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

Bangladesh Inland Water Transport Authority (BIWTA)

MONTHLY PROGRESS REPORT
MARCH 2023

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)- S1A

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Demas Dredging Consultants BV, the Netherlands (DEMAS)

JPZ Consulting Ltd., Bangladesh (JCL)

EXECUTIVE SUMMARY

The dredging project in Bangladesh aims to improve the navigability and flood protection of a major river in the country. The project is focused on the lower Meghna River, which is an important waterway for transportation. The project involves dredging the river to increase its depth, widen its width, and create a more uniform channel. The primary objective of the project is to improve the river's navigability by allowing vessels to navigate safely, increasing the flow capacity, and reducing the risk of flooding. Additionally, the project will contribute to the economic growth of the region by enabling easier transportation of goods and people.

MONTHLY REPORT FOR THE MONTH OF MARCH, 2023

The World Bank financed the dredging project 'OPBC Works of Development Dredging with Maintenance and Aids to Navigation with Installation Along Inland Waterways' Routes 12,13,13a,15&16,17 and 21 Contractor DHARTI-BANGLA JOINT VENTURE herein referred to as Lot-3. Route 3&4.5,6,7&8,9,10 and 11 Contractor GULF-COBLA KARNAFULY JV herein referred to as lot-2 under Bangladesh Regional Waterway Transport Project-1(BRWTP-1), Contract No. BRWTP-W1A-03&02. JPZ-DEMAS-JCL, the Consulting Firm being provided the consulting service to monitor, supervise & administer the contracts for performance-based dredging works.

The report for the month of March 2023, compiles construction and quality control activities of the dredging and related services as per contractual standards and specifications. At present Route 9 & Route 21 is in good progress with hydrographic surveys and development dredging works by cutter suction dredger for the routes to maintain LAD according to the route classification round the year. Professionals/experts employed by JPZ visited, and supervised regularly with utmost sincerity in order to ensure the quality & quantity of jobs done. During the monthly site visit (March 2023), dredging activities were observed in various locations in Route 9 at Meghna (Bancharampur/Homna Loop) of Lot 2 and Route 21 at Tentulia (Bheduria to Laharhat) of Lot 3.

Based on the observations and monitoring results, it was noticed that no significant negative impact was imparted on the project with environmental issues like ambient air-noise water quality- and other occupational health-safety hazards during the reporting month (March 2023).

ABBREVIATION

ASAP	As Soon As Possible
BDT	Bangladeshi Taka
BELA	Bangladesh Environment Lawyer Association
BIWTA	Bangladesh Inland Water Transport Authority
BM	Bench Mark
BRAC	Bangladesh Rural Advancement Committee
BRWTP1	Bangladesh Regional Waterway Transport Project I
cum	Cubic Meter
CEAP	Conservation Effects Assessment Project
CSD	Cutter Section Dredger
DCC	Dhaka Chittagong Corridor
EIA	Environmental Impact Assessment
ES	Environmental Safety
ESHS	Environment, Social Health, and Safety
ESMP	Environment and Social Management Plan
GBV	Gender-Based Violence
GRC	Governance, Risk, And Compliance
GRM	Grievance Redress Mechanism
HSE	Health and Safety Expert
ID	Identity
IWT	Inland Water Transport
IALA	International Association of Marine Aids and Lighthouse Authorities
JPZ	Jurutera Perunding Zaaba
JV	Joint Venture
Km	Kilometer
LAD	Least Available Depth
MOEF	Ministry of Environment, Forest and Climate Change.
MoS	Ministry of Shipping
NID	National Identity
OPBC	Output and Performance-Based Contract
PIU	Project Implementation Unit
QTY	Quantity
SOB	Survey of Bangladesh
sqm	Square Meter
TBM	Temporary Bench Mark
WB	World Bank

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CHAPTER 01: PROJECT INFORMATION

1.1 Background:

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. 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 period for different size vessels, shrinking to about 3,900 km in the dry periods. While the larger rivers are up to 50 meters depth in places and the Lower Meghna (the main trafficked route on the Dhaka Chittagong Corridor or DCC) is generally 10-25m deep. 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 estuaries. Navigation is further complicated due to braided nature of the main rivers. 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 (IWT) carries over 50 percent of total Bangladesh's cargo traffic with one quarter of passenger traffic. There are over 22,300 registered vessels engaged in this trade, mainly transporting dry and liquid cargo 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. The routes are categorized as Classes I through IV depending on their advertised depths as given below (Table1).

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

Class	Max Vessel Draft/Least Advertised Depth	Length	%
I	3.65m/3.96m	683 km	11
II	2.13 m/2.43 m	1000 km	17
III	1.52 m/ 1.82 m	1886 km	32
IV	<1.52 m	2400 km	40

Bangladesh Inland Water Transport Authority (BIWTA), under the Ministry of Shipping (MoS) is the lead responsible Govt. organization to look for better and most convenient waterways transport for passenger & cargo safely. In addition to others BIWTA attend 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-Chattogram IWT route, with branches to Ashuganj, Ghorashal and Barishal. Major components of BRWTP-1 include 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 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 Monthly report 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 1st March to 31st March 2023.

1.2 Objectives:

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 BRWTP-WIA package (Lot-2&Lot-3).

1.3 Scope of Works:

1.3.1 Approaches for the Assignment

The Consultant must be aware that the Output and Performance- Based Contract for Inland Water Navigation has its own characteristics. The performance 'Statement of Objectives' are:

1.3.2 Purpose

To guarantee advertised depths and widths on all river routes except some routes in the delta area for at least 95%, i.e., 347 days/year, whilst, the dredging availability target will be 85% for the routes in the delta area (Route 21 under Lot-3) and to guarantee a 95% availability of aids to navigation.

1.3.3 Scope and period of the performance

The scope of the OPBC-IWN Works Package No. W1A, comprises two (2) Lots, under two (2) separate Contracts includes:

1.3.3.1 Mobilization, Setup and Establishment: Mobilization/Demobilization, Rental of Major Plant and Equipment, Site Set-up and Establishment (including ESHS) which will include mobilization of all necessary survey, dredging and other vessels and attendant plant to Bangladesh, retention of the all plant and equipment in Bangladesh for the duration of the Works, site establishment, setting up and eventual demobilization.

1.3.3.2 Development of Dredging Works: The activity of restoring navigation channel depths and widths on the various Inland Waterways under Package No. W1A contract(s) and is to be conducted over the first 30 (thirty) months period of the contract.

1.3.3.3 Improvement Works: Consisting of a set of specific interventions indicated in the Specifications to add new characteristics, including provision of new aids to navigation to the Inland Waterways under Package No. WIA contracts, which shall be conducted over the first 18 (eighteen) months period of the contract.

1.3.3.4 Maintenance Services: Consisting of all interventions on the inland waterways, which are to be carried out by the Contractors in order to keep the Inland Waterways to specific performance standards, including all activities related to management and evaluation of the Inland Waterway network under the contracts. Inter-alia, Maintenance Services include: (i) Maintenance Dredging Works starting from 31 (Thirty-one) months of the contract and continuing up to 66 (Sixty-six) months of the contract; and (ii) Maintenance of Aids to Navigation starting once installed and continuing up to 66 (Sixty-six) months of the contract.

1.3.3.5 Support on Environmental and Social Safeguards: To prepare site-specific Dredge Disposal Management Plan and Resettlement Action Plans (RAPs) as required for on-land disposal of dredge materials and support the PIU in the ES management under the W1A package including implementation of the Dredge Disposal Management Plan, RAPs, GBV Action Plans and project's GRMs.

1.3.3.6 Emergency Works: Consisting of activities needed to reinstate the Inland Waterways and reconstruct their structure or their right-of-way which has been damaged as a result of natural phenomena such as cyclones and earthquakes with imponderable consequences, or severe accidents blocking passage of vessels, which may be required at any time during the contract, up to 66 (Sixty-six) months from the Starting Date.

1.3.4 Place of the performance

The works package on dredging shall operate for 66 (Sixty-six) months on the river routes presented in the box below.

LOT 2: Route 3&4, Route 5, Route 6, Route 7&8, Route 9, Route 10, and Route 11

Route 3&4:	Shitalakshya (Munshiganj to Ghorashal)
Route 5:	Meghna (Munshiganj to Ashuganj)
Route 6:	Meghna (Loopjoining Route 5)
Route 7&8:	Meghna (Narshingdi Northern and Southern Approaches)
Route 9:	Meghna (Bancharampur/Homna Loop)
Route 10:	Meghna (Homna to Daudkandi)
Route 11:	Gumti (Meghna to Daudkandi)

LOT 3: Route 12, Route 13, Route 13a, Route 15&16, Route 17, Route 21

Route 12:	Meghna (Chandpur to R140 Bridge)
Route 13:	Meghna Arial Khan Route (Approach from Alubazar North of Batamara up-to Hat Hazar)
Route 13a:	Meghna (Looping Route inside Char Hijla)
Route 15 &16:	Meghna (Mehendiganj to Bheduria)
Route 17:	Meghna Tentulia (Bheduria to Route 14)
Route 21:	Tentulia (Bheduria to Laharhat)

1.3.4.1 The Scope during Dredging Operations:

- Joint hydrographic survey by the Contractor, S1A, BIWTA
- Supervise and certify dredging performance, review achieved depth, compare with targets and identify shortfalls;
- Supervise, witness and certify pre, post, and monitoring surveys, environmental monitoring and monitoring of hydraulic and morphological parameters performed by the contractor;
- Check dredged volumes based on pre and post survey hydrographic data;
- Calibrate and update of available water model with data from surveys and monitoring;

- Assess backfilling rate and maintenance dredging requirements based on survey data;
- Update dredged material management plan;
- Verify and certify contractor's invoices;
- Organize progress meetings with the contractor, the client and the donor on a regular basis;
- Organize stakeholder meetings, RAPs, GRM action plan / workshops to disseminate project schedule and progress

1.3.4.2 Scope of Environmental Assessment and Monitoring:

- Environmental assessment and mitigation measures
- Investigation of baseline information of physical, biological and social environment;
- Assessment of anticipated impacts of the project activities on the physical, biological and social environment;
- To ensure that the Environmental Management Plan (EMP) and monitoring plan is followed strictly in order to minimize the adverse effects due to project interventions.
- Monitoring water availability, irrigation, fisheries and livelihood and flooding through field survey and consultation with multi-stakeholders
- Prepare environmental monitoring report
- Review and comments on W1A contract environmental reports

1.3.4.3 Social Services:

- RAPS
- Good faith agreements
- Organize stakeholder meetings

1.3.4.4 Hydrographic Survey Services:

- Joint survey by S1A, PIU & Lot 2 & 3 to find the dredging required area
- Joint Pre work survey (in survey) by S1A, PIU & Lot 2&3 in the dredging required area
- Monitoring survey before post work (out survey) in the dredged area
- Joint Post work survey (out survey) by S1A, PIU & Lot 2&3 in the dredged area
- Periodic monitoring survey after post work (out survey) in the dredged area
- Monitoring Survey after monsoon in full route length and covering full width

1.4 Outputs:

- Baseline hydrological, and morphological and environmental conditions of the project rivers routes
- Prepared hydrological data and hydrographic charts for the project rivers routes
- Best-suited dredging alignments for dredging of different navigational routes;

- Dredged material disposal plan
- Development and maintenance dredging volumes for different river stretches of project rivers routes
- Benefit of dredging maintaining LAD on physical and socio-economic conditions
- Monitoring results on dredging, water availability, navigability, irrigation, erosion and flood improvement
- Monitoring results on agriculture, fisheries, livelihood and environmental conditions
- Reports: All work performed by the consultancy team of engineering services shall be documented in written reports submitted to the PIU
- Preliminary charts for delineating dredging alignments and computation of dredging volume;
- Different reports that shall highlight output of survey works through preliminary estimate of dredging requirement, Volume of dredging needed as per Joint Prework Survey and design, Progress of dredging work, actual volume of dredging performed as per Joint Post work Survey
- Report mentioning status of dredge channel after completion of dredging work. All work performed by the survey team services shall be documented in written reports submitted to the PIU.

In light of the basic information of this project, the S1A consultant arranged the monitoring and supervision program. From the beginning, the supervision has divided into three major parts- dredging works, environmental monitoring, and social aspects.

This report of March 2023 is prepared encompassing the following approach to ensure all measures necessary to be included is addressed in a comprehensive manner:

- Field Visit
- Checklist and form
- Training and meeting
- Consultation
- Review of environmental safeguard specifications.
- Review of the proposed dredging/dike layout in the site.
- Review of Project implementation schedules.

The desk-based review for the secondary information and the primary information from the site visit has been incorporated into the monthly report.

CHAPTER 02:
PERFORMANCE OF THE CONSULTANT UP TO DATE

The main objective of this chapter is to understand the current environmental and social condition of the project area and how the project needs to be implemented considering these conditions. In this part Consultant S1A provided data collected from the site visits and from the monthly report submitted by the contractors of Lot 2 & Lot 3. Standard guideline and approach have been followed to preserve key environmental and social aspects by preventing and controlling environmental pollution and the management of various problems resulting from the Improvement work/dredging activities of Inland Waterways routes under Bangladesh Regional Water Transport Project-1.

In accordance with the conditions of contract and employer's requirements the objectives of this chapter of the monthly report are as follows:

- To present the records of monitoring and its mitigation measures, taken thereafter, of the environmental parameters, including noise, air, riverbed sediment, and water quality, as well as waste management and effects on biological resources for identifying the deviation of environmental quality if any due to dredging related activities.
- To evaluate and confirm whether the Contractor has met the environmental compliance requirement, as was committed in the CEAP to protect surrounding environment of the dredging site.

This chapter is mainly divided into three main parts:

- Environmental Assessment/Environmental issues;
- Social and resettlement issues;
- Development and maintenance of dredging works.

2.1 Environmental Assessment/ Environmental Issues

Environmental supervision is mostly done on the site visit and by collecting data from the reviewed reports provided by the contractors.

2.1.1 Field Visit

The S1A team visited Route 15& 16 and Route 21 under Lot 3 to evaluate the proposed dredged material disposal site at Patharhat–Route16, to identify sites for installation of navigational aids and to visit dredged material disposal sites of Route 21 on 22 March 2023.

Figure 1: S1A Field Visit Team on 22 March 2023

2.1.1.1 Patharhat: Proposed dredged material disposal site

Figure 2: Proposed dredged material dumping site

The shallow left bank of the Maishkata River extending from the Patharghat Launch Ghat southward to almost 300 meters and delineated by the shoal developed almost 100 meters from the river bank (Fig. 2). This area is proposed for bunding and dumping of the dredged material.

Figure 3: Underwater high-voltage cable within the proposed dumping site

The proposed site hosts a live high voltage underwater cable (Fig. 3) that presumably will pose hindrance to the dredging operation and dumping of dredged materials.

On the left river bank adjacent to the proposed dumping site, the land is privately-owned, and fragmented with several owners who according to the enumerators are willing to lease the land for dumping dredged materials. However, there is evidence that BIWTA has leased land for dumping dredged material close to the proposed site under a different project (Fig. 4).

During the visit local villagers could not be consulted as we were ‘escorted 'by the local influential people, particularly the Chairman, who seemed to be running the show. There may be scope to find area for dumping dredged material for which more communication is needed at the field level. The support from the influential and local elected public representative is essential but it should be not always for their benefit as is the case observed here. The major beneficiaries are the elites and influential people.

Figure 4: (Left) BIWTA dredged material dumping site; (right) seasonally cropped river bank area

An alternate site located on the right bank and at the confluence was also visited by the team accompanied by the local Union Parishad Chairman and Members (Fig.5). The site is located about 1.8 km south of the Patharhat Launch Terminal.

The area supports reed land habitat that possibly would be '*khas*' land with some encroachment, where local villagers are cultivating seasonal crops. However, according to the protocols as stated in the C-ESMP the reed lands habitat should not be altered or used for dumping.

Figure 5: Alternate reed land site visited by the team members and local elected representatives

Some migratory and local resident fauna was observed during the site visit (Fig.6). A list of the species observed is provided in Table 2.

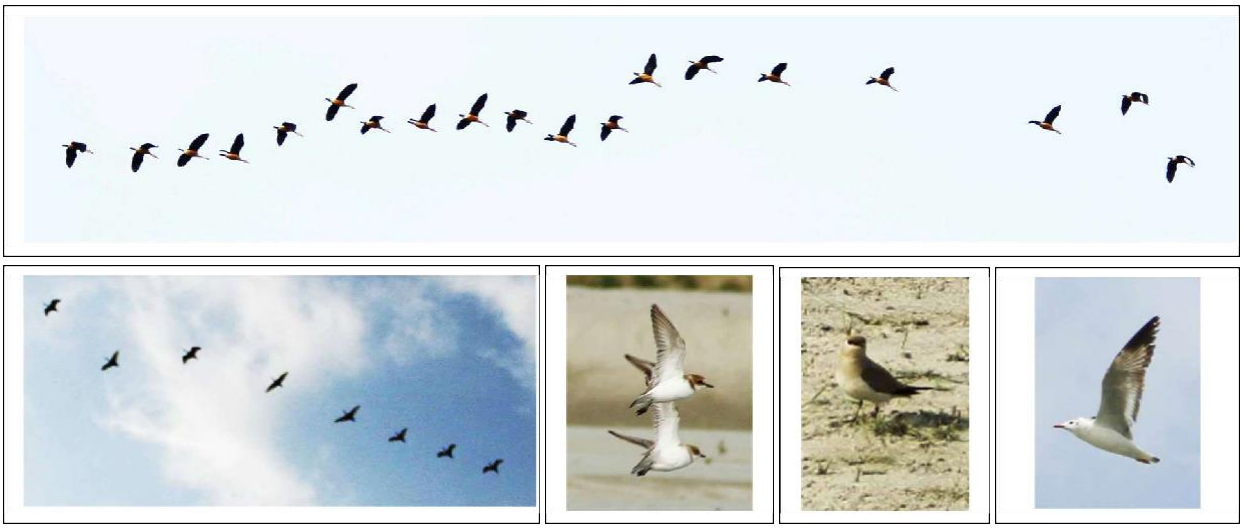


Figure 6: Some of the local resident and migratory species observed

2.1.1.2 River Route21:

The dredged material disposal sites–Dyke-1 and Dyke-2 was visited. The 'bund' of the dykes was in a bad shape and with breaches into the river as well as fragments of plastic sheets used to stabilize the 'bund' were lying around (Fig. 7). The dredged materials have settled within the 'bund', however by looking at the dyke boundary it gives a feeling of an orphan, whereas this should not have been the case.

Figure 7: Present condition of the dredged material dumping sites – Dyke 1 of Route 21

2.1.1.3 Suggestions:

1. The proposed disposal sites at Patharhat are not feasible, the site near the launch ghat will reduce the river width, and there is an underwater high voltage electric cable.
2. The alternate site is reed land and according to the contract dredged material can neither be dumped nor the reed land habitat be altered/disturbed as this is an important habitat for some of the resident flora and fauna species.
3. Discussion/dialogue needs to be expanded with the local people (not only with the local elites) to identify suitable disposal sites.
4. The Navigational Aids Expert suggested that adequate buoys are to be installed as per IALA (International Association of Marine Aids and Lighthouse Authorities) buoyage system with required colors of for the safe navigational purpose along dredged Route 21.
5. The dykes along the Route21 need to be maintained by the contractor (Dharti-Bangla JV)

Table 2: List of fauna species observed during the field visit

EnglishName	ScientificName	BanglaName	Status
REPTILES			
WaterMonitor	*Varanussalvator*	Ramgodi,Guil	Resident
BIRDS			
Black-headed Ibis	*Threskiornis melanocephalus*	Kalomatha Kastheychura	Migratory
LesserWhistling Duck	*Dendrocygnajavanica*	Saralihans	Local Migratory
AsianOpen-billStork	*Anastomusoscitans*	Shamuk-khol	Local Migratory
Little Egret	*Egrettagarzetta*	SadaBok	Local Migratory
Whiskered Tern	*Chlidoniashybrida*	ZulfiPancheel	Resident
Gull-billTern	*Gelochelidonnilotica*	KalotootPancheel	Resident
Common Sandpiper	*Actitishypoleucos*	PatiBatan	Resident
Brown-headedGull	*Chroicocephalus brunnicephalus*	Gaangcheel	Migratory
ZittingCisticola	*Cisticolajuncidis*	BhomraChoton	Resident
AssameseBushLark	*Mirafraassamica*	Bharotpakhi	Resident
PariahKite	*Milvusmigrans*	Bhubancheel	Resident
BrahminyKite	*Haliasturindus*	Shankacheel	Resident
LesserSand Plover	*Charadriusmongolus*	Jiriya	Migratory
KentishPlover	*Charadriusalexandrinus*	Jiriya	Migratory
LittleCormorant	*Phalacrocoraxniger*	Pankowri	Resident
Small Pratincole	*Glareolalactea*	ChotoBabubatan	Resident
Red-ventedBulbul	*Pycnonotuscafer*	Bulbuli	Resident
BlueRockPigeon	*Columbalivia*	JalaliKobutor	Resident

Table 3 :List of persons met during the field visit

Name	Address	ContactNumber
ShamsulBari Munir	UP Chairman,Char Gopalpur	01716-944520
ZakirHossainJamader	Ward#9, Village: Chuner Char, Patharhat, Mehendiganj	01316-048570
MuniruzzamanJamader	Councillor, Ward#9, Mehendiganj	01735-167927
Md.Yusuf	UP Member, Ward No.3, Union: Char Gopalpur	01725-587252
Md.Mintu	UPMember,Ward No.1,Union: Alinagar, Mouza: Char Moisha	01731-755281

2.1.2 Summary of environmental protection and pollution control/mitigation measures

The Monthly Report submitted by the W1A contractor Lot 2 incorporated the following table (4) with their report. Here we found the summary of environmental condition of the project site for the reporting month.

Table 4: Summary of the Major Findings in the Reporting Month (March 2023) of Lot 2

Issues	Present Status	Mitigation Measures
Aquatic Fauna (Fish)	During the field visit, a few fishing activities by Rod and hooks was observed. There is no visible fish mortality around the dredging site location.	No mitigation measure is required.
Aquatic Fauna (Dolphin)	There is no presence of Ganges River Dolphin in the area.	No mitigation measure is required.
Air quality	Monthly monitoring of Air quality has been conducted in this reporting month. All the testing parameters were found within the standard limit. Detail has been discussed in 0.	No mitigation measure is required.
Noise level	Monthly monitoring of noise level has been conducted in this reporting month. Results were found within the standard limit. Detail has been discussed in 0.	No mitigation measure is required.
Riverbank Erosion	During the reporting month, there were no issue was observed regarding riverbank erosion or flooding.	No mitigation measure is required.
Drainage congestion	The dredging work in March 2023 is being carried out in Salimganj Ghat (Route-9) area. During site observation, the outline for water passing from the dredge material was found to be functional.	No mitigation measure is required.
Quarries, borrow areas, spoil areas, asphalt plants, batch plants	No such activities and issues were observed during this reporting month.	No mitigation measure is required.
River transport	River traffic related sign boards have been observed in this reporting month to ensure a safe river traffic movement.	No mitigation measure is required.
Blasting	No such activities have been conducted during the reporting month.	No mitigation measure is required.
Spills from chemical storage	No spills both at land and river section were noticed during the reporting period.	No mitigation measure is required.
Sediment leakages from pipes	During this reporting month no leakage was found in the dredge pipe.	No mitigation measure is required.
Waste Management	During the reporting month, waste bins have been placed on the houseboat as well as in dredger. Different color-coded dustbins with specific waste category levels on the waste bins have been installed in the dredging site. At the Karnafuly-7 dredger, oil cleaning cloths were observed here and there during this reporting month. No wastewater and solid waste are discharged into the rivers.	Oil cleaning cloths need to be disposed of in hazardous waste bins.
Water and Swamp Protection	Equipment is inspected and maintained regularly in order to prevent leaks. To check the water quality at the dredging points, five water samples have been collected and tested in the laboratory. Adequate toilet facilities have been provided in houseboats and dredgers as well.	No mitigation measure is required.
Drinking water and sanitation	Safe drinking water is being supplied for the site workers also toilets were found clean during this reporting month. However, the daily check list was missing during observation.	Toilet checklists need to be maintained on a regular basis.

2.1.3 Environmental Quality Measurement:

The main objective of this monitoring program is to assess the basic environmental variables in and around the dredging sites considering the possible exposures. Specific environmental and biodiversity conservation clauses are measured for understanding the probable impacts. The monitoring includes air, surface water, groundwater quality, dredge material, waste management and noise level testing according to the standard procedures.

2.1.3.1 Air Quality Measurement: Dredging work can pollute ambient air in several ways. Considering this issue, the CEAP has suggested many mitigation approaches to lower the air pollution. The contractors are maintaining these management plans to control the air pollution. As frequent monitoring is required to ensure the implementation of CEAP, the contractor measures suggested parameters of ambient air quality in and around the dredging site on a monthly basis.
Monthly monitoring of Air quality has been conducted in this Month. In this reporting months all the testing parameters were found within the standard limit.
During this month, air quality assessments were conducted at Solimganj ghat (R-9). Photographs were taken during air quality monitoring.

Table 5: Sampling locations of air quality

SI. No.	Sampling Station	Station Code	GPS Coordinates	Sampling Date
1	Solimganj ghat (R-9)	AQ-1	23°50'50.38"N 90°50'38.78"E	22/03/2023

Figure 8: Air quality monitoring for March 2023

2.1.3.2 Water Quality Measurement: As per CEAP, quarterly water quality monitoring should be done. In the reporting period water quality measurement has been monitored. No significant observations were found

2.1.3.2 a Surface Water Quality Measurement: In the month of March 2023, the status of surface water quality is measured by the contractors to determine the impact of dredging activities on

adjacent water bodies of the dredging sites. Results of the measurement of all locations was found within the national standard.

Figure 9: Pictures of Surface water sampling at Solimganj

2.1.3.2 b Ground Water Quality Measurement: One groundwater sample was collected in March 2023 from the dredging sites. The analyzed results of the groundwater testing were compared to the Bangladesh Standards (ECR, 1997). Based on these results, it can be concluded that the groundwater quality in the study area is considered to be satisfactory for drinking purposes.

***2.1.3.2 c Drinking Water Quality Measurement*:** Safe drinking water is being supplied for the site workers also toilets were found clean. However, the daily checklist was missing during observation

2.1.3.3 Soil Quality Measurement: Data was not collected by the contractors in this reporting periods.

2.1.3.4 Noise level/ Noise Quality Measurement: Noise level monitoring were conducted at due to the ongoing work activities at Solimganj ghat (R-9) location. The objective of these assessments was to measure and evaluate the levels of noise generated during the activities. The results of the noise level monitoring indicate that the noise levels at the monitoring locations are in compliance with the International Finance Corporation's Environmental, Health, and Safety guidelines. However, it is noted that the levels are slightly higher than the standards set by Bangladesh. The noise level recorded was 67.8 dBA at Solimganj ghat (R-9). Monthly monitoring of noise level has been conducted in March 2023; results were found within the standard limit. Underwater noise data was not collected by the contractors in this period.

2.1.4 Waste Management Monitoring:

During the dredging period, the contractors did not mention any information in their reports about whether the oily waste water from the dredger or the ship, solid waste from the ship etc. is being released.

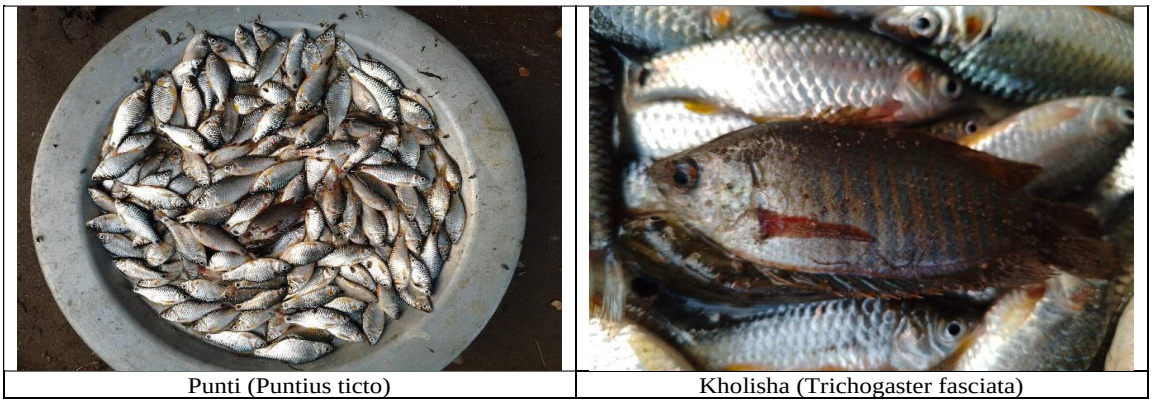
The CEAP states that discharge of wastewater and solid waste into rivers is prohibited and must be unloaded to nearby treatment plants for treatment.

The S1A team has no observations at this reporting time.

2.1.5 Effects on Biological Resources:

Biodiversity Conservation status are documented and included in the monthly environmental monitoring report. The protection of flora, fauna, and particularly the fisheries are of major concerns.

During the field visit, a few fishing activities by angling was observed. There is no visible fish mortality around the dredging site location. Considering aquatic fauna, the contractors reported that there was neither any presence of Ganges River Dolphins not any other turtles in the dredging area of Lot 2 Rivers Route 09.



Punti (Puntius ticto)	Kholisha (Trichogaster fasciata)

Figure 10: Observed fish species in the fish market.

2.1.6 Reports on Environmental Management Plan:

The results of the riverbed material, surface water, ground water, air, and noise were included in the Contractor's Environment Action Plan (CEAP) which was submitted on 22nd February 2023. The CEAP has been reviewed by S1A and submitted to the PIU for their comments prior to the finalization and subsequent submission to the WB.

The Lot 02 Contractor's Social and Environment Management Plan (C-ESMP) has been reviewed by S1A and has been submitted to the PIU.

Based on the observations and monitoring results, it can be concluded that the project has not had any significant negative impact on the environment in terms of ambient air, ambient noise, water quality, and other health and safety factors during the reporting period. Also, the project has no mentionable detrimental impact on the environment in terms of ambient air, ambient noise, and water and other occupational health and safety during this month.

2.2 Social and Resettlement Aspects

The social expert monitors the compliance in respect to Social Safeguard issues of this project and send feedback to the project director and also to the World Bank. Evaluation of mitigation measures have been carried out for the project affected persons with special attention to women, tribal & indigenous peoples and other vulnerable groups. In addition, overall project performance, issues related to land acquisition and resettlement with a focus on social inclusion has been evaluated. Socio-economic risks and impacts are identified and suggested adequate mitigation measures following the project Social Impact Management Framework (SIMF). The updated SIMF provides guidance for management of community engagement, land acquisition and involuntary resettlement, indigenous peoples, risks of gender and gender-based violence (GBV) in the project.

The scope of this task is to monitor and supervise all relevant Environmental and Social management activities including those specified in the Project's ESIA, RPF and EMP, and any additional ESHS provisions in the contract. The Social and Resettlement Expert is responsible for ensuring that the Contractor complies with all checking and reporting, especially in respect to the Contract Dredge Disposal Management Plan, the quality of dredged materials. The Consultant has done social screening for identification of safeguards issues likely to associate with the subprojects, to verify the adequacy as per requirement of the SIMF. Identify the strengths and weaknesses of social screening, Land Acquisition/ Resettlement, Good Faith Agreement with land owners, Compensation, Approaches and Implementation strategies. The Consultant has monitored the working conditions according to the safeguard rules of the World Bank, monitored gender sensitive actions and objectives that include gender analysis for gender inclusive design, implementation and operation have been achieved or in progress. The Consultant has monitored the compliance of GAP including agreed actions necessary to address risks of labor influx and Gender Based Violence (GBV) due to the prevalence of high levels of poverty, including sexual exploitation and abuse (SEA), violence during project implementation.

2.2.1 Social Survey:

S1A team conducted social survey from January to March 2023 for resettlement issues and ESHS needs. These social surveys were conducted by the Social and Resettlement Expert with site- level data collectors, in the project areas of Bancharampur, Nabinagar, Brahmanbaria and Mehendiganj of Barisal and Bhola Sadar to make detailed profile of some feasible lands and land owners for dumping Dredged Materials.

To ensure the environmental quality and social need the above-mentioned survey were performed for Route 21, and Route 9. Survey along Route 16 is in progress during this reporting period. Survey methods included Social Survey for selecting disposal Area Slection. Because this consultancy service is for supervision & monitoring of performance-based dredging and installation & maintenance of navigational aids along the navigational routes of the project. So, all the working areas under the project considered for social and safeguarding activities, monitoring and data collection.Targeted people slection for data collection is another part of social survey.

Figure 11: Public Consultation Meeting

Targeted people are Project implementors, contractor, project labourer (male and female), project affected people, land owners (project acquired land), local people (villagers, farmer, traders, shopkeepers, teachers, local elite, UP chairman/members etc), NGO workers, jounnalist, women group leaders / members of the selected project areas. S1A Team has followed specific method for data Collection. Data has been conducted for the primary source of the project areas. So, direct observation, Public Consultation Meeting (PCM) is considerd for 'primary data collection'. Secondary data has also been collected from the project related papers / documents and the dredging controcter's monthly progress reports. So, the data collection methods / tools have been used like –

i. Direct Observation
ii. Public Consultation Meeting (PMC)
iii. Secondary Data Collection

2.2.1.1 Opinion of Local Community People: Frequent meetings and discussions are held with local residents to select a disposal area. Recently, prior to the selection of a suitable disposal area for Route 16 at Char Mithua, Alimabad union, Mehendiganj upazila, Barishal district, data enumerators talked with the local people. The Maishkata River is in the north and the Tentulia River is in the east of the

Char land. In the west and south side is bordered by the Ratan Howlader's house and Abdul Jabbar Kanan's brick kiln respectively. According to their opinion the area is suitable for dredged material dumping. This area is about 300 years old settlement. They have been depending on agriculture land for their livelihood for generations. The proposed area is two crop fields mainly appropriate for paddy cultivation and the *Robi* crop like soyabeans. Besides watermelons/sugarcane are grown seasonally. They informed that during the last 6 years the area Mithua has eroded about 800 meters and accreted about 600 meters. They will be benefitted if the area is filled with fertile soil from the river. They said, erosion of the river will be prevented, production will be higher and they will able to live comfortably. Similar to the above area was proposed for disposal located at Dubochar, Sadekpur Union, Ward No.5, Mehendiganj Upazila, Barishal district, adjacent to Patharhat launch ghat. Local people agreed to use the land for dumping of dredged material of Route 16. They informed that the area has accreted about 600 meters in the north side in last 6 years and no river erosion has occurred since then.

Figure 12: Discussion with local people of Char Mithua, Mehendiganj Upazila

2.2.2 Progress of Land Lease:

Lands acquisition is not happened in the present working areas. The rivers are dredged inside its own areas. Only the dredge material has been dumping outside the river on some government properties and some private lands willingly provided by themselves by a good faith agreement. So, no compensation rules have been applied and involuntary resettlement of individuals or families, compensation for unemployment, re-employment of affected people were not required and no harassment occured to collect the compensation. Progress of Land Lease process is almost completed in for Route 21and Route 9.

2.2.2.1 Good Faith Agreement: The dredging materials will be placed in an identified suitable location of each dredging stie. In case of the dredged materials dumping in private land, an agreement has been made between two parties (project and landowners). A Good Faith Agreement is a contract between two parties that outlines the terms of the deal, including what will be exchanged and how it will be done.

For selecting a land/place for Dredged material placement, priority can be given for demand of beneficial uses of the materials if it is suitable. At some villages near the dredging locations, there is a demand for the material for repairing of the village roads and public facilities such as school and *Eidgah* grounds.

Some good faith agreements have done between the land owner and BIWTA with a prescribed format provided by the World Bank. At present sixteen (16) agreement have been completed and four (4) are ongoing. Most of the places people are willingly done these. A little part of areas some influential people are leading about this matter. General people of the project sites can know the news of river dredging, dredged materials dumping and good faith agreements for several meetings with local people in local Bazars, Union Council, villages and the local Schools.

Table 6: Progress of Good Faith Agreements Bancharampur and Nabinagar, Brahmanbaria. Dredging Company: Gulf Cobla – Karnafuly Joint Venture (Lot2).

Dyke No.	Route No	Land Owner		Land			Good Faith Agreement
		Name and NID	Address	Description	Quantity (Decimal)	Quality of Land	
1	9	Md. Monir Hossain NID: 6447046241	Village: Joy Nagar Upazilla: Bancharampur District: Brahmanbaria	Plot No: 1117.1118, 10, 65, 1016, Mouza: Joy Nagar	95	Agricultural land (Two Crops)	Done
2	9	Siblu Mia NID: 1210488091772	Village: Imam Nagar, Upazilla: Bancharampur District: Brahmanbaria	Plot No: 158, 155, 166, 147. Mouza: Imam Nagar	270	Agricultural land (Two Crops)	Done
3	9	Md. Afzal Hossain NID:1210488092232 (Chairman of the School committee)	Village: Joy Nagar Upazilla: Bancharampur District: Brahmanbaria	Plot No: 461, 711, 712, 713, 714, 715 1016. Mouza: Joy Nagar	150	School and School Field	Done
4	9	Md. MonzurMahabub NID: 1210488092428	Village: Imam Nagar Upazilla: Bancharampur District: Brahmanbaria	Plot No: 3473, 3474 Mouza: Imam Nagar	55	Agricultural land (One crop)	Done
5	9	Jharna Begum NID:5546582981	Village: Barail Upazila: Nabinagar	Mouza: Imam Nagar	132	Agricultural land (Two Crops)	Done

			District: Brahmanbaria				
6	9	Md. Dostogir NID:7813941536	Village: Barail Upazila: Nabinagar District: Brahmanbaria	Plot No: 326, 353,314, 622, 312, 126, 319, 320, 321, 334	141	Agricultural land (Two Crops)	Done
7		Monir Hossain NID: 12104880921009	Village: Imam Nagar Upazilla: Bancharampur District: Brahmanbaria	Plot No.127	40	Agricultural land (Two Crops)	Done
8	9	Abdus Salam NID: 1210488089240	Village: Aka Nagar Upazilla: Bancharampur District: Brahmanbaria	Plot No.6021, 5622, 5627, 6620, 3277	90	Agricultural land (Two Crops)	Done
9	9	Md. Zakir Hossain NID: 2693016135957	Village: Aka Nagar Upazilla: Bancharampur District: Brahmanbaria	Plot No. 2611, 2612, 6036	139	Agricultural land (Two Crops)	Done

Table 7: Progress of Good Faith Agreements Mehendiganj, Barishal and Bhola sadar. Dredging Company: Dharti – Banga Joint Venture (Lot3).

Dyke No.	Rout No	Land Owner		Land			Good Faith Agreement
		Name and NID	Address	Description	Quantity (Decimal)	Quality of Land	
1	21	Salam Fakir NID:8223014047	Village: Ghagoria. Upazila: Mehendigonj District: Barishal. (Near BheduriaFerryghat)	Plot No: 1901/56	200	Agricultural and (Two Crops)	Done
2	21	Mizanur Rahman NID: 6850475422	Village & Char Veduria. Upazila and District: Bhola	Plot No: 1901/28	121	Agricultural land (Two Crops)	Done
3	21	Salam Fakir NID:8223014047	Village: Ghagoria. Bheduria Upazila: Mehendigonj Dist: Barishal.	Plot No: 1901/56	224	Agricultural land (Two Crops)	Done
4	21	Jahingir Hossain NID: 0616213052704	Village:Sripur, Upazila: Mehendigonj Dist: Barishal.	Plot No: 1501	80	Fallow land	Done
5	21	MizanurRahaman Harun 6860475422	Char Veduria. Upazila and District: Bhola	Plot No: 1107. 1181, 1182, 2123, 2124, 2119, 2125	300	Agricultural land (Two Crops)	Done
6	21	Nur Nabi Vhuya NID: 0616213050970	Village: SeripurUpazilla: Mahandigong, District: Barishal	Plot No: 1468, Mouza: Ghaguria	365	Agricultural land. (Two Crops) (Watermelon, Bitter Gourd)	Done
7	21	Nur Nabi Vhuya NID No: 0616213050970	Village: SeripurUpazilla: Mehendiganj, District: Barishal	Plot No: 1468, Mouza: Ghaguria	120	Agricultural land (Two Crops) (Watermelon, Bitter Gourd)	Done

2.2.3 Grievance Redressal Mechanism (GRM):

The BRWTP-1 project has its own GRM system with three stages of mechanism (Field site level, River port level and Project level) and the compensation system follows the World Bank rules. The Consultant assists the Client in monitoring the functioning of the GRM that have been set up by the Client to receive and process project-related feedback, suggestions, concerns and complaints, especially in relation to the dredging activity carried out under the OPBC-IWN contracts and the Vessel Storm Shelters construction contract. This includes the following: (i) continuously checking in the field to ensure that the information on GRM remains publicized in an appropriate manner at the relevant sites and any complaints received by the Contractors and the Consultant himself is forwarded to the Client. (ii) Assisting the Client to prepare and disseminate brochures and signboards containing information of interest to people living close to the project sites.

Till March 2023, the dredging consultant 'DHARTI–BANGA JV' has prepared two Grievance Redressal Committees (GRC). But no progress report has been submitted by them on the committee's activities or to resolve any grievance incident. The GRM expert will start work soon on behalf of S1A. The GRC committees of 'DHARTI–BANGA JV' are as follows:

Table 8: The Local Level Complaint Resolve Committee

Name	Designation	Organization	Position in GRC	Mobile No.
Capt. Abdur Razzak Bhuiyan	Team Leader	DHARTI–BANGA JV	Chairman	
Md Aftabuzzaman	Social and Communication Officer	DHARTI–BANGA JV	Member	
Mizanur Rahman	Environmental Specialist of Engineer	BRWTP-1	Executive Member	
Tanvir Hossain	HSE Manager	DHARTI–BANGA JV	Executive Member	
Walid Hossain	Environmental Health Safety Officer	DHARTI–BANGA JV	Member	
Robiul Islam	Site In charge	DHARTI–BANGA JV	Member	

Table 9: The Project Level Committee

Name	Designation	Organization	Position in GRC
-	Project Director		Chairman
Md. Khandekar Mahbub	GRM Expert	BRWTP-1	Executive Member
Mizanur Rahman	Environmental Specialist	BRWTP-1	Executive Member
-	Project Manager	BRWTP-1	Executive Member
-	Project Manager	DHARTI–BANGA JV	Member
Mr. Shahid Ali	Team Leader, Social	RDM – EQMS JV	Member
Dr. Rezaul Karin	Team Leader	S!2/3	Member
Dr. SMA Rashid	Environmental Expert	S1A	Member

2.2.4 ESHS Status and OHS Related Incident:

Labor/Worker's employment status, health, safety, and security such as accommodation facilities, working condition, sanitation, safety, and security, drinking water supply, reporting accidents, dust control, noise control, waste management, emergency response facilities, and grievance mechanism were observed through direct visual observation, site visit, consultation with workers and respective officers of the project

An accident record/register book is kept to record any accidents. Designated personnel have been assigned to maintain the safety book and datasheet with collaborating checklists. A dedicated first aid box is also available at the project site office for ensuring emergency response to any accidents/incidents and first aid requirement by workers and other staff.

If any health safety issues raised or an accident occurred, first aid is ensured immediately. If further medical support is required or in case of any major accident, the immediate medical treatment is ensured at nearby hospital. Safety signboards are also installed in the project site area for workers' and community people's awareness.

One (1) minor accident was recorded during the monitoring period. Once the accident occurred, immediate medical treatment was ensured. It is highly recommended that more safety signs, and emergency contact lists are required to be hanged to raise awareness and provide information about the contact person for any emergency.

2.2.4.1 Labour and Working Condition: Most of the dredging works are ongoing. So, the data has been collected directly contact and consult with the working laborers and directly observe their working condition. No female labors are available in the project sites. Data are collected about working situation, presence of male and female laborers, working environment, wage, first aid, labor shed etc. The laborers are consulted. First-aid medical boxes, safe drinking water, toilet facilities are available in the project areas. No child laborer and no forced laborer have been engaged in the project work. Laborers have received wage in proper time and no harassment / time lengthening happened. They are satisfied with their work and wages.

2.2.4.2 Impact of Labor Influx: For the dredging works, some male laborers have arrived in the subproject sites. These subprojects are not mega projects and not work continuously with long time (5-6 years) in one place/village and the laborers are the inhabitants of Bangladesh who are bear the same socio-cultural and religious values. So, the occurrence like conflict with local people, shouting or bear group singing with loud voice at night, teasing, robbing, sexual harassment, HIV transmission, drug addicting etc. have not happened in the subproject areas. No negative impact is available there up to this present time,

2.2.4.3 Indigenous People: No indigenous people are available in the present project sites. So, there is no comment on that issue.

2.2.4.4 Cultural Properties / Heritage: The project sites have not used any cultural land or created any damage to the cultural properties or values. So, no comments are available on that issue.

2.2.4.5 Gender Issues: No female laborers are available together with male laborers in the project site. On the other hand, the local people have reported that the dredging workers/ laborers have no congenial or free mixing relationship with the local female. No data have found about the violence against women. Everybody reported that no sexual exploitation, sexual violence, or gender-based violence happened in the project sites. The situation is same for the Barisal and Brahmanbaria.

2.3 Progress of Survey and Dredging Works in March 2023

2.3.1 Hydrographic Survey

There are two types of surveys these are being conducted to the dredging areas separately i.e. pre and post work surveys. The main purposes of these surveys are to determine the volume of earth to be dredged as well as monitor progress of works. Lot 2 & Lot 3 contractor mobilized survey teams for BM fly and Hydrographic Survey during this.

The survey team delineated the dredge center line following the designed alignment. The team prepared survey transects @10m intervals for shoal length. The team carried out survey for establishing BM pillar, the BM fly done around the route length. The team is then installed RCC Pillar and marking chainage along the river bank as Secondary Horizontal and Vertical Datum with respect to SOB BM Pillars. After that, the team established secondary Base Stations by RTK-GPS.

In this month (March 2023) Joint post dredged survey was carried out @10m interval. According the Contractors Monthly Report following Data are available for the month March 2023.

Lot3:

Location: Laharhat-Bheduria Route 21

Cut 1 completed (Left side) upto 28th February 2023:
Chainage: Ch7+500 to Ch6+950 &Ch6+625 to Ch6+675
Total Length: 600m
Width: 32.5m
Cut 1 completed March 2023:
Length: 1km
Ch8+500 to Ch7+500 (full section)

Lot 2:

The dredging depth and dredging volume may be 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 the month of March 2023 is shown below.

Table 10: Description of dredging work for the month of March 2023

Serial No.	Dredger Name	Time Period	Route No.	Place	Cutting Length	Cutting Volume
01.	Karnafully -07	23 to 31 March	9	Solimganj Nowka Ghat	54 m	2446.00 m^3
02.	Karnafully -03	23 to 31 March	9	Imam Nagar	47 m	1728.67 m^3

2.3.2 Progress of Dredging work:

Followings are the hydrographic survey carried out by S1A and Lot 2 & Lot 3 survey team till March 2023:

Table 11: Progress of Hydrograph Survey Work (Lot3)

Sl.No	Survey Category	Location	Chainage	Date and time
1.	Base Line survey	Laharhat-Bheduria Route 21	Ch0+000 to Ch 8+500	Bathymetric survey done on 5.11.2022
2.	Hydrographic survey/Pre-work	Laharhat-Bheduria Route 21	Ch 0+000 to Ch 8+500	Bathymetric survey done on 26.11.2022 to 28.11.2022
3.	Hydrographic survey/Pre-work	Alur-bazar to At Hazar/ Route 13	Ch 0+000 to Ch 95+000	Bathymetric survey done on 08.01.2023 to 18.01.2023
4.	Hydrographic survey/Pre-work	Patharhat to Bheduria/ Route 15 & 16	(Not given)	Base Line survey done on 19.01.2023 to 21.01.2023
5.	Base Line survey	Patharhat to Bheduria/ Route 15 & 16	(Not given)	Bathymetric survey done on 22.01.2023 to 24.01.2023
6.	Hydrographic survey/Pre-work	Location: Bheduria to At Hazar(north)/ Route 17	Ch 0+000 to Ch 11+000	Bathymetric survey done on dated 29.01.2023
7.	Hydrographic survey/post-work	Laharhat to Bheduria Route 21	Ch 8+500 to Ch 7+500	Bathymetric Line survey done on 08.02.2023
8.	Hydrographic survey/post-work	Laharhat to Bheduria Route 21	Ch 6+400 to Ch 8+500	Bathymetric survey done on 16-18.03.2023

Table 12: Description of dredging work (Lot2)

Route No.	Name of the River	Part of Upper Meghna or Lower Meghna	Priority	Route Class	Channel Width (no slope)	Dredging Depth m	Baseline Dredge Volume, m^3	Annual Dredging Volumes Annual Re-sediment Rates 10%	25%	50%	75%	Potential Annual Volume with50% Re-Sedimentation Rate, m^3	Potential Contractor Spilt (By Geographical Area)
3 & 4	Shitalakshya	Upper	A	1	76	-4.3	22,600	2,260	5,650	11,300	16,950	33,900	PBC-1
5	Meghna	Upper	A	1	76	-4.3	236,000	23,600	59,000	118,000	177,000	354,000	PBC-1
6	Meghna	Upper	A	1	76	-4.3	-	-	-	-	-	-	PBC-1
7 & 8	Meghna	Upper	B	2	76	-2.8	370,000	37,000	92,500	185,000	277,500	555,000	PBC-1
9	Meghna	Upper	C	3	30	-2.1	126,800	12,680	31,700	63,400	95,100	190,200	PBC-1
10	Meghna	Upper	C	3	30	-2.1	33,274	3,327	8,319	16,637	24,956	49,911	PBC-1
11	Gumti	Upper	B	2	76	-2.8	132,000						

2.3.2.1 Dredging Work: In the reporting period up to March 31, 2023 the dredging work was ongoing on River Route 9, Route 21 Lot 2 & Lot 3 respectively. The progress of dredging works

Lot 2, Route9:

Name of Dredger: Karnafuly_07
Chainage: 02+770 to 02+893
Name of Dredger: Karnafuly_03
Chainage: 03+845 to 03+967

Lot 3, Route 21:

Name of Dredger: Bango Jamuna, Bango Padma

Chainage: 06+400 to 08+500
(1st stage development dredging)

2.3.2.2 Disposal Area: The Contractors of the project identified locations for dredged material placement prior to start dredging work. To identify in river placement area the following criteria are considered. The contractors are also allowed to identify and propose additional disposal locations in accordance with these criteria to reduce the distances required for pumping of dredged materials. The S1A team observed or considered the following criteria before declared an area as disposal area.

a) Scour holes that are deep more than 5 meters
b) Located along the eroding river banks, except when within 100 meters of an environmentally sensitive locations (reed lands, mud flats, mangrove forests, migratory bird habitats)
c) Subjected to continuous erosion or scouring
d) Subjected to high velocity currents (compared to velocities away from these scour location)

The following locations which are expected to be habitats of dolphins and fish, shall be avoided for in river dredged material placement:

i) Shallow scour holes of less than 5-meter depth
ii) Scour holes that are located along the chars, in the confluences.

Laharhat-Bheduria Route 21 under Contract No. BRWTP-W1A-03

Disposal area R21-D1, R21-D2, R21-D3, R21-D4, R21-D6 and R21-D7 used up to 31st March 2023. Detail measurements are as follows:

- R21-D1: Area is 12,729sqm, Height is 1.8m and estimated capacity to contain 22,912.2 m3 cum dredged material
- R21-D2: Area is 4,899 sqm, Height is 0.974m, and estimated capacity to contain 4,772 m3(cum) dredged material.
- R21-D3: Area is 9,069 sqm, Height is 1.62m, and estimated capacity to contain 14,692 m3cum dredged material.
- R21-D4: Area is 3,358 sqm, Height is 1.1 m, and estimated capacity to contain 3,391.58 m3 cum dredged material
- R21-D6: Area is 18,571.5sqm, Height is 1.5m and estimated capacity to contain 27, 857.25 m3 cum dredged materialR21-D7: Area is 7,900 sqm, Height is 1.2m and Estimated capacity to contain 9,480 m3 cum dredged material.

Solimganj Bridge to Homna loop Route 09 Under Contract No. BRWTP-W1A-02

Disposal area R09-D1, R09-D2, R09-D3 and R09-D4 used up to 31st March 2023**.** Detail measurements are as follows:

- Disposal Area: R09-D1: Area (approx.) 2520sqm, Height (approx.) 3.5m and capacity containing 8820 m3
- Disposal Area: R09-D2: Area (approx.) 17493sqm, Height (approx.) 3.0m and capacity containing 52479 m3
- Disposal Area: R09-D3: Area (approx.) sqm, Height (approx.) m and capacity containing m3
- Disposal Area: R09-D4: Area (approx.) sqm, Height (approx.) m and capacity containing m3
- Disposal Area: R09-D5 Area (approx.) 5888 sqm, Height (approx.) 3.0m and capacity containing 17664m3
- Disposal Area: R09-D6 Area (approx.) sqm, Height (approx.) m and capacity containing m3

2.3.2.3 Status of Land for Dredged Spoil Management: It is important to get land for initial dumping of dredged spoil before ultimate transfer. The land for dumping of dredged materials shall be selected at around dredging points. Considering this, the S1A team looked for disposal area (requisition) nearby dredging points for disposal of dredged materials and collected Mouza Map-sheets and took GPS coordinates of disposal area. If the disposal area for dumping of dredged material is not organized, it is better to sell the dredged material through advertisement following government rules and regulations. The S1A team visited several times to identify areas for dredged material disposal. The team selected the places for dredged spoil disposal and took GPS points, picture and videos. Some of the places are described below:

LOT 3: Laharhat-Bheduria Route 21 under Contract No. BRWTP-W1A-03

1. Disposal Area: R21-D1

Area (approx.)	12,729 m^2
Height (approx.)	1.5m
Contain Capacity	25,000.0 m^3

This is the private land owned by Mr. Md. Shahin Mia. It is a cultivable land and normally cultivated twice a year. This was filled on a rental basis. Proposed and safe filling height is

Figure I: Photo of dredge material disposal area R21-D1

about 2.5m. This place is located in Mehendiganj Union under Mehendiganj Upazilla in Barisal district. This land is on the bank of Tentulia River and Route 21 from Laharhat to Bheduria. This place is on average 15m meter setback distance from the L/B bank of the river. Discharge pipe Nozzle is situated on top of dyke boundary wall and at an elevation of 6.00msl. Two outlets were used made of 8 numbers of pipe (dia 450mm) to drain water into the river.

2. Disposal Area: R21-D2

Area (approx.)	4,899 m2
Height (approx.)	0.974 m
Contain Capacity	4,772.0 m3

This is the private land owned by Mr. Salam Fakir and Md. Tuhin. It is a cultivable land and normally cultivated twice a year. This was filled on a rental basis. Proposed and safe filling height is about 2.5m. This place is located in Bheduria Union under Bheduria Upazilla in Bhola district. This land is on the bank of Tentulia River and Route number is Laharhat-Bheduria, Route 21. This place is on average 10m meter setback distance from the L/B bank of the river.

Discharge pipe Nozzle is situated on top of dyke boundary wall and at an elevation of 3.714msl. Two outlets were used made of 8 numbers of pipe (dia 450mm) to drain water into the river.

Figure ii: Location and Spoil Disposal plan for Block R21-D2

3. Disposal Area: R21-D3

Area (approx.)	9,069 m2
Height (approx.)	1.6 m
Contain Capacity	14,692.0 m3

This is the private land owned by Mr. Md. Salam Fakir. It is a cultivable land and normally cultivated twice a year. This was filled on a rental basis. Proposed and safe filling height is about 2.5m. This place is located in Mehendiganj Union under Mehendiganj Upazilla in Barisal district. This land is on the bank of Tentulia River and Route number is Laharhat-Bheduria, Route 21. This place is on average 15m meter setback distance from the L/B bank of the river.

Figure iii : Location and Spoil Disposal plan for Block R21-D3

Discharge pipe Nozzle is situated on top of dyke boundary wall and at an elevation of 6.22msl. Two outlets were used made of 8 numbers of pipe (dia 450mm) to drain water into the river.

4. Disposal Area: R21-D4

Area (approx.)	3,358 m2
Height (approx.)	1.1 m
Contain Capacity	3,391.58 m3

This is the '*Khas*' land and owned by Bangladesh Government. It is a non-cultivable fallow land. This was filled for a re-settlement project named as '*Guchogram*'(Cluster Villages). Proposed and safe filling height is about 1.5m. This place is located in Sreepur Union under MehendiganjUpazilla in Barisal district. This land is on the bank of Tentulia River and River under route Laharhat-Bheduria, Route 21. This place is on average at a setback distance of 200 meter from the R/B bank of the river.

Discharge pipe nozzle is situated on top of dyke boundary wall and at an elevation of 4.21msl. One outlet made of 4 numbers of pipe (dia 450mm) was used to drain water into the river.

Figure iv: Spoil Disposal plan for Block R21-D4

5. Disposal Area: R21-D6

Area (approx.)	18,571.5 m2
Height (approx.)	1.5 m
Contain Capacity	27,857.25 m3

This is the private land owned by Mr. Md. Narun Nabi Bhuiya. It is a cultivable land and normally cultivated twice a year. This was filled on a rental basis. Proposed and safe filling height is about 2.5m. This place is located in Ghagoria Union under Mehendiganj Upazilla in Barisal district. This land is on the bank of the Tentulia River and involving Laharhat-Bheduria, Route 21. This place is on average at a 20m meter setback distance from the L/B bank of the river.

Figure v: Location and Spoil Disposal plan for Block R21-D6

6. Disposal Area: R21-D7

Area (approx.)	7,900m2
Height (approx.)	1.2 m
Contain Capacity	9,480 m3

This is the private land and owned by Mr. Md. Narunnabi Bhuiya. It is a cultivable land and normally cultivated twice a year. This was filled on a rental basis. Proposed and safe filling height is about 2.5m. This place is located in Ghagoria Union under Mehendiganj Upazilla in Barisal district. This land is located on the bank of Tentulia River and route number is Laharhat-Bheduria, Route 21. This place is on average 60m meter setback distance from the L/B bank of the river. Discharge pipe nozzle is situated on top of dyke boundary wall and at an elevation of 2.80msl. One outlet was used made of three (3) numbers of pipe (dia 450mm) to drain water into the river.

Figure vi: Location and Spoil Disposal Plan for Block R21-D7

LOT2: Solimganj Bridge to Homna loop Route 09 Under Contract No. BRWTP-W1A-02

1. Disposal Area: R09-D1

Area (approx.) 2,520 m2
Height (approx.) 3.5 m
Contain Capacity 8,820 m3

This is the private land and owned by Md. Monir, Md. Nazrul Islam, Md. Awlad Hossain and Morjina Begum. It is a cultivable land and normally cultivated once a year. This was filled on a rental basis. Proposed and safe filling height is about 3.7m. This place is located in Tejkhali Union under Bancharampur Upazilla in Brahmanbaria district. This land is located on the bank of the Titas River and Route number is Salimganj to Homna loop, Route 09. This place is on average at a 122-meter setback distance from the R/B bank of river.

Figure vii: Location and Spoil Disposal plan for Block R09-D1

2. Disposal Area: R09-D2

This is the private land and owned by Mr. Shiblu Mia, Md. Manjur Mahmud and ShimaAkter. It is a cultivable land and normally cultivated twice a year. This was filled on a rental basis. This place is located in Tejkhali Union under BancharampurUpazilla in Brahmanbaria district. This land is on the bank of the Titas River and Salimganj to Homna loop, Route 09. This place is on average 150m setback distance from the R/B of the river.

Disposal location of dredged materials (dike 2)

Disposal location of dredged materials (dike 5)

Figure viii : Dredged Material Disposal Site of Route 9 D2&D5

3. Disposal Area: R09-D3

This is the private land owned by Akanagar M.E Model High School. It is a non-cultivable land. This was filled on a rental basis. Proposed and safe filling height is about 2.8m. This place is located in Tejkhali Union under BancharampurUpazilla in Brahmanbaria district. This land is on the bank of the Titas River and Route number is Salimganj to Homna loop, Route 09. This place is on average 500m setback distance from the R/B of the river.

4. Disposal Area: R09-D4

This is the private land and owned by Md. Monjur Mahmud. It is a cultivable land and normally cultivated twice a year. This was filled on a rental basis. Proposed and safe filling height is about 2.5m. This place is located in Tejkhali Union under BancharampurUpazilla in Brahmanbaria district. This land is on the bank of the Titas River and Route identify is Salimganj to Homna Loop, Route09. This place is on average1,500meter setback distance from the R/B of river.

The S1A team is also searching more land for the management of dredged materials.

2.3.3 Status on Navigation Aids Management:

Safety of river traffic during and after dredging work is the most important issue of the project. In this time period Navigational Aids Expert observed the navigation condition of the currently finished dredging operation area of Laharhat-Bheduria, Route 21. He suggested few actions to be implemented for safe navigation.

Figure 13: Suspended dredging work at Laharhat

Figure 14: One green color Buoy at the Laharhat intersection

The contractor (Lot3) has already finished with dredging operations and post survey works. Completed dredging length 2.1 kilometers, wide 65 meters and Draft 2.8 meters.

The dredged material sent to disposable area in 07(seven) individual dykes. The Route 21 starts from Laharhat, Barishal and to end point named Bheduria ferry Ghat, Bhola district. The right bank of Route 21 situated at Sreepur union under Mehendiganj Upazilla in Barishal district and left bank of Route 21 situated at Ghagoria Union under Mehendiganj Upazilla in Barishal district. The Route 21 passes through the river Tentulia and directly connected with route 16 near the intersection point /turning point of Sreepur Ghat. With Route 21 one intersection point situated at Laharhat near Sreepur Ghat and another intersection point at near Sreepur Ghat area. Turning point is situated at the end point of Route 21 in between Bheduria Ferry Ghat and

Bheduria Launch Ghat. It was noticed that only Laharhat intersection point is marked by one green colored buoy but no buoy was seen at the intersection point at Sreepur.

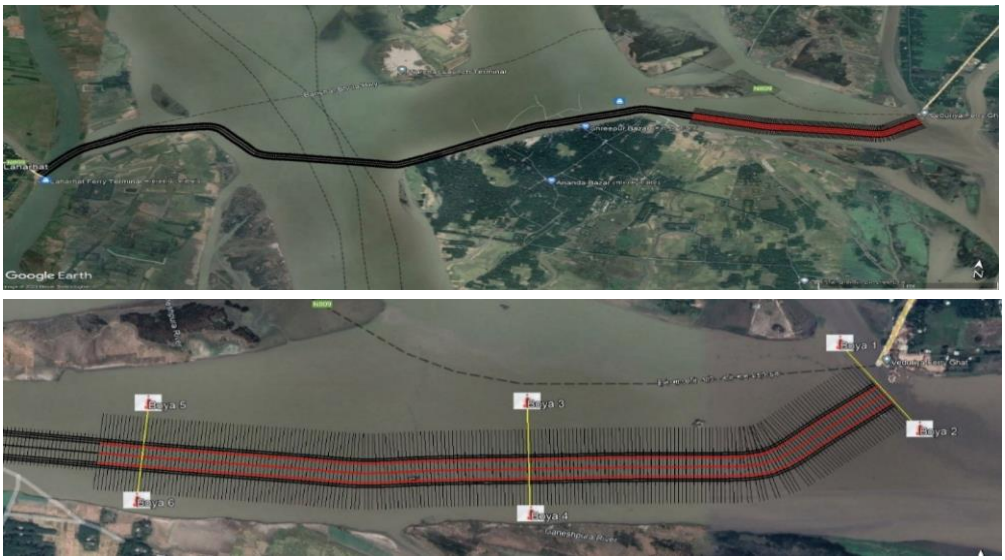


Figure 15: Buoy Location within the Dredged Section

To mark the dredging area, special markings are found to be essential to install for safe & trouble-free maneuvering/navigation through Route 21 for ferry ship (Laharhat-Bheduria). As per IALA (International Association of Marine Aids and Lighthouse Authorities) Buoyage system, dredging as above picture mentioned area, the Route 21 to be covered by required yellow buoys with yellow light flashing at night in every km of dredged distance.

Figure 16: Yellow Buoy

Yellow buoys indicate special markings such as traffic separations, dredging areas, fish net area etc.Dredged Route 21 to be installed by adequate buoys as per IALA Buoyage System at the earliest. IALA encourages its members to work together to utilize all the aids to navigation and to ensure the movements of vessels are safe.

2.4 Project Management and Programme Support Activities

2.4.1 Meeting:

To monitor dredging operation progress, resolve Environmental Health and Safety (EHS) concerns, and discuss other pertinent subjects as needed, monthly progress meetings are usually held at Lot2 and lot3 field offices. Three meetings (Out of three meetings one meeting with PIU and DSC and another one meeting with World Bank Team) were held at the location throughout the reporting period to assess progress and discuss the EHS-related issues. These team sessions enable efficient and safe job development by fostering teamwork and good communication

2.4.1.1: Progress Meetings with PIU

Several meetings were held with the PIU members on the progress of the project (21st, 27th, March, 2023) at office conference room. A coordination meeting was arranged by the PIU among S1A, S12/2 and S12/3, S17 team members. Also, Meetings were held on 'Review of the C-ESMP Report' with the representatives of both the contractors of lot 2 and lot 3. In these meetings few participants from third party monitoring consultant and World Bank BD were present on-line meeting app.

Figure 17: Several Progress review Meetings were held with the PIU

2.4.2 S1A Team Field Visit:

In the reporting period site was visited five (05) times by the consultant for the purpose of supervision. The following Table shows the visit information in brief.

Table 13: Field Visits for the supervision purposes by the S1A Team

Sl. No	Visited Area	Reasons of the movements	Date and Duration	Personnel of S1A Team
1	Laharhat-Bheduria route 21 and Patharhat-Bheduria route 16 under Contract No. BRWTP-W1A-03	To monitor dredging work	16 March 2023	Farhaduzzaman, DPD, BIWTA; A.B.M. Anwar Haider, Team Leader, BRWTP- S1A consultant; Dr. Manzur Rahman, Sociologist, BRWTP- S1A consultant.
2	Laharhat-Bheduria route 21 and Patharhat-Bheduria route 16 under Contract No. BRWTP-W1A-03	To monitor dredging work	17 March 2023	A.B.M. Anwar Haider, Team Leader, BRWTP- S1A consultant; Dr. ManjurRahman, Sociologist, BRWTP-S1A consultant.
3	Laharhat-Bheduria Ferry Route 21 and Patharhat-Bheduria route 16 Under Contract No. BRWTP-W1A-03	To monitor the progress of work on Route 21 and Route 16. The main agenda of the visit was to observe the progress track on the environmental, social and navigation aspects.	22 March 2023	Mohammad Shah Alam, Navigational Aids Expert, Dr. S.M.A. Rashid, Environment Specialist, and Rahela Rabbani, ESHS Expert of BRWTP-S1A.
4	Salimganj Bridge to Homna loop Route 09 Under Contract No. BRWTP-W1A-02	Social Survey and Good faith agreement	24 March 2023	Social and resettlement Expert and field staff
5	Laharhat-Bheduria Ferry Route 21 and Patharhat-Bheduria route 16 Under Contract No. BRWTP-W1A-03	Social Survey and Good faith agreement	28 March 2023	Social and resettlement Expert and field staff

2.4.2.1 Visit detail in the Reporting Period (March 2023)

On March 22, 2023, S1A team went on a supervision to monitor the progress of work on Route 21 and Route 16. The main agenda of the visit was to observe the progress track on the environmental, social and navigation aspects.

Figure 18: S1A Team at Barishal and Patharhat Ferry Ghat Area

Departing from Dhaka at 6:00 AM the S1A team of Dhaka arrived at Barisal Launch Ghat at 11:00 AM. Team accompanied with local JPZ personnel hired a speed boat; the feasibility of the proposed disposal area was observed after reaching Patharhat ferry ghat. Mr. Monir Hossain, Local Upazila Chairman met with the team and go together with the team during visiting the proposed disposal areas. The team visited all possible disposal area near river bank adjacent Patharhat Ghat, mehendiganj Upazilla, Barisal and opposition side of Patharhat ghat under village,Mithua, Char Gopalpur union, Mehendiganj Upazilla, Barisal.

The team was informed about dredging route 16 map, work plan, possible disposal area location, navigational aids and Environmental issues etc. The local Chairman introduced with land owners, local member and detailed about locality with inhabits. A very healthy status and pleasant environment prevailed among all attended.

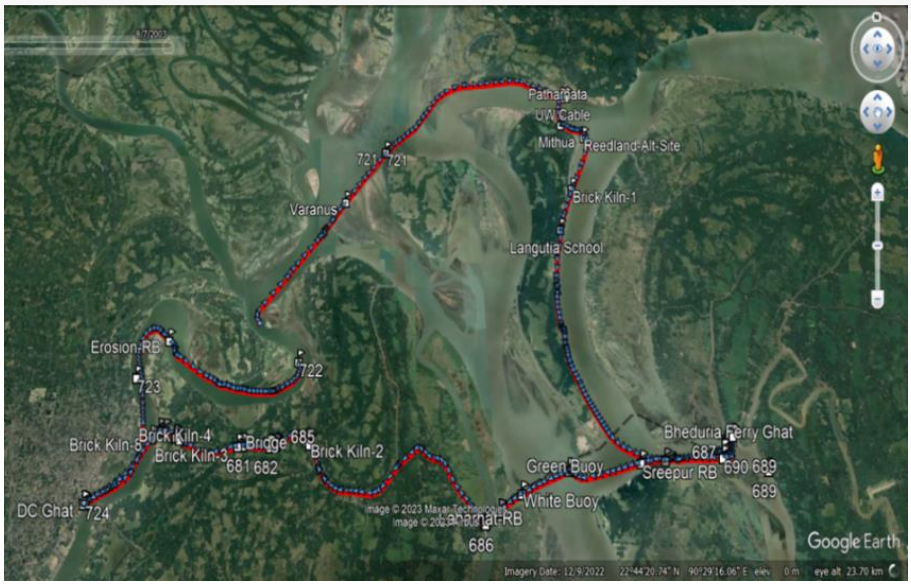


Figure 19: Visited Route on 22 March 2023

The team moved from the Patharhat to Bheduria through Route 15 and Route 16 to Laharhat ferry ghat with the same boat and observed the disposal areas and Navigation measures taken by the contractor of Lot 3 of the route 21 after completing the dredging work.

2.4.3 Performance Schedule of the S1A for the Month March 2023

A tentative monitoring and supervision plan for the next month is shown in the table below (Table 14). The contractor did not provide any plans. Plans are based on last month's work progress. This plan will be updated or changed depending on the pace of field activities and immediate needs.

Table 14 : Plan for the month of April 2023

		April, 2023																												
Activities	**Route**	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D19	D20	D21	D22	D23	D24	D25	D26	D27	D28	D29	D30
Supervise Mobilization & Site Preparetion	Route 15&16, Route 9, Route 21																														
Dredging Wolrks																															
Check SOB Control Points	Route 7 & 8																														
Establishments of BM/TBM and WL Gauge	Route 7 & 8																														
Baseline Survey	Route 7 & 8																														
Identify shoal area	Route 7 & 8																														
Fixing Dredging alignment and Section Design	Route 9, Route 13 Route 9,13, 15 & 16																														
Pre dredge survey	Route 7 & 8																														
Commence Dredging Work	Route 9, 13,15 & 16																														
Dredging Work Supervision	Route 9, 13,15 & 16																														
Dredging Depth Monitoring	Route 9, 13,15 & 16																														
Dredged Material Management																															
Primary Disposal Land Slection & Consultation	Route 7, 9, 13,15 & 16																														
Good Faith Agreement	Route 7, 9, 13,15 & 16, 21																														
Containment Dyke Construction																															
ESHS																															
Environmental Monitoring (polution, sample collection, testing, hazard precaution)	Route 7, 9, 13,15 & 16, 21																														
Grievance Redress Mechanism (GRM)	Route 7, 9, 13,15 & 16, 21																														
Health & Safty Monitoring (PPE, accomodation, HIV/AIDS, COVID																															
Gander Issues																															

CHAPTER 03: OPPORTUNITIES, ISSUES, AND SOLUTIONS

3.1 Convenience

The project is a team work between PIU, Consultant (S1A) and Contractor (Lot 2 & Lot 3) which is noticeable from the beginning. Employer is always cooperating with necessary instructions. Their constant support has created great opportunities for the smooth implementation of this project. Easy coordination among all concerned parties has simplified the implementation of project activities. All relevant parties are sincere in discussing and assisting each other to find ways to improve and solve out the outstanding clauses.

3.2 Difficulty and Outstanding Clauses

Difficulties faced during the monitoring and supervision period of the month February are listed down as following-

- In order to selection of dredging disposal land contractors needed to be more pre active to address the difficulties to follow the contract standard and specifications including ESHS issues. It was observed that contractors site stuff without informing S1A team carrying out the progress which is not expected. Very often some of the professional was absent form working site. Contractor was instructed to update their field working team list and submitted to S1A.

- The contractor's management system has not yet entered as it should be through the assessment of the consultant, it is mentioned that the contractor does not have a proper manager who has the expertise to lead the team in managing the document system, planning and so on the consultant will report the actual situation to the Employer within March 2023 to consider to improve the issue.

- Information, drawings and various documents that the contractor submitted to the consultant for consideration and approval according to the procedures, there are many things that did not pass the standards and requirements which the consultant advised the contractor to amend and have to resubmit. While, the contractor has not yet submitted some information and documents to the consultant.

- Contractor's camp, environmental system, safeguard, safety, health and hygiene are not up to the standard as yet.

3.3 Solving out the difficulty and outstanding clauses

- The contractor should mobilize all qualified professional to the project site
- The Contractors Manager must be a person with enough experience, who can lead the team to carry out the work comprehensively
- To pay proper attention to perform the works according to the contract standards and specifications.
- Prior information and permission from S1A to commence any major activities is necessary.

CHAPTER 04:
CONCLUSION AND/OR RECOMMENDATIONS

The progress report for the month of March 2023 has been documented the dredging work in a much more specific and organized manner than earlier. Due to highly appreciated cooperation & initiatives from PIU & all other concerns, the report for the month of March would find to be in well-structured frame work because the S1A team was able to perform supervision work remarkably with evident & documentation.

All but a few S1A professional are needed some locally available equipment which are to be provided at the soonest in order to expedite the progress of the project. The field-level manpower particularly non-key surveyors, environmental staff should be mobilized ASAP. Documentation of the meetings held either with the contractor or PIU, in-house, or with any other stakeholder should be properly recorded and to be circulated among the stakeholders/participants.

S1A should prepare a regular meeting schedule with the contractors and other stakeholders. JPZ employed experts/Specialist were found to be highly professionals, very hard working with utmost sincerity. Good and pleasant atmosphere prevails among JPZ personnel and contractors. Hope the progress of the project enhanced remarkably in the days ahead with fantastic cooperation from all concerns to successfully complete the project in scheduled time.