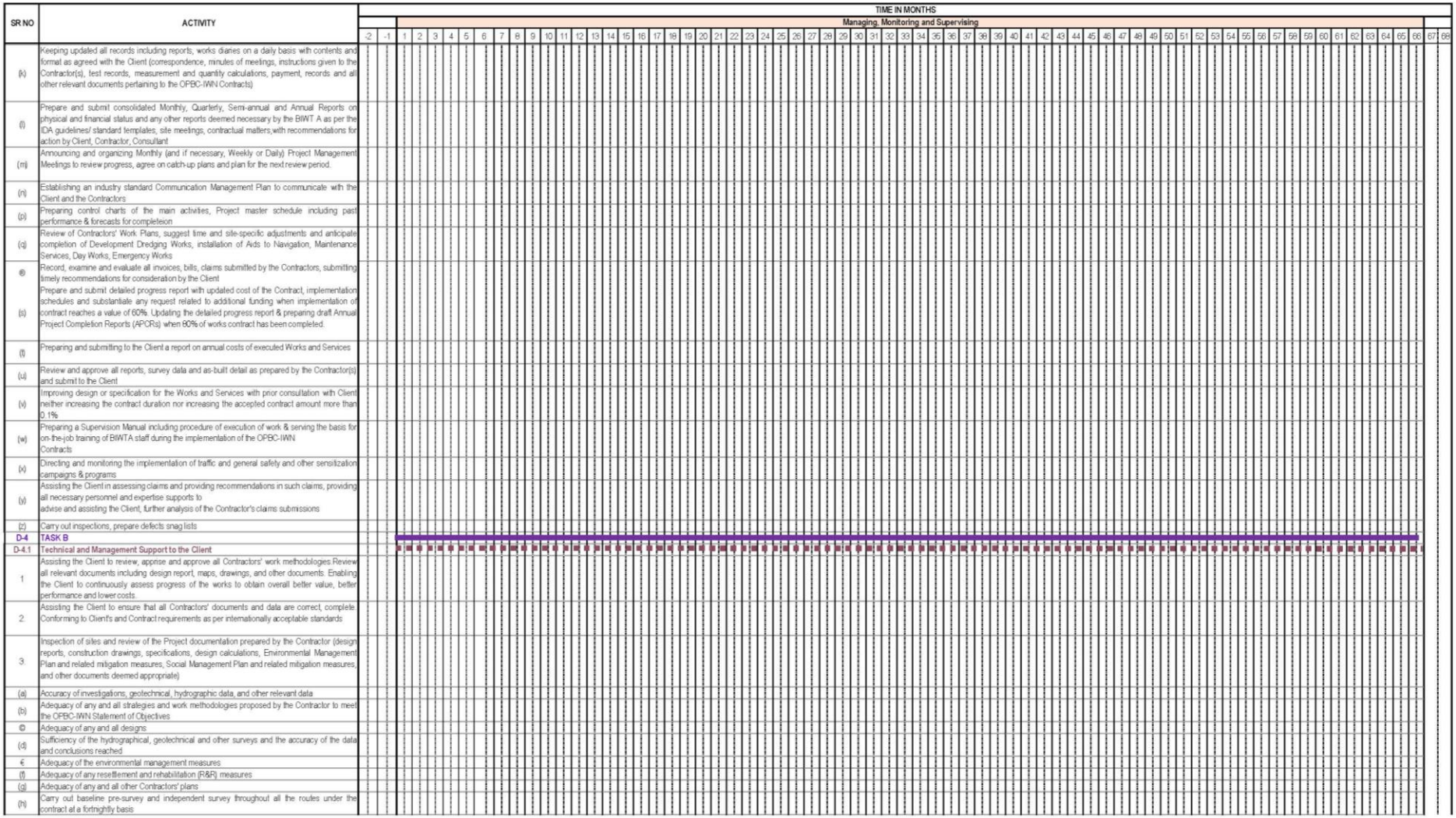

Figure 2: Work Plan-Page 2

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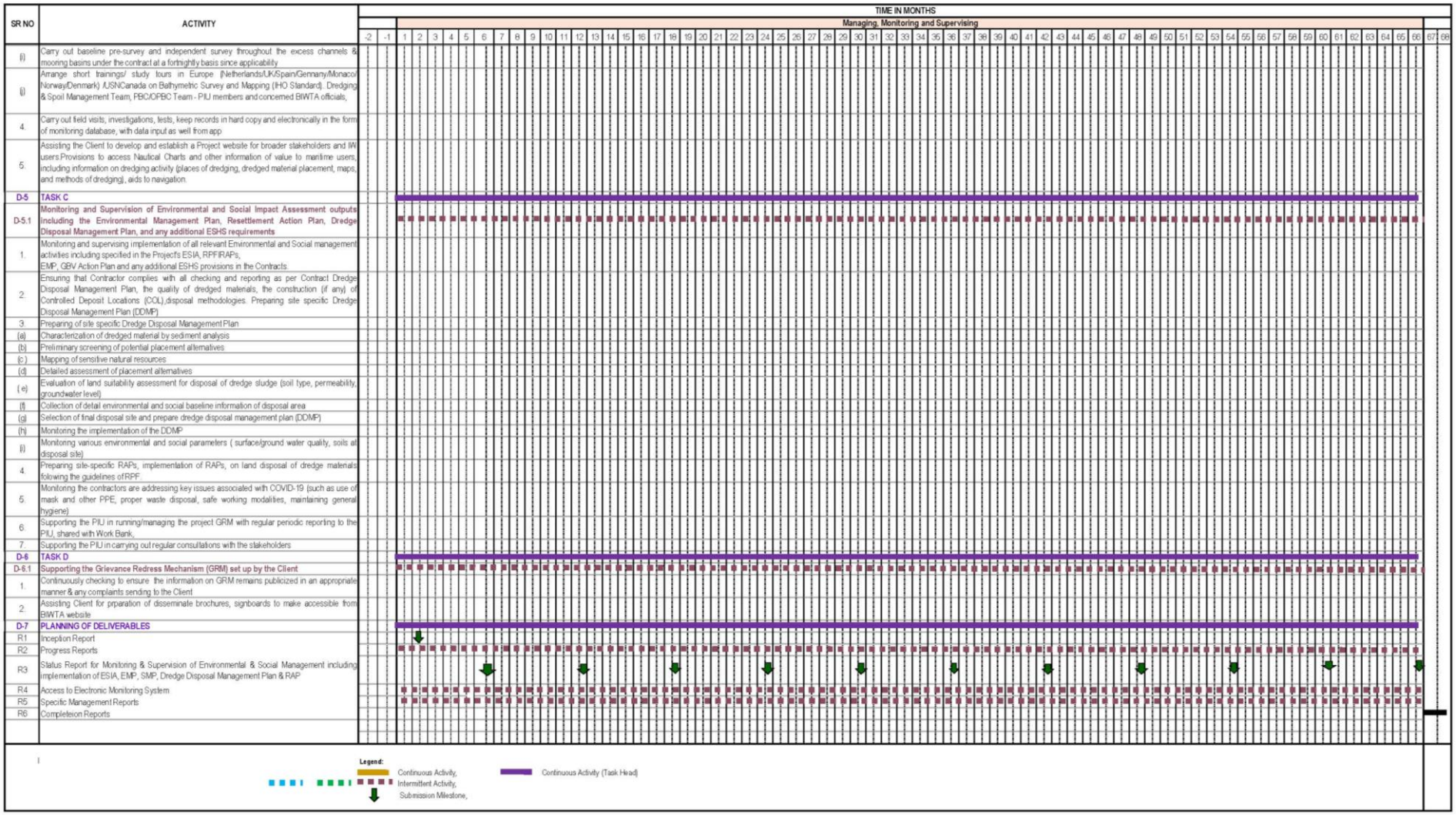


Figure 3: Work Plan-Page 3

3. Project Activities

Progress Of Works

3.1 Introduction

A Contract Negotiation meeting was held on 5 June, 2022 in reference to the Contract Negotiation Invitation issued on 31 May, 2022, Memo no: 18.11.0000.181.14.239.22.434 by the office of the Project Director, Bangladesh Regional Waterway Transport Project 1(BRWTP-1) , Bangladesh Inland Water Transport Authority (BIWTA). The Contract was signed on 21 November, 2022. Based on the letter Memo no: 18.11.0000.181.14.239.22.797, issued by Engr. Md Ayub Ali, Project Director, BRWTP1 Contract BRWTP-S1A became effective from 22 November, 2022, after submission a of the Advance Payment Guarantee and subsequent receiving the advance payment. The progress made by consultant described below:

3.2 Commencement of Work

According to letter Memo No: JPZ/BIWTA/DR/CS-2022/3086, issued by Prof. Dr. Md. Anwarul Mustafa, Peng., Consultancy Services for: Supervision & Monitoring of Performance-Based Dredging Contracts with Maintenance Dredging and Installation & Maintenance of Navigational Aids along the Navigational Routes under the Contract officially commenced from 06 December, 2022.

3.3 Mobilization

In compliance to the Contract BRWTP-S1A, the consultant has commenced mobilization of project team within 14 days from effective date of Contract. The consultant has mobilized the Project Team Leader ABM Anwarul Haider among with few specialists, Technical and other support staff as required by Contract. The other mobilized members of the Project are working with the team leader.

3.3.1. Deployment of personnel as per schedule

The following professionals, technical and administrative support staff have been deployed during this period:

1. Team Leader
2. Contract Management Expert (Intermittent)***
3. Environment Expert (Intermittent)*** -1
4. Social and Resettlement Expert-1(Intermittent)***
5. Communication and GRM Expert (Intermittent)***
6. Project Coordinator
7. Local Bathymetric & Hydrographic Surveyor -1
8. Local Bathymetric & Hydrographic Surveyor -2
9. Supervision Engineer-1
10. Supervision Engineer-2
11. CAD Operator
12. Data Enumerator-1

3.3.2 Establishment and Commissioning of Project Office

The establishment of a project office is a crucial step in ensuring the successful completion of a project. It provides a central point of coordination and management for all project-related activities, including planning, scheduling, budgeting, and communication. Three dedicated physical space for the project office has been secured and set up for these projects, equipped with necessary furniture and equipment in Motijheel. Barisal and in Solimganj-Bancharampur. A project team has been assembled including key and non-key experts and surveyors for the dedicated project office in the above stated project sites. Some offices of the office spaces are provided below-

Figure 4: Project Office Space in Motijheel, Dhaka

Figure 5: Project Office Space in Barisal

3.4 Document Review and Inception

The Consultant is gathering and reviewing all available relevant data from corresponding authorities (BIWTA, Contractor's Contract Document, Bangladesh Meteorological, Department, Bangladesh water Development Authority, SOB, World Bank etc.). The consultant has collected some related documents already. The process is currently ongoing. An Inception Report is prepared by the consultant and will be submitted on due date.

3.5 Workshop and Training Program

The Consultant Team has participated in a day long Training Program arranged by The World Bank for better understanding of the project plan and sustainable procedure to carry it out. Team Leader, Project Coordinator, Environmental Expert and Social and Resettlement Expert participated in the training program. some images of the training program are following-

Figure 6: Workshop Held by World Bank

3.6 Managing, Supervision and Monitoring of the OPBC-IWN Contract

3.6.1 Field Visits

Several field visits have been conducted by key and non-key experts to check the contractor's compliance to the contract, monitor survey and other work progress.

- A field visit was conducted by the Consultant Team in Laharhat-Bheduria Ferry Route 21. Dr. Md. Monzur Rahman, Social & Resettlement Expert; Dr. Sheikh Muhammad Abdur Rashid, Environment Expert; Md. Balayet Hossain, Site Engineer; Md. Mostofa Kamal, Data Enumerator; Hojaifa Al Hossain Khan, Urban Planner, JPZ Consulting (BD) Ltd. The consultant team starts for Barishal DC Launch Ghat consists of above-mentioned members from Dhaka at 06.00 am. The team reached at Barishal DC Launch ghat around 01.00 pm. The consultant team was welcomed by Md Aftabuzzaman, Communication Manager of Dharti-Bangla JV, Lot-03. The Consultant and The Contractor teams starts for Bheduria and reached there at around 02.11 pm.
- Another field visit was conducted by the Consultant Team in Bancharampur (From Solimgonj Bridge)-Homna loop on 06 January, 2023. A.B.M. Anwar Haider, Team Leader, Dredging; Md. Balayet Hossain, Supervision Engineer; Uzzal Paul, Supervision Engineer; Md. Masum Billah, Bathymetric & Hydrographic Surveyor were on the team. The consultant team started for Bancharampur at Solimgonj Bridge consisting of above-mentioned members from Dhaka at 06.00 am. The team reached at Solimgonj Bridge around 12.30 pm and received by MD Monju. After visiting the site and careful consideration the Contractor and the Consultant decided to start the dredging work from the Solimgonj Bridge point. The Contractor also discussed about their work plan with consultant.
- A field Visit was conducted on 15 January, 2023 in Solimganj by the Consultant Team consisting of Team Leader , Consultant Team and an Executive Engineer from Client .
- The Team Leader and Project Coordinator of Consultant Team has conducted a site visit to check the inventory against the bill of mobilized equipment by the Contractor on 17 January, 2023.

3.6.2 Mobilization by Contractor

On the field visit on 29 December, 2022 in Laharhat-Bheduria Ferry Route, The Consultant team visited the dredging site and monitored the dredging process. The Contractor (Dharti-Banga) has mobilized their equipment required for Dredging and according to their Contract. Some photos of the Dredging ship and equipment deployed on Route 21 is Provided in the following pages. Later on, a bill on mobilization has been sent by the Contractor (Dharti-Banga) on)3 January, 2023 b. The Team Leader of Consultant Team has conducted a site visit to check the inventory against the bill of mobilized equipment by the Contractor on 17 January, 2023.

Figure 7: Cutter Suction Hydraulic Jack

Figure 8: Dredging Ship Banga Jamuna

On the Visit on 06 January, 2023 the consultant team visited the Solimganj-Bancharampur Route (Route-9). They were welcomed by Mr Monju, Surveyor of Gulf Kobla-Karnaphuli. JV, Lot-02. At the beginning, the Consultant and the Contractor discussed about the route map near the Solimgonj bridge.

Figure 9: The Consultant teams discussed with the Contractor

The Consultant and the Contractor teams started for site supervision from Solimgonj bridge site and reached at 5 km from starting point by local boat. The main objective was to observe the minimum depth of the Titas River. Measurement was taken by the traditional process.

Figure 10: The Consultant and Contractor teams started their journey from Solimgonj Bridge point by local boat

By this process, the Consultant teams had got an idea about the minimum depth of this river. In this process a heavy metal is tied by the rope and the rope consist of knot at one feet interval. A person throws the rope and visually determined the depth by calculating the knot number of rope.

Figure 11: Water depth measurement by traditional process.

The minimum water depth was 3 feet at station K (2+500) m from starting point (Solimgonj Bridge). The maximum water depth was 9 feet at station K (3+000) m form staring point. The average depth was 4.0 feet to 4.5 feet.

The Contractor and the Consultant decided to start the dredging work from the Solimgonj Bridge point.

Figure 12: Dredging starting point at Solimgonj Bridge.

The Contractor also discussed about their work plan with consultant. They started their work by installing Bench Mark (BM) pillar and xyz valued. They also installed the water level gauge, conducted bathymetric survey along the navigation route (middle portion of the river at certain width followed design). Cross section will be taken at 10-meter interval. The pre survey will be conducted by bathymetric survey (use Single beam eco sounder) in river side and River bank elevations will be collected by RTK (Real Time Kinetic). By this process the river width and depth will be calculated.

Site supervision is ongoing on Route-9. Some Images are provided below-

Figure 13: Site Supervision on Route-9

Figure 14: Equipment Mobilization by Contractor

Figure 15: Site Supervision in Route -9

3.6.3 Hydrographic Survey

Hydrographic and Bathymetric survey monitoring team has been deployed by the Consultant on Route 21(Lot-3), Route-13(Lot-2) and Route-9(Lot-2). Survey procedure has been started already and survey monitoring currently ongoing the above-mentioned routes. Some images of the monitoring process is provided below-

Figure 16: Bathymetric Survey Monitoring in Route -9

Figure 17: Bathymetric Survey Monitoring on Route -9

Figure 18: Bathymetric Survey Supervision on Route -13

3.6.4 Alignment Map for Navigational Route

Drawings on Lot 2 and Lot3 Channel alignment has been done and preliminary map of the Channel alignment has been prepared by the consultant. Maps of lot2 and lot 3 has been provided below-

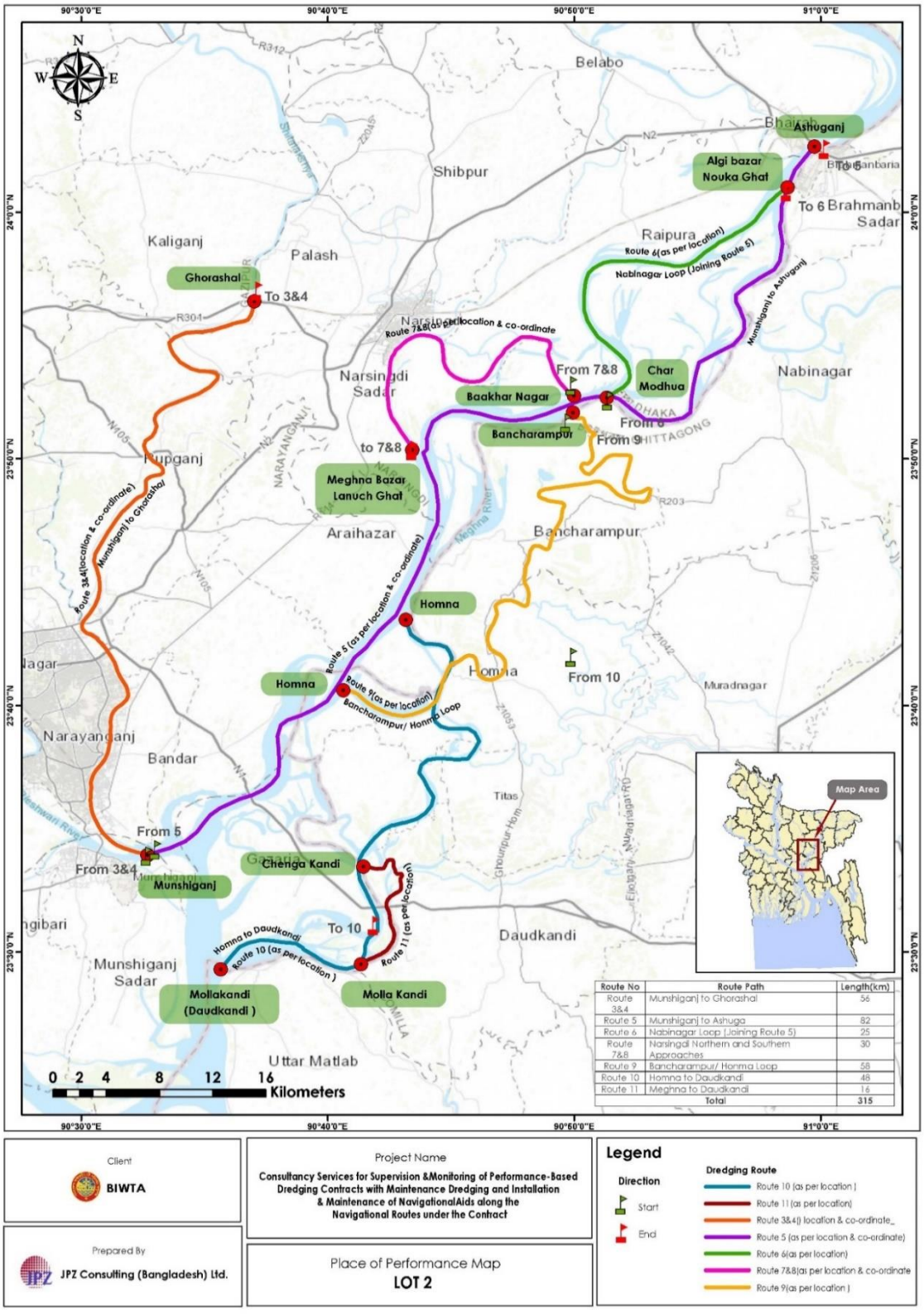


Figure 19: Alignment Map for Lot 2

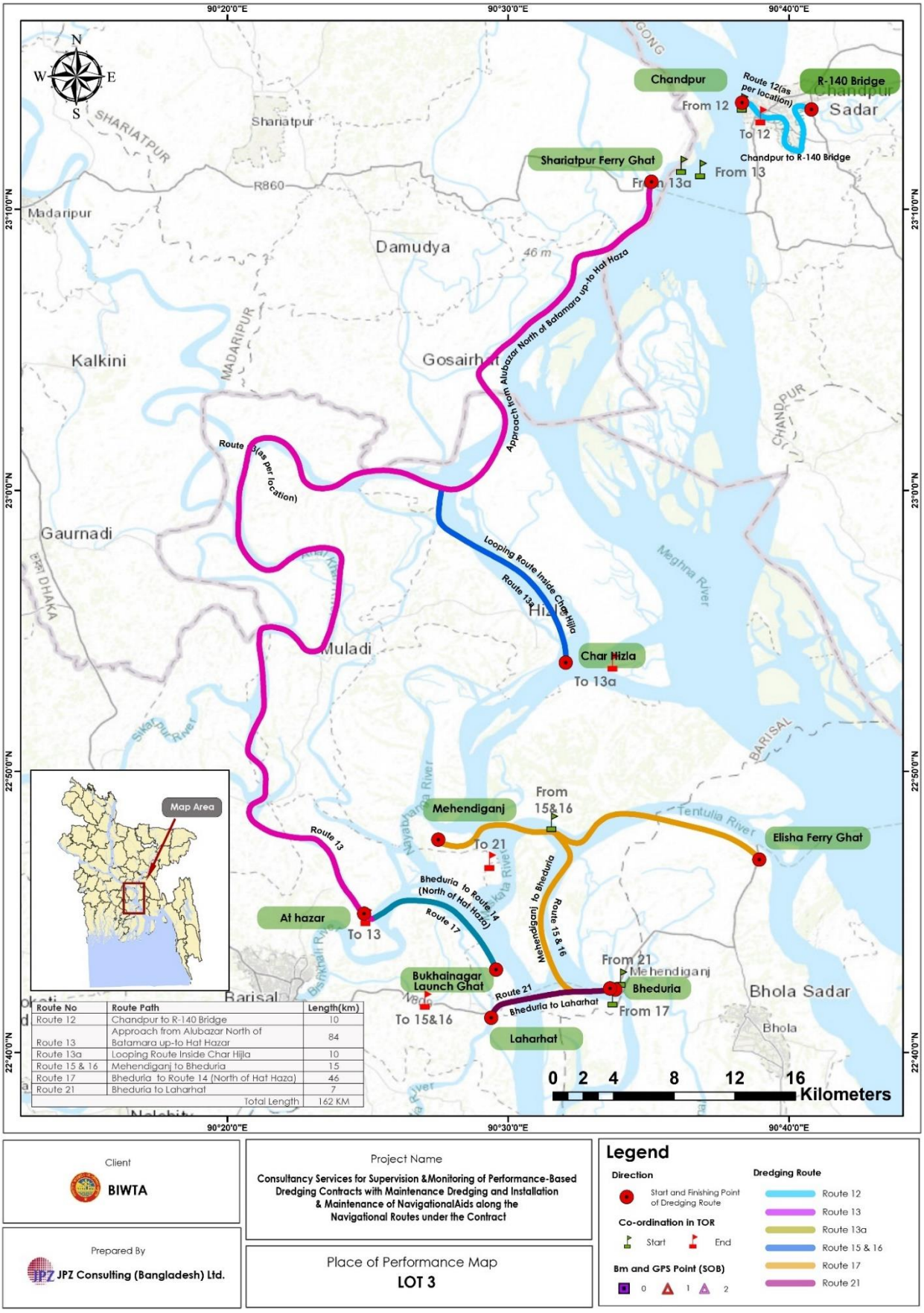


Figure 20: Alignment Map for Lot-3

3.6.5 Reference level Establishment

GPS and BM Data of Bangladesh has been collected from Survey of Bangladesh. Necessary Reference points suitable for the dredging routes have been filtered out and maps including Bm along the dredging routes have been Prepared by the consultant. Relevant maps have been provided below-

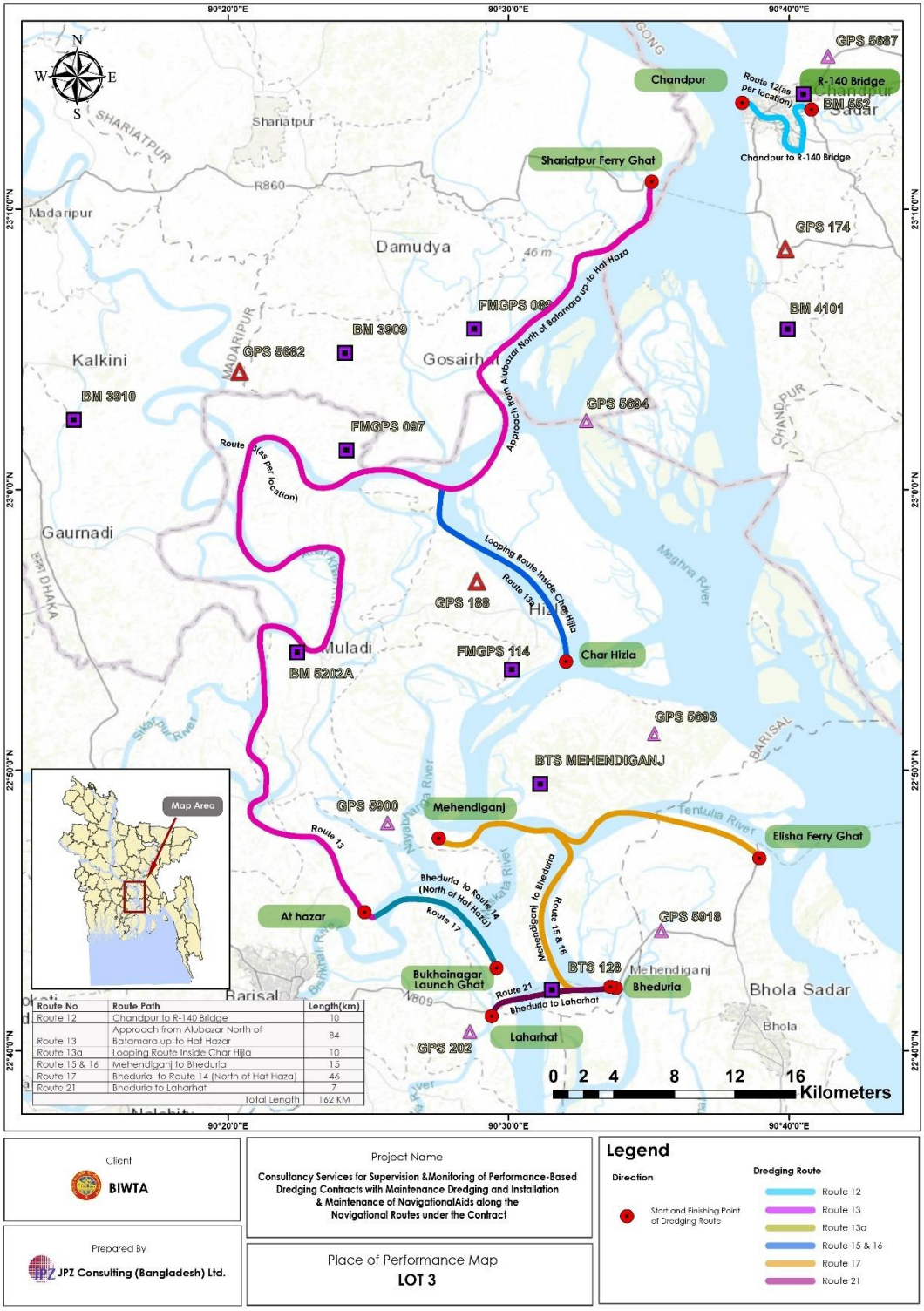


Figure 21: BM and GPS Point Map for Lot-3

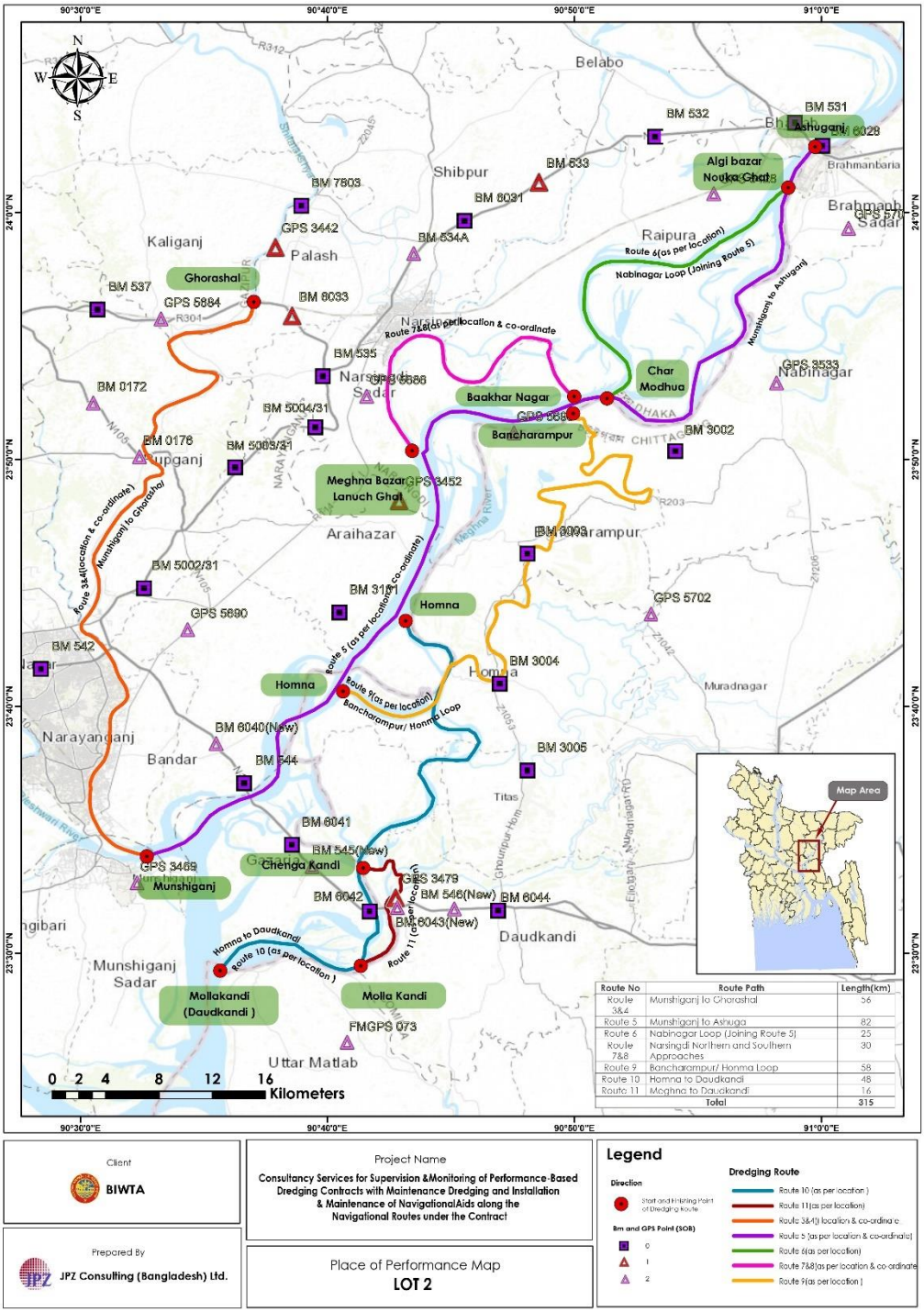
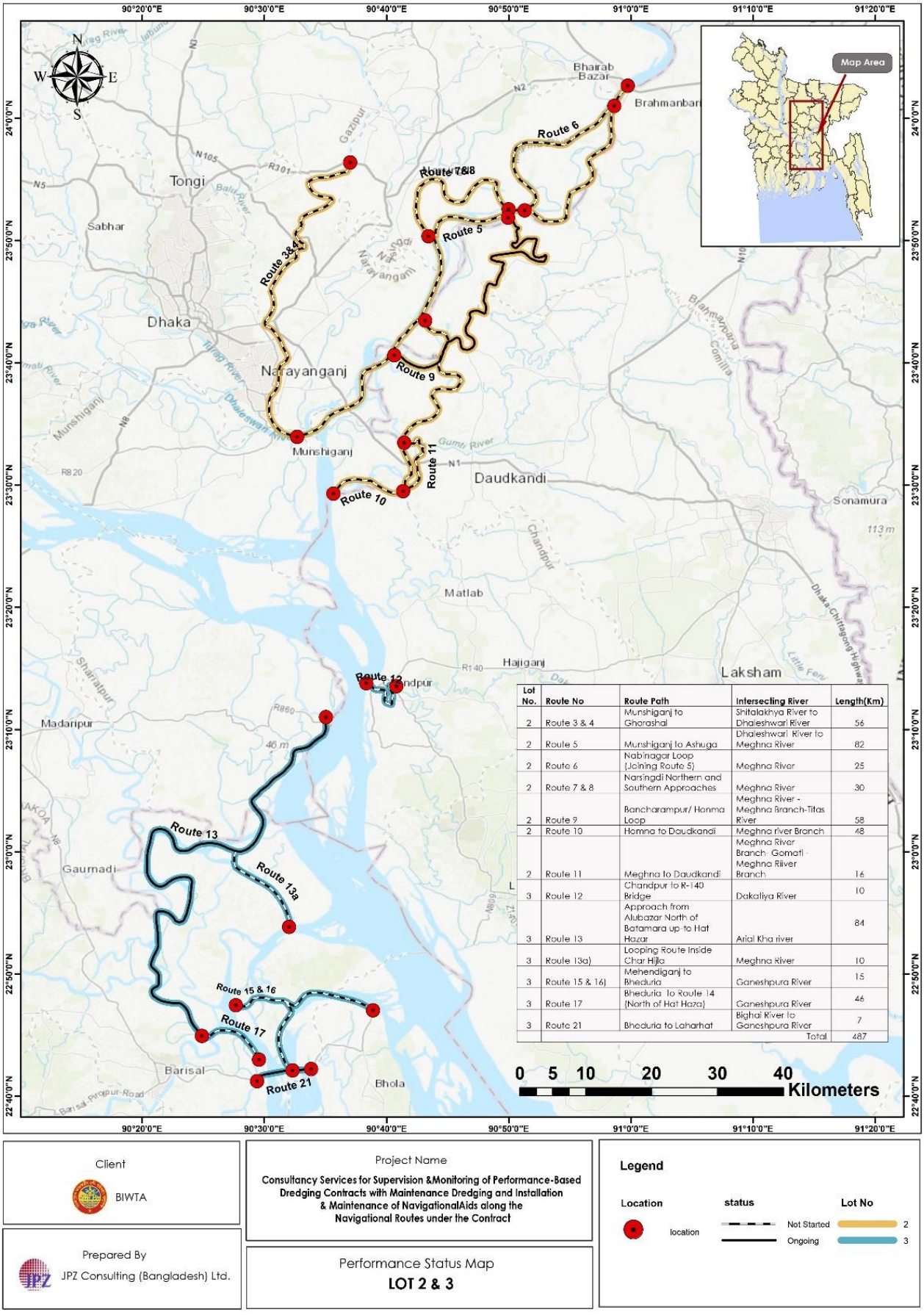


Figure 22: BM and GPS Point Map for Lot-2

3.6.6 Dredging Performance status

Dredging and pre-dredging preparation and procedures are ongoing on three routes in Lot-2 and Lot-3 simultaneously. Among them, Dredging has started on Route-21(Lot-3) in Laharhat-Bheduria Ferry Route. And Pre-Dredging survey and preparation are ongoing on Route-9(Lot-2) and Route-13 (Lot-3). A Map and Progress table of Dredging progress on channels have been provided below -



Lot No.	Route No	Route Path	Intersecting River	Length(Km)
2	Route 3 & 4	Munshiganj to Ghorashal	Shitalakhya River to Dhaleshwari River	56
2	Route 5	Munshiganj to Ashuga	Dhaleshwari River to Meghna River	82
2	Route 6	Nabinagar Loop (Joining Route 5)	Meghna River	25
2	Route 7 & 8	Narsingdi Northern and Southern Approaches	Meghna River	30
2	Route 9	Bancharampur/ Homna Loop	Meghna River - Meghna Branch-Titas River	58
2	Route 10	Homna to Daudkandi	Meghna river Branch	48
2	Route 11	Meghna to Daudkandi	Meghna River Branch- Gomati - Meghna River Branch	16
3	Route 12	Chandpur to R-140 Bridge	Dakatiya River	10
3	Route 13	Approach from Alubazar North of Batamara up-to Hat Hazar	Arial Kha river	84
3	Route 13a)	Looping Route Inside Char Hijla	Meghna River	10
3	Route 15 & 16)	Mehendiganj to Bheduria	Ganeshpura River	15
3	Route 17	Bheduria to Route 14 (North of Hat Haza)	Ganeshpura River	46
3	Route 21	Bheduria to Laharhat	Bighai River to Ganeshpura River	7
			Total	487

Figure 23: Dredging Performance Status for Lot-2 and Lot-3

Table 2: Dredging Progress on Route 21, Lot-3 till January 18,2023

Monthly Progress Report of Development Dredging (November2022-January2023)															
Lot No	**Route ID**	**Chainage**	**Contractor**	**Dredger Name & Size**	**Type**	**Date of Mobilization**	**Progress during the period**		**Cumulative progress**		**No of cutting**	**1 cut dredged length (m)**	**2 cut dredged length (m)**	**Length equivalent to full section (m)**	**Remarks**
							Length	**Volume**	**Length**	**Volume**					
3	Route 12		Dharti-Banga JV		CSD									0	
	Route 13			Banga Shitalakhya(20")	CSD	18.10.2022								0	
	Route 13a				CSD									0	
	Route 15 & 16				CSD									0	
	Route 17				CSD									0	
	Route 21			Banga Padma (18")	CSD	17.10.2022	Ch 7+500 to 7+950				1 cut	450		775	
				Banga Jamuna(18")	CSD	26.10.2022	Ch 7+950 to 8+500				2 cut		550		
													TOTAL	775	

3.7 Technical and Management Support to Client

- The Key and Non-key Experts are currently reviewing documents on their respective fileds.
- The Consultant team has assisted in conducting baseline survey on different routes that is scheduled for dredging.
- Besides that, the consultant team is assisting the Client in checking adequacy of resettlement and rehabilitation measures and providing technical assistance where necessary.
- The Social and Resettlement Expert of the Consultant Team has prepared Good Faith Land Rent Agreement Form.
- The Team leader of Consultant Team conducted a site visit with an Executive Engineer of the Client on 15 January, 2023 to monitor the survey at Solimganj-Bancharampur Route

3.8 Monitoring and Supervision of Environmental and Social Outputs

On the Field Visit on 29 December, 2022 in Laharhat-Bheduria Ferry Rout (Route 21) , The Consultant

Figure 24: The Consultant Team's discussion with The Contractor

team was joined by Md Raiyan Ahmed, Surveyor of the project. The Consultant was informed about the current dredging operation of Route 21. According to the information, The Contractor had already started their dredging and suspending the dredged soils into two dayeks only by verbal confirmation as it was defined as an emergency situation by The Client. The Contractor also expressed the necessity of 5 more dayeks to keep the operation in motion.

The Social & Resettlement Expert expressed his concern regarding the verbal contract with the landlord and also added that the contract with the landlord should be carried out as soon as possible.

He also instructed the surveyor to identify land for the required dayeks. The Data Enumerator should engage in this stage and collect the required socio-economic data for resettlement.

Figure 25: Current Dayek Location

The Environment Expert monitored the on-going environment tests and guided the survey team regarding the collection of environmental data.

Figure 26 Air Quality & Noise Level Detection Survey