SL. NO. 222/24

Md. Danish Ansari
FILED BY
Joydip Das
ADVOCATE

BEFORE THE NATIONAL GREEN TRIBUNAL
EASTERN ZONAL BENCH, KOLKATA, WEST BENGAL
FINANCE CENTRE, 3RD FLOOR, NEW TOWN
[Under Section 18 (1) read with sections 14, 15 and 17 of the

National Green Tribunal Act, 2010]

Original Application No. ____ of 2024

MD. Danish Ansari

..... Applicant

-And-

District Magistrate, Murshidabad, West Bengal & Ors

...Respondents

INDEX

Sl No	Particulars	Pages
1.	Synopsis	A
2.	List of dates	B
3.	Memo of Parties	C
4.	Application	1 - 16
5.	Annexure 'A'	17 - 257
6.	Annexure 'B'	258 - 499
7.	Annexure 'C'	500 - 739
8.	Annexure 'D'	740 - 776
9.	Vakalatnama	777

SUJATA GHOSH
Regn. No. 014/22
Govt of W.B.
Expiry date
20 Mar 2027
NOTARY, KOLKATA

09 MAY 2024

A

Md. Danish Ansari
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Sougata Das
ADVOCATE

SYNOPSIS

The instant Memorandum of Application is being filed under Section 18 (1) read with Sections 14, 15 and 17 of the National Green Act, 2010 by the applicant on behalf of the people/inhabitants of the area between Farakkah to Kahalgaon. Being aware of the inconvenience and illegalities suffered by the people residing between Farakkah to Kahalgaon and its surrounding areas at the hands of the Respondents and their men and agents, and for the self for same reason, the applicant has come before this Hon'ble Court.

The Government of India has purportedly received a loan from the World Bank for the Capacity Augmentation of the National Waterways and by the representation of the Respondent No. 4 tenders were issued for Jal Marg Vikas Project for capacity augmentation between Varanasi to Haldia. After issuance of such tenders, three Contract Package for works were executed and awarded out of which two Contract Package for works were executed and awarded to Respondent No. 5 between Tribeni to Katwa (152 Km Stretch) and between Farakka to Katwa (199 Km stretch) and one of the Contract Package for works was executed and awarded to Respondent No. 6.

The Implementation of the project will require deployment of heavy machineries such as big sized cutter suction dredgers, heavy duty tugboats, survey and accommodation boats and other survey related machineries and by dredging huge amounts of sand and soil will be taken out for this project which would be bound to adversely affect the aquatic flora and fauna existing on the stretch on River Ganga and the environmental dependency nearby as well as daily life of the people residing and earning their lively hood in the surroundings. As execution of such project will severely damage the environment resulting in loss of livelihood of the people.

Hence this application.

SUJATA GHOSH DAS
Regn. No. 01422
Govt of W.B.
Exparie date
20 Mar 2027
NOTARY

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Md Danish Ansari
FILED BY
Joydeep Das
ADVOCATE

BEFORE THE NATIONAL GREEN TRIBUNAL
EASTERN ZONAL BENCH, KOLKATA, WEST BENGAL
FINANCE CENTRE, 3RD FLOOR, NEW TOWN
[Under Section 18 (1) read with sections 14, 15 and 17 of the

National Green Tribunal Act, 2010]

Original Application No. ____ of 2024

MD. Danish Ansari

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-And-

District Magistrate, Murshidabad, West Bengal & Ors

...Respondents

LIST OF DATES: -

List of Dates	Events
03.01.2024	e- Procurement Notice for Invitation for Bids.
10.01.2024	Date of Pre- Beeding Meeting in respect of Contract Packaging No. IN-IWAI-400748-CW-RFB.
11.01.2024	Date of Pre- Beeding Meeting in respect of Contract Packaging No. IN-IWAI-400747-CW-RFB.
12.01.2024	Date of Pre- Beeding Meeting in respect of Contract Packaging No. IN-IWAI-400749-CW-RFB.
24.01.2024	Date for Receipt of Bids; Date of Opening of Bids in respect of Contract Packaging No. IN-IWAI-400748-CW-RFB (Tender for Fairway Maintenance of Farakka - Katwa (146 km) stretch of NW-1)
25.01.2024	Date for Receipt of Bids; Date of Opening of Bids in respect of Contract Packaging No. IN-IWAI-400747-CW-RFB (Tender for Fairway Maintenance of Farakka - Katwa (199 km) stretch of NW-1)
29.01.2024	Date for Receipt of Bids; Date of Opening of Bids in respect of Contract Packaging No. IN-IWAI-400749-CW-RFB (Tender for Fairway Maintenance of Farakka - Katwa (152 km) stretch of NW-1)

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Govt. of W.B.
Expire date
20 Mar 2027
NOTARY, KOLKATA

09 MAY 2024

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Md. Danish Ansari

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BEFORE THE NATIONAL GREEN TRIBUNAL
EASTERN ZONAL BENCH, KOLKATA, WEST BENGAL
FINANCE CENTRE, 3RD FLOOR, NEW TOWN
[Under Section 18 (1) read with sections 14, 15 and 17 of the

National Green Tribunal Act, 2010]
Original Application No. ___ of 2024
MD. Danish Ansari

... Applicant

-And-

District Magistrate, Murshidabad, West Bengal & Ors

... Respondents

MEMO OF PARTIES

MD. Danish Ansari, son of Qamruzzaman Ansari, presently residing at 34, Phears Lane, Medical Collage, Chittaranjan Avenue, Kolkata, West Bengal, Pin - 700073;
Email id: adv.joydeep.das1995@gmail.com
Phone No: 9163616259

..... Applicant

-And-

1. District Magistrate, Murshidabad, West Bengal, having its address at Old Police Line Road, Barrack Square, Gora Bazar, Berhampore, West Bengal -742101;
   Email id: dm_mur_wb@nic.in
   Phone No: 033 04822-51650

2. District Magistrate Hooghly, West Bengal, having its office address at Ghatakpara, Chinsurah, R.S. Cinsurah, West Bengal - 712101.;
   Email id: dm-hoog@nic.in
   Phone No: 0326802044

3. State Level Environment Impact Assessment Authority, West Bengal, represented by its Member Secretary, having his office at 5th Foor, Pranisampad Bhawan, Block LB - II, Salt Lake, Sector - III, Bidhannagar, Kolkata - 700106;
   Email id: psecy.env-wb@gov.in
   Phone No: 033 2335 2742

4. Inland Waterways Authority of India, represented by its Director, having its registered office at P - 78, Garden Reach Road, Andaman Dock, Khidirpur, Kolkata, West Bengal - 700043.
   Email id: iwaica@yahoo.com, dirkol.iwai@nic.in
   Phone No: 033 24395570

5. Northernexpress Infradevelopers Pvt. Ltd, being represented through its Director, having its registered office address at 46 – D, Purdilpur Kali Mandi Gali, Tirupati Market, Gorakhpur, Uttar Pradesh, India – 273001;
   Email id: northernexpressinfra@gmail.com
   Phone No: 033 2552-8674

6. Knowledge Marine & Engineering Works Limited, being represented through its Director, having its office at 842/8/1, Tolottama, Upendra Nath Banerjee Road, P.S. Parnasree, Kolkata, West Bengal – 700060.
   Also at: Office No. 402, Sai Samarth Business Park, Deonar Village Road, Govandi East, Mumbai, Maharashtra - 400088.
   Email id: info@kmew.in
   Phone No: 033 2235530988

...Respondents

09 MAY 2024

Md. Danish Ansari

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BEFORE THE NATIONAL GREEN TRIBUNAL
EASTERN ZONAL BENCH, KOLKATA, WEST BENGAL
FINANCE CENTRE, 3RD FLOOR, NEW TOWN

MEMORANDUM OF APPLICATION

[Under Section 18 (1) read with sections 14, 15 and 17 of the

National Green Tribunal Act, 2010]

Original Application No. ___ of 2024

Between:

MD. Danish Ansari, son of Qamruzzaman Ansari, presently residing at 34, Phears Lane, Medical Collage, Chittaranjan Avenue, Kolkata, West Bengal, Pin - 700073;

Email id: adv.joydeep.das1995@gmail.com

Phone No: 9163616259

..... **Applicant**

-And-

1. District Magistrate, Murshidabad, West Bengal, having its address at Old Police Line Road, Barrack Square, Gora Bazar, Berhampore, West Bengal - 742101;

   Email id: dm_mur_wb@nic.in
   Phone No: 033 04822-51650

2. District Magistrate Hooghly, West Bengal, having its office address at Ghatakpara, Chinsurah, R.S. Cinsurah, West Bengal - 712101.;

   Email id: dm-hoog@nic.in
   Phone No: 0326802044

3. State Level Environment Impact Assessment Authority, West Bengal, represented by its Member Secretary, having his office at 5th Foor, Pranisampad Bhawan, Block LB - II, Salt Lake, Sector - III, Bidhannagar, Kolkata - 700106;
   Email id: psecy.env-wb@gov.in
   Phone No: 033 2335 2742;

4. Inland Waterways Authority of India, represented by its Director, having its registered office at P -78, Garden Reach Road, Andaman Dock, Khidirpur, Kolkata, West Bengal -700043.
   Email id: iwaica@yahoo.com, dirkol.iwai@nic.in
   Phone No: 033 24395570

SUJATA GHOSH DA Regn. No. 014/22 Govt of W.B. 20 Mar KOLKATA

09 MAY 2024

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5. Northernexpress Infradevelopers Pvt. Ltd, being represented through its Director, having its registered office address at 46 – D, Purdilpur Kali Mandi Gali, Tirupati Market, Gorakhpur, Uttar Pradesh, India – 273001;
   Email id: northernexpressinfra@gmail.com
   Phone No: 033 2552-8674

6. Knowledge Marine & Engineering Works Limited, being represented through its Director, having its office at 842/G/1, Tolottama, Upendra Nath Banerjee Road, P.S. Parnasree, Kolkata, West Bengal – 700060.
   Also at: Office No. 402, Sai Samarth Business Park, Deonar Village Road, Govandi East, Mumbai, Maharashtra - 400088.
   Email id: info@kmew.in
   Phone No: 033 2235530988

...Respondents

MOST RESPECTFULLY SHEWETH;

1. That the Applicant is a social worker and social activists having address as given in the Cause Title and is preferring the instant Application for and on behalf of the people/inhabitants of area between Farakkah to Kahalgaon, Farakka to Katwa and Tribeni to Katwa, the place where the cause of action arose. The Applicant is aware of the inconvenience and illegalities to suffered by the people residing between Farakkah to Katwa and Tribeni to Katwa and its surrounding areas at the hands of the Respondents and their men and agents, and for the self-same reason has filed the instant application. The addresses of the Respondents are given in the Cause Title for the purpose of service of notices of the instant Application.

SUJATA GHOSH DAS
Govt of W.B.
Exparie date
20 Mar 2027

09 MAY 2024

Md. Danish Ansari
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2. The Applicant is raising the cause of the residents /landowners / cultivators/inhabitants/people between the area of residing between Farakkah to Kahalgaon, Farakka to Katwa and Tribeni to Katwa and its surrounding and is representing the same villagers/people and is a law-abiding citizen of India.

3. It is pertinent to indicate, that throughout the entire stretch between Farakkah to Kahalgaon, Farakka to Katwa and Tribeni to Katwa and its surrounding, diverse aquatic flora and fauna existing throughout the river. Moreover, the people of the area, are directly reliant on the river for their livelihood and for survival.

4. The present applicant has come to know, that the Respondent No 4 has confirmed the Respondent Nos 5 & 6 as the successful bidder, for fairway maintenance along the aforesaid stretch.

5. The applicant has come to know that for implementation of the said project, heavy machineries such as; big sized cutter suction dredgers, heavy duty tugboats, survey and accommodation boats and other survey related machineries have to be deployed by the Respondents no 5 & 6 on the river in the aforesaid stretch between Farakkah to Kahalgaon, Farakka to Katwa and Tribeni to Katwa.

SUJATA GHOSH
NOTARY KOLKATA
09 MAY 2024

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Joydeep Das

6. In fact, due to such dredging activities on the aforesaid stretch, huge amounts of sand and soil is bound to be dug up and as a result of which, the residents and dwellers of the nearby area is bound to be adversely affected.

7. The applicant is perusing the cause of the people residing in and around the aforesaid stretch of land, whose livelihood has been subjected to disruptions, when such projects have been carried out and the address of the applicant is given as above for service of notices of this application.

8. The undertaking of such industrial activities, by the Respondents No 5 & 6 which is about to take place on the river with in the stretch between Farakkah to Kahalgaon, Farakka to Katwa and Tribeni to Katwa, is bound to disrupt the aquatic ecosystem as well as the livelihood of the people.

9. There are huge numbers of homes/families dwelling in villages in the stretch between Farakkah to Kahalgaon, Farakka to Katwa and Tribeni to Katwa and its surrounding areas which comprises of a huge number of peoples belonging to mostly Scheduled Tribe/ Scheduled Caste, OBC, Tribal Adibasis and General Caste. Maximum villagers are very poor, rustic and are downtrodden who

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Regn. No. 42/2
Govt. of India
Date 2 May 2024
09 MAY 2024

Md Danish Ansari
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have no other sources of income without utilizing the river resources.

10. The addresses of the respondents are stated above for the purpose of service of notices pertaining to the instant application. All the acts, actions and inactions of the respondent authorities are amenable to the jurisdiction of this Hon'ble Tribunal. The applicant is merely raising the issues of the people residing in the stretch of land between Farakkah to Kahalgaon, Farakka to Katwa and Tribeni to Katwa and its surrounding areas.

11. The applicant above named begs to present the Memorandum of application against the actions of the respondent authorities to prevent and control the environment pollution, water pollution, air pollution, sound pollution, violation of the provisions of the Environment Protection Act 1984, read with rules of 1986, in anticipation of full-fledged commercial activities to be taken cut by the Respondents Nos 5 & 6 without taking any steps for protecting or providing safety measures and/or regulations for protection of the ecosystem of the river along with protecting the nearby environment on which the people residing thereat are directly reliant on for the purposes of the livelihood in the stretch between

SUPREME COURT REGISTRY KOLKATA
Regn. No. 1
Govt. of India
Expire on 20 Mar 2024

MAY 2024

Md. Danish Ansari
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Farakkah to Kahalgaon, Farakka to Katwa and Tribeni to Katwa and will be effected, on the grounds set-out hereunder:

12. FACTS IN BRIEF: -

I. The Government of India has purportedly received a loan from World Bank to the Capacity Augmentation of the National Waterways.

II. The Inland Waterways Authority of India, represented by its chairman, being the Respondent no 4, has issued tenders for implementing Jal Marg Vikas Project for capacity augmentation of National Waterways – I between Varanasi to Haldia.

III. The applicant has been made aware, that Contract Package No :

a. IN-IWAI-400749-CW-RFB for works to be executed in between Tribeni to Katwa consisting of a 152km Stretch on River Ganga and Contract Package No IN-IWAI-400747-CW-RFB for works to be executed in between Farakka to Katwa consisting of a 199km Stretch on River Ganga has been awarded to Respondent No 5. The applicant relies on the Tender documents and the same are being annexed as Annexures **"A"** and **"B"** respectively.

SUJATA GHOSH
Regn. No 01482
Govt of W.B.
Expiry date
20 Mar 2027
NOTARY KOLKATA

IV. The applicant has also been made aware, that Contract Package No : IN-IWAI-400748- CW-RFB for works to be executed in between

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Joydeep Das
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Farakka to Kahalgaon consisting of a 146 km Stretch on River Ganga has been awarded to Respondent No 6. The applicant relies on the Tender documents and the same is being annexed as Annexures "**C**".

V. In spite of being aware of the Aquatic Flora and Fauna existing on the stretch on River Ganga and the environmental dependency of the people dwelling in the nearby area, the project is going to commence any day, without taking out the issues of the people and the environmental damages which is bound to happen without intervention of this Learned Tribunal.

VI. Implementing the project of the Respondent No 4, the Respondents Nos 5 & 6 will require deployment of heavy machineries such as; big sized cutter suction dredgers, heavy duty tugboats, survey and accommodation boats and other survey related machineries.

VII. Huge amounts of Sand and soil will be taken out for this project from River Ganga by dredging. This is bound to affect the aquatic flora and fauna adversely. Moreover, the sand and soil to be dredged from the river, will have to be transported and shifted and would require heavy trucks and vehicles which would also directly affect the environment.

SUJIT GHOSH
Regn. No. 614/22
Govt. of W.B.
Expiry date
20 March 2027
NOTARY KOLKATA

VIII. In fact, various other projects have been conducted in the recent past and historically, has disrupted the environment, destroying

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flora and fauna as well as the daily life of the people residing and earning their lively hood in the surroundings.

IX. Moreover, the dredging would directly lead to increase turbidity and sedimentation effecting the aquatic flora and fauna and also the slit in form of sand and other minerals excavated from the river bed might lead to the change in the trajectory of the river causing significant damage to the environment and the settlement beside the river bank.

X. The applicant has been made aware by the people, whose cause is being raised herein, there exists various instances of such disruption which has affected them previously. In this regard, the applicant is relying on various news articles, newspaper publications, reports and studies and a complication of the same is annexed hereto and marked with the letter "**D**"

XI. It is pertinent to indicate, that while issuing such tenders and even thereafter, the respondents have not come up with guidelines or safety regulations, which would endeavor to protect and preserve the environment. The result of such activities along the stretch of the land would leave the people whose cause is being raised, remedies and at a loss which cannot be compensated by way of monetary or relief measures. Such issues need to be dealt with by this Learned Tribunal, by implementing inspections, framing guidelines, and asking the Respondents to show cause, why such work should be

SUJATA GHOSH
Regn. No. 21429
Expiry Date
20 May 2024
09 MAY 2024

allowed and what guarantees the safety and protection of the environment and the aquatic flora and fauna as well as the lively hood of the people which depends on it.

XII. The Respondent authorities has not taken any steps to protect the environment, and until and unless this Learned Tribunal doesn't settle the issues huge damages shall be caused to the environment and the Aquatic flora and fauna.

XIII. The respondent has not disclosed any paperwork showing permissions and/or guidelines issued to help protect such environment.

XIV. If the respondents are allowed to work and execute the project, the environment will be severely damaged resulting directly in the loss of livelihood of the people and accordingly such issue is being taken up by the present applicant.

XV. It is submitted that the respondents must act for the benefits of the citizens and not to deprive them of their right to life and livelihood by any means what-so-ever and in the instant case the actions would deprive the poor peoples of the said area of their right to life and livelihood particularly by taking away their source of livelihood in a most illegal and discriminatory manner and under the above stated facts and circumstances until and unless this Hon'ble Tribunal considers the entire issue and passes necessary orders and/or direction not only the petitioners but the entire

09 MAY 2024

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Md. Danish Ansari

peoples/settlers/inhabitants of the said area of the project and its surroundings would suffer irreparable loss and injury.

13. GROUNDS:

I. FOR THAT the respondent authorities have miserably failed to considered air pollution, water pollution, environment pollution, sound pollution and ecological dis-balance caused by sanctioning such project without framing procedures and guidelines for protecting the environment;

II. FOR THAT the respondent authorities have failed to appreciate that is incumbent upon them to prevent such work form taking place without complying with and in contravention of statutory provisions and Environmental rules and regulations in view of the outcomes of the past projects which are similar in nature;

III. FOR THAT the respondent authorities ought to have appreciated the impact of environmental effect, air, water and sound pollution on the residents in the project and its surrounding areas which is an inevitability;

SUJAY GHOSH DAS
Regn. No. 01/4122
Govt of W.B.
Exparie date
20 Mar 2027
NOTARY, KOLKATA

IV. FOR THAT it is required that an inquiry me made as to the environmental clearance have been properly obtained or not.

V. FOR THAT the respondents ought to take adequate measures and steps to prevent destruction to the environment including the

MAY 2024

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Aquatic flora and fauna and putting the life and livelihood of citizens residing in that area at risk;

VI. FOR THAT the absolute lackadaisical attitude demonstrated by the respondent authorities in preventing and stopping the destruction of the environments, as the outcome of such projects have suggested historically, smacks of malafide;

VII. FOR THAT the respondents must act for the benefits of the citizens and not to deprive them of their right to life and livelihood by any means what-so-ever and in the instant case the respondents have acted negligently and proceeding to act negligently, which has been taken up by the people as an issue and taking away their source of livelihood illegally and destroying the environment without there being any proper guidelines or procedure being framed is a cause enough for this Hon'ble Tribunal to considers the entire issue and passes necessary orders or else they would suffer irreparable loss and injury incapable of being compensated by relief or compensation;

SUJATA GHOSH DAS
Regn. No. 01492
Govt of W.B.
Expiry date
20 Mar 2027
NOTARY, KOLKATA

14. LIMITATION:

The applicant declares that the cause of action in the instant case accrues and continues from day-to-day. Such cause of action is renewing on a day-to-day basis and as such the question of applicability of

MAY 2024

Md. Danish Ansari
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the limitation prescribed in Section 14 (3) of the National Green Tribunal Act, 2010 does not arise.

16. INTERIM PRAYER:

Pending final disposal of the application the applicant seeks issuance of the following interim orders:

a) An interim order of injunction directing the respondents and/or their servants and/or their employees and/or their agents to take adequate measures for prohibiting the Respondents particularly the Respondents No 5 & 6, their men, agents, assigns and subordinates from proceeding any further with the works and/or the project till disposal of the Application and/or till further order as may be passed by this Hon'ble Tribunal till the disposal of the instant application;

b) Ad-interim order in terms of prayers (a) as above.

c) An order directing respondents' authorities to verify whether the project has a valid Environment Clearance.

d) An order directing the respondents to frame guidelines and procedural rules as its standard operating procedures which has to be followed for implementation of such project so as to completely avoid any environmental damages.

SUJATA GHOSH DAS
Regn. No. 014/22
Govt of W.B.
Exparie date
20 Mar 2027
NOTARY KOLKATA

e) An order directing the Respondent No. 4 to secure an amount as the Hon'ble Tribunal deem fit and proper, which would be encashed and or appropriated in case of any damages to the

10 MAY 2022

Md. Danish Ansari
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ADVOCATE

environment which may be cause in violation of such rules, procedures, and guidelines.

f) An interim order of injunction restraining the Respondents from taking any steps and/or further steps and/or acting in any manner with in and around the project area till the disposal of this instant Application;

g) Show cause to be issued to the Respondents no 5 & 6 as to why the project should not be stopped.

16. **PRAYER:**

In view of the facts mentioned hereinabove the applicant prays for the following reliefs:

a) An order directing the respondents and/or their servants and/or their employees and/or their agents to take adequate measures for prohibiting the Respondents particularly the Respondents No 5 & 6, their men, agents, assigns and subordinates from proceeding any further with the works and/or the project

b) An order restraining the Respondents from taking any steps and/or further steps and/or acting in any manner in and around the project area and to prevent pollution of the environment of the area and to protect the livelihood of residents of the area of the project;

c) An order directing the respondents to frame guidelines and procedural rules as its standard operating procedures which

SUVAS CHOUDHURY
NOTARY
Regn. No. 01422
Govt of W.B.
Expiry Date
20 May 2027
KOLKATA

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has to be followed for implementation of such project so as to completely avoid any environmental damages;

d) An order directing the Respondent No. 4 to secure an amount as the Hon'ble Tribunal deem fit and proper, which would be encashed and or appropriated in case of any damages to the environment which may be cause in violation of such rules, procedures, and guidelines.

e) An order directing the competent authority to frame, supervise the entire project so as to protect the environment from being damaged.

f) An order enquiring and/ or directing Respondent No. 3 to furnish report with respect to the ill effect of dredging upon the environment

SUJATA GHOSH DAS
Regn. No. 014/22
Govt of W.B.
Exparie date
20 Mar 2027
NOTARY KOLKATA

g) Any other appropriate direction/directions and/or order/orders as this Hon'ble Tribunal may deem fit and proper;

h) Cost of and/or incidental to the instant application;

Md. Danish Ansari.

.....

Signature of the Applicant

09 MAY 2024

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VERIFICATION

I, MD. Danish Ansari, son of Qamruzzaman Ansari, presently residing at 34, Phears Lane, Medical Collage, Chittaranjan Avenue, Kolkata, West Bengal, Pin - 700073, the Petitioner herein do hereby declare that the statements made in paragraphs 1 to 5, 7, 9, 10, 11, 12, 17, 18, VI, VII, VIII, IX, X, XI, XII, XIII, XIV, and of the Petitioner are true to my knowledge and the statements made in paragraphs 13 (iii), (iv) and (x) of the petitioner are true to the information derived from records which I verily believe to be true and the rest are my submissions before this learned Court and I sign this Verification this 9th day of May, 2024

Md. Danish Ansari

DEPONENT

Identified by me
Joydeep Das.

SUJATA GHOSH NOTARY, KOLKATA
Regn. No. 01422
Govt. of W.B.
Expire on 20 Mar 2027

09 MAY 2024

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AFFIDAVIT

I, MD. Danish Ansari, son of Qamruzzaman Ansari, aged about 29 years by faith Muslim, by occupation Self – Employed, residing at 34, Phears Lane, Medical Collage, Chittaranjan Avenue, Kolkata, West Bengal, Pin - 700073.

1. I am the Petitioner in the above case and I am well conversant with the facts and circumstances of the case as such I am competent to swear this affidavit.

2. The statements made in paragraphs 1, 5, 9, 10, 11, 12, 13, V, VI, VII, VIII, IX, X - XII, XIII, XIV & of the Petition are true to my knowledge and the statements made in paragraphs 13 (iii), (iv) and (x) of the Petition are true to the information derived from the records which I verily believe to be true and the rest are my submission to this learned Court.

Md. Danish Ansari

DEPONENT

Identified by
Joydip Das
Advocate

SOLEMNLY AFFIRMED AND DECLARED BEFORE ME ON IDENTIFICATION

NOTARIAL

SUJATA GHOSH DAS
NOTARY, KOLKATA
Regn. No. 01/2012
Govt of W.B.
Expiry date
20 Mar 2027

09 MAY 2024

Annexure 'A'

Fairway Maintenance of Tribeni – Katwa (152 km) stretch of National Waterway -1 (River Ganga)

Contract Package no: IN-IWAI-400749-CW-RFB

January, 2024

Project Management Unit (PMU)
Capacity Augmentation of the National Waterway – 1 project (Jal Marg Vikas)
INLAND WATERWAYS AUTHORITY OF INDIA
(Ministry of Ports, Shipping and Waterways, Government of India)
Head Office: A-13, Sector–1, Noida - 201301

Phone: 0120-2544004, Fax: 0120-2543976; Website: www.iwai.nic.in;
E-mail: vc.iwai@nic.in

INLAND WATERWAYS AUTHORITY OF INDIA

(Ministry of Ports, Shipping and Waterways, Government of India)

PROJECT: Capacity Augmentation of National Waterway–1

.

NATIONAL COMPETITIVE BIDDING

(Two-Envelope Bidding Process with e-Procurement)

File No.: IWAI / WB / NW-1 /14 /2 / 2024

Bid no: IN-IWAI-400749-CW-RFB

NAME OF WORK: **Fairway Maintenance of Tribeni - Katwa (152 km) stretch of National Waterway -1 (River Ganga)**

PERIOD OF SALE OF BIDDING DOCUMENT	FROM T onwards
TIME AND DATE OF PRE-BID MEETING	DATE: 12.01.2024; TIME 1500 HOURS
LAST DATE AND TIME FOR RECEIPT OF BIDS	DATE: 29.01.2024; TIME 1500 HOURS
TIME AND DATE OF OPENING	DATE: 29.01.2024; TIME 1530 HOURS OF BID – Technical Part
The firms that qualify technically shall be notified subsequently for opening of the financial part of their bids.	
PLACE OF OPENING OF BIDS	IWAI, A-13 Sector-1; Noida
OFFICER INVITING BIDS: - Vice Chairman & Project Director (JMVP) Inland Waterways Authority of India, A – 13, Sector – 1, Noida – 201301, Uttar Pradesh – INDIA Telephone No.: (91) 0120-2424544 Email.: vc.iwai@nic.in;	

INLAND WATERWAYS AUTHORITY OF INDIA

(Ministry of Ports, Shipping and Waterways, Government of India)

PROJECT: *Capacity Augmentation of National Waterway – 1*

INVITATIONS FOR BIDS (IFB)
E-Procurement Notice
(Two-Envelope Bidding Process with e-Procurement)

NATIONAL COMPETITIVE BIDDING

Name of Project: Capacity Augmentation of National Waterway – 1

Contract Title: Fairway Maintenance of **Tribeni - Katwa (152 km)** stretch of National Waterway -1 (River Ganga)

Loan No: 8752 – IN

Bid No.: IN-IWAI-400749-CW-RFB **Date**: 03.01.2024

File no: - IWAI /WB / NW-1 / 14 / 2/ 2024

Estimated Cost: Rs. 83,79,25,502/- excluding taxes

1. The Government of India has received a loan from the World Bank towards the cost of Capacity Augmentation of National Waterway – 1 Project and intends to apply a part of the funds to cover eligible payments under the contract for construction of works as detailed below.

   Fairway Maintenance of Tribeni - Katwa (152 km) stretch of National Waterway -1 (River Ganga)

2. Bidding will be conducted through National Competitive Bidding procedures agreed with the World Bank. Bidding is open to all eligible bidders as defined in the World Bank's Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, January 2011_Revised July 2014.

3. Bidders from India should, however, be registered with the Government of India or other State Governments / Government of India, or State / Central Government Undertakings. Bidders from India, who are not registered as above, on the date of bidding, can also participate provided they get themselves registered by the time of contract signing, if they become successful bidders. Bidders are advised to note the clauses on eligibility (Section I Clause 4) and minimum qualification criteria (Section III – Evaluation and Qualification Criteria), to qualify for the award of the contract. In addition, please refer to paragraphs 1.6 and 1.7 of the World Bank's Guidelines setting forth the World Bank's policy on conflict of interest.

   1) *Average annual financial turnover during last five years ending 31st March of the previous financial year (2022-23), should be* ***INR 25.14 crores*** *(INR Twenty five crores & fourteen lakhs only)*

   2) *Similar works such as those pertaining to General Dredging Experience in Ports / River / Lakes/ Canals/ Water Bodies / Wet excavation in dams / Management of Vessels and Manning of Vessels or Vessel related Marine Works or River Dredging and management of Dredged materials or*

Dredged material used in reclamation of port / harbours during last 7 years ending last day of month previous to the one in which this tender is invited should be either of following:

Three similar works each costing not less than INR 11.17 crores or Dredged Quantity of 2.1984 Lakh cum ***OR***
Two similar works each costing not less than INR 13.96 crores or Dredged Quantity of 2.748 Lakh cum ***OR***
One similar work costing not less than INR 22.34 Crores or Dredged Quantity of 4.3968 Lakh cum

*3) Meets Cash Flow of **INR 6.98 crores** required for minimum 3 months*

3) The Inland Waterways Authority of India, Ministry of Ports, Shipping and Waterways, Government of India (Implementing Agency) invites online bids for the works detailed below in the table. The bidders may submit bids for any or all of the works indicated therein. Interested bidders may obtain further information and inspect the bidding documents at the address given below during office hours.

4) Bidding Documents are available online on CPP Portal **https://eprocure.gov.in/eprocure/app** from 03.01.2024. A non-refundable fee as indicated in the table below, in the form of Demand Draft (DD) of any Scheduled/Nationalized bank payable at Noida or through RTGS in favour of **IWAI Fund Jal Marg Vikas** (Payment documents are to be submitted as per the procedure described in paragraph 9 below) shall be submitted along with the bid. Bidders will be required to register on the website. The bidders would be responsible for ensuring that any addenda available on the website is also downloaded and incorporated.

5) For submission of the bid, the bidder is required to have Digital Signature Certificate (DSC) from one of the Certifying Authorities authorised by Government of India for issuing DSC. Aspiring bidders who have not obtained the user ID and password for participating in e-procurement in this Project, may obtain the same from the website: https://eprocure.gov.in/cppp/download/disp.

6) All Bids must be accompanied by a bid security of the amount specified for the work in the table below, drawn in favour of **IWAI Fund Jal Marg Vikas**. Bid security will have to be in any one of the forms as specified in the bidding document and shall have to be valid for 45 days beyond the validity of the bid. Procedure for submission of bid security is described in Para 9.

7) Bids comprise two Parts, namely the Technical Part and the Financial Part, and both parts must be submitted simultaneously online on CPP Portal at ***https://eprocure.gov.in/eprocure/app (website) on or before 15.00 hours on 29.01.2024 and the 'Technical Part' of the bids will be publicly opened online on the same day at 15.30 hours***, in the presence of the bidder's designated representatives who wish to attend. The "Financial Part" shall remain unopened in the e-procurement system until the second public Bid opening for the financial part. Any bid or modifications to bid (including discount) received outside e-procurement system will not be considered. If the office happens to be closed on the date of opening of the bids as specified, the bids will be opened on the next working day at

the same time and venue. The electronic bidding system would not allow any late submission of bids.

8) The bidders are required to submit (a) Original payment documents towards the cost of bid document; (b) Original bid security in approved form and (c) Original affidavit regarding correctness of information furnished with bidding document with Vice Chairman & Project Director (JMVP), A-13, Sector-1, NOIDA, Gautam Buddha Nagar – 201301, UP before the bid submission deadline, either by registered post/speed post/courier or by hand, failing which the bids will be declared non-responsive and will not be opened.

9) ***A pre-bid meeting in hybrid mode will be held on 12.01.2024*** at 1500 hours at the office of Inland Waterways Authority of India, NOIDA to clarify the issues and to answer questions on any matter that may be raised at that stage as stated in ITB Clause 7.4 of 'Instructions to Bidders' of the bidding document. Bidders are advised to download the bidding document prior to the pre-bid meeting in order for bidders to have a good understanding of the scope of work under this contract for discussion and clarification at the pre-bid meeting.

10) Other details can be seen in the bidding documents. The Employer shall not be held liable for any delays due to system failure beyond its control. Even though the system will attempt to notify the bidders of any bid updates, the Employer shall not be liable for any information not received by the bidder. It is the bidders' responsibility to verify the website for the latest information related to this bid.

11) The address for communication is as under:

Vice Chairman & Project Director, Jal Marg Vikas Project (JMVP)
Inland Waterways Authority of India
A-13, Sector-1, Noida, Gautam Buddha Nagar, UP - 201301
+91 120 2424544
Email: vc.iwai@nic.in

TABLE

Package No	Name of Work	Bid Security * Rs.	Cost of Document Rs	Period of Completion
1	2	3	4	5
IN - IWAI-400749-CW- RFB	Fairway Maintenance of Tribeni - Katwa (152 km) stretch of National Waterway - 1 (River Ganga)	INR 1,67,60,000.00	INR 6,000/- incl. of GST @ 18%	3 years

Seal of office

Part I – Bidding Procedures

TABLE OF CONTENTS	
VOLUME–1: BIDDING DOCUMENT	
Descriptions	**Page No.**
Part 1 – Bidding Procedures	**3**
Section I. Instructions to Bidders	**5**
Section II. Bid Data Sheet	**33**
Section III. Evaluation and Qualification Criteria	**45**
Section IV. Bidding Forms & Bill of Quantity	**97**
Section V. Eligible Countries	**104**
Section VI. Bank Policy - Corrupt and Fraudulent Practices	**114**
Part 2 - Section-VII Works Requirements	
Part -I – Scope of work	**116**
Part -II - TECHNICAL SPECIFICATION	**130**
Section-VIII General Conditions of Contract together with Schedules	**175**
Section-IX Particular Conditions of Contract Appendixes	**205** **238**
Section-X Contract Forms	**170**
Salient Features of Labour & Environment Protection Laws	**171**

Part I – Bidding Procedures

Section I. Instructions to Bidders

Table of Clauses

A. General 11
1. Scope of Bid 11
2. Source of Funds 11
3. Corrupt and Fraudulent Practices 12
4. Eligible Bidders 12
5. Eligible Materials, Equipment and Services 15

B. Contents of Bidding Document 15
6. Sections of Bidding Document 15
7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting 16
8. Amendment of Bidding Document 17

C. Preparation of Bids 18
9. Cost of Bidding 18
10. Language of Bid 18
11. Documents Comprising the Bid 18
12. Process of Bid Submission 19
13. Alternative Bids 20
14. Bid Prices and Discounts 20
15. Currencies of Bid and Payment 22
16. Documents Comprising the Technical Proposal 22
17. Documents Establishing the Qualifications of the Bidder 22
18. Period of Validity of Bids 22
19. Bid Security 23
20. Format and Signing of Bid 25

D. Online Submission and Opening of Bids 25
21. Preparation of Bids 25
22. Deadline for Submission of Bids 26
23. Late Bids 26
24. Withdrawal, Substitution, and Modification of Bids 26
25. Public Opening of Technical Parts of Bids 27

F. Evaluation of Bids – General Provisions 27
26. Confidentiality 27
27. Clarification of Bids 28
28. Deviations, Reservations, and Omissions 28
29. Nonconformities, Errors, and Omissions 28
30. Evaluation of Technical Parts 29
31. Determination of Responsiveness 29
32. Qualification of the Bidder 30
33. Subcontractors 30

34. Public Opening of Financial Parts 30
35. Evaluation of Financial Parts 32
36. Correction of Arithmetical Errors 32
37. Conversion to Single Currency 33
38. Margin of Preference 33
39. Comparison of Financial Parts 33
40. Unbalanced or Front Loaded Bids 33
41. Employer's Right to Accept Any Bid, and to Reject Any or All Bids 33

J. Award of Contract 33
42. Award Criteria 33
43. Notification of Award 34
44. Signing of Contract, Publication of award and Recourse to unsuccessful Bidders 34
45. Performance Security 34
46. Adjudicator 35

ABBREVETIONS		
	GOI	Government of India
	MOSPW	Ministry of Ports, Shipping and Waterways
	IWA1	Inland Waterways Authority of India
	WB	World Bank
	JMVP	Jal Marg Vikas Project
	PMU / PMC	Project Management Unit. / Project Management Consultant
	NW-1	National Waterways-1 (River Ganga)
	CPPP	Central Public Procurement Portal
	INR	Indian National Rupee
	NCB	National Competitive Bid.
	ICB	International Competitive Bid
	IFB	Invitation for Bid
	QC /QR	Qualifying Criteria / Qualifying Requirements
	ATO	Annual Turn Over
	NIT	Notice Inviting Tender
	LAD	Least Available Depth
	RFB	Request for Bid
	ITB	Instruction to Bidder
	BDS	Bid Data Sheet
	EMD	Earnest Money Deposit / Bid Security
	GCC	General Condition of Contract.
	PCC	Particular Condition of Contact.
	ESHS	Environment, Social, Health & Safety
	ESIA	Environment & Social Impact Assessment.
	MSIP	Management Strategies & Implementation Plan
	C-ESMP	Contractor's Environment & Social Management Plan.
	CPG	Contract Performance Guarantee
	JV	Joint Venture
	GBV	Gender Based Violence
	SEA	Sexual Exploitation and Abuse.
	DMP	Dredging Management Plan
	IHO	International Hydrographic Organization
	OHSAS	Occupational Health & Safety Assessment Series
	EMS	Environmental Management System
	IADC	International Association of Dredging Companies
	SMC	Safety Management Certificate
	DOC	Document of Compliance
	GST	Goods & Service Tax
	BOCW	Building & Other Construction Worker
	CPI	Consumer Price Index
	WPI	Wholesale Price Index
	EIC	Engineer in charges
	TSSC	Technical Support & Supervisory Consultant.
	CSD	Cutter Suction Dredger

Section I - Instructions to Bidders

A. General	
1. Scope of Bid	1.1 The Employer, as **indicated in the BDS**, issues this Bidding Document for the procurement of the Works as specified in Section VII (Works' Requirements) & Invitation for Bids (IFB). The name, identification, and number of lots (contracts) of this bidding are **specified in the BDS**.
	1.2 Throughout this Bidding Document: (a) the term "in writing" means communicated in written form and delivered against receipt; (b) except where the context requires otherwise, words indicating the singular also include the plural and words indicating the plural also include the singular; (c) "day" means calendar day; (d) "ES" is an acronym for environmental and social (including Sexual Exploitation, and Assault (SEA)); (e) "Sexual Exploitation and Assault" "(SEA)" stands for the following: (i) Sexual exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. In Bank financed operations/projects, sexual exploitation occurs when access to or benefit from a Bank financed Goods, Works, Non-consulting Services or Consulting Services is used to extract sexual gain. (ii) Sexual assault is further defined as sexual activity with another person who does not consent. It is a violation of bodily integrity and sexual autonomy and is broader than narrower conceptions of "rape", especially because (a) it may be committed by other means than force or violence, and (b) it does not necessarily entail penetration; and (f) "Contractor's Personnel" is as defined in Sub-Clause 9.1 of the General Conditions of Contract.
2. Source of Funds	2.1 The Borrower or the Recipient (hereinafter called "Borrower") **specified in the BDS** has received/applied for financing (hereinafter called "funds") from the International Bank for

	Reconstruction and Development or the International Development Association (hereinafter called "the Bank") in an amount **specified in the BDS**, towards the cost of the project **specified in the BDS**. The Borrower intends to apply a portion of the funds to eligible payments under the contract(s) for which this Bidding Document is issued. 2.2 Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank, and will be subject, in all respects, to the terms and conditions of the Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the Loan (or other financing) account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Bank, is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the proceeds of the Loan (or other financing).
3. Corrupt and Fraudulent Practices	3.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Section VI. 3.2 In further pursuance of this policy, Bidders shall permit and shall cause their agents (whether declared or not), sub-contractors, sub-consultants, service providers, or suppliers and any personnel thereof, to permit the Bank to inspect all accounts, records and other documents relating to any prequalification process, bid submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.
4. Eligible Bidders	4.1 A Bidder may be a firm that is a private entity, a state-owned entity or institution subject to ITB 4.5, or any combination of such entities in the form of a Joint Venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent, unless otherwise **specified in the BDS**. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the Bidding process and, in the event the JV is awarded the Contract, during contract execution. This authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all members. Unless **specified in the BDS**, there is no limit on the number of members in a JV. The joint venture agreement shall be

	registered in the place **specified in BDS** so as to be legally valid and binding on members.
	4.2 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder: (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or (b) receives or has received any direct or indirect subsidy from another Bidder; or (c) has the same legal representative as another Bidder; or (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or (e) participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which such Bidder is involved. However, this does not limit the inclusion of the same subcontractor in more than one bid; or (f) any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the bid; or (g) any of its affiliates has been hired (or is proposed to be hired) by the Employer or Borrower as Project Manager (Engineer) for the Contract implementation; or (h) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or (i) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and/or the bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such

	relationship has been resolved in a manner acceptable to the Bank throughout the procurement process and execution of the contract.
	4.3 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.7. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed sub-contractors or sub-consultants for any part of the Contract including related Services.
	4.4 A Bidder that has been sanctioned by the Bank in accordance with the above ITB 3.1, including in accordance with the Bank's Guidelines on Preventing and Combating Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants ("Anti-Corruption Guidelines"), shall be ineligible to be prequalified for, bid for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available at the electronic address **specified in the BDS**.
	4.5 Bidders that are Government-owned enterprises or institutions in the Employer's Country may participate only if they can establish that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not dependent agencies of the Employer. To be eligible, a government-owned enterprise or institution shall establish to the Bank's satisfaction, through all relevant documents, including its Charter and other information the Bank may request, that it: (i) is a legal entity separate from the government (ii) does not currently receive substantial subsidies or budget support; (iii) operates like any commercial enterprise, and, inter alia, is not obliged to pass on its surplus to the government, can acquire rights and liabilities, borrow funds and be liable for repayment of its debts, and can be declared bankrupt; and (iv) is not bidding for a contract to be awarded by the department or agency of the government which under their applicable laws or regulations is the reporting or supervisory authority of the enterprise or has the ability to exercise influence or control over the enterprise or institution.
	4.6 A Bidder shall not be under suspension from bidding by the Employer as the result of the operation of a Bid–Securing Declaration.

	4.7	Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of goods or the contracting of works or services required; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country.
	4.8	Bidder shall provide such evidence of eligibility satisfactory to the Employer, as the Employer shall reasonably request.
5. Eligible Materials, Equipment and Services	5.1	The materials, equipment and services to be supplied under the Contract and financed by the Bank may have their origin in any country subject to the restrictions specified in Section V, Eligible Countries, and all expenditures under the Contract will not contravene such restrictions. At the Employer's request, Bidders may be required to provide evidence of the origin of materials, equipment and services.
B. Contents of Bidding Document		
6. Sections of Bidding Document	6.1	The Bidding Document consist of Parts *1, 2,* and *3,* which include all the Sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 8. **PART 1 Bidding Procedures** Section I - Instructions to Bidders (ITB) Section II - Bid Data Sheet (BDS) Section III - Evaluation and Qualification Criteria Section IV - Bidding Forms Section V - Eligible Countries Section VI - Bank Policy-Corrupt and Fraudulent Practices **PART 2 Works' Requirements** Section VII – Works' Requirements **PART 3 Conditions of Contract and Contract Forms** Section VIII - General Conditions of Contract (GCC) Section IX - Particular Conditions of Contract (PCC) Section X - Contract Forms

	6.2 The Invitation for Bids issued by the *Employer* is not part of the Bidding Document.
	6.3 Unless obtained directly from the Employer or downloaded from the official website specified in the 'E-Procurement Notice', the Employer is not responsible for the completeness of the Bidding Documents, responses to requests for clarification, the minutes of the pre-Bid meeting (if any), or Addenda to the Bidding Documents in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Employer or downloaded from the official website specified in the 'E-Procurement Notice' shall prevail.
	6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents and to furnish with its bid all information and documentation as required by the Bidding Documents.
7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting	7.1 The electronic bidding system **specified in the BDS** provides for online clarifications. A prospective Bidder requiring any clarification on the Bidding Document may notify the *Employer* online or raise his inquiries during the pre-bid meeting if provided for in accordance with ITB 7.4. Clarifications requested through any other mode shall not be considered by the Employer. The *Employer* will respond to any request for clarification, provided that such request is received prior to the deadline for submission of bids, within a period **specified in the BDS**. Description of clarification sought and the response of the *Employer* shall be uploaded for information of all Bidders without identifying the source of request for clarification. Should the clarification result in changes to the essential elements of the Bidding Documents, the *Employer* shall amend the Bidding Documents following the procedure under ITB 8 and ITB 22.2. It is the bidder's responsibility to check on the e-procurement system, for any addendum/ amendment/ corrigendum to the bidding document.
	7.2 The Bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself, on its own risk and responsibility, all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense.
	7.3 The Bidder and any of its personnel or agents will be granted permission by the *Employer* to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the *Employer* and its personnel and agents from and against all liability in respect thereof, and will be

		responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.
	7.4	If so, **specified in the BDS**, the Bidder's designated representative is invited to attend a pre-bid meeting and/or a Site of Works visit. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
	7.5	The Bidder is requested, to submit any questions only through the e-procurement portal, not later than one week before the meeting. Clarifications requested through any other mode shall not be considered by the Employer.
	7.6	Minutes of the pre-bid meeting, if applicable, including the text of the questions raised, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be uploaded online on e-procurement system. Any modification to the Bidding Documents that may become necessary as a result of the pre-bid meeting shall be made by the *Employer* exclusively through the issue of an addendum pursuant to ITB 8 and not through the minutes of the pre-bid meeting. It is the bidder's responsibility to check on the e- procurement system, for any addendum/ amendment/ corrigendum to the bidding documents.
	7.7	Nonattendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.
8. Amendment of Bidding Document	8.1	At any time prior to the deadline for submission of bids, the *Employer* may amend the Bidding Documents by issuing addenda.
	8.2	Any addendum thus issued shall be part of the Bidding Document and shall be deemed to have been communicated to all bidders. The addenda will appear on the e-procurement system under "Latest Corrigendum", and Email notification is also automatically sent to those bidders who have started working on the tender, unless otherwise **specified in the BDS**. The Employer shall not be liable for any information not received by the bidder. It is the bidders' responsibility to verify the website for the latest information related to this bid.
	8.3	To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the *Employer* may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB 22.2

C. Preparation of Bids

9. Cost of Bidding	9.1	The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the *Employer* shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
10. Language of Bid	10.1	The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the *Employer*, shall be written in English. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in English, in which case, for purposes of interpretation of the Bid, such translation shall govern.
11. Documents Comprising the Bid	11.1	The Bid shall comprise two Parts, namely the Technical Part and the Financial Part. These two Parts shall be submitted simultaneously.
	11.2	The Technical Part shall contain the following: (a) Letter of Bid – Technical Part in accordance with ITB 12; (b) documentary evidence in accordance with ITB 17.1 establishing the Bidder's eligibility to Bid; (c) Bid Security or Bid-Securing Declaration, in accordance with ITB 19; (d) alternative bids – technical part, if permissible, in accordance with ITB 13, the Technical Part of any Alternative Bid; (e) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.2, and in accordance with ITB 20.3 in case of a JV; (f) documentary evidence in accordance with ITB 17 establishing the Bidder's qualifications to perform the contract, if its Bid is accepted; (g) Technical Proposal in accordance with ITB 16; (h) Construction methodology proposed as detailed in Para 1.1 of Section III Evaluation Criteria; (i) Contractor Registration certificate (as per IFB); and (j) Any other document **required in the BDS**.

	11.3 The **Financial Part** shall contain the following: (a) **Letter of Bid – Financial Part:** prepared in accordance with ITB 12 and ITB 14; (b) **Completed Schedules** including priced bill of quantities in accordance with ITB 12 and ITB 14, as **specified in BDS;** (c) **Alternative Bid - Financial Part:** if permissible in accordance with ITB 13; and (d) any other document **required in the BDS.** 11.4 The Technical Part shall not include any information related to the Bid price. Where material financial information related to the Bid price is contained in the Technical Part the Bid shall be declared non-responsive. 11.5 In addition to the requirements under ITB 11.2, Bids submitted by a JV (where permitted) shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Bid shall be signed by all members and submitted with the Bid, together with a copy of the proposed Agreement. 11.6 The Bidder shall furnish in the Letter of Bid – Financial Part information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.
12. Process of Bid Submission	12.1 The Letter of Bid – Technical Part, Letter of Bid – Financial Part, Schedules including the Bill of Quantities, and all documents listed under Clause 11, shall be prepared using the relevant forms in Section *IV* (Bidding Forms), if so provided. The forms must be completed without any alterations to the text, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested. 12.2 Entire Bid including the Letters of Bid and filled-up Bill of Quantity shall be submitted online on e-procurement system specified in ITB 7.1. Details and process of online submission of the tender and relevant documents are given in the website mentioned above. Scanned copies of documents listed in ITB clauses 11 and 12.3 should also be uploaded on this website. 12.3 **Submission of Original Documents:** The bidders are required to separately submit (i) original payment documents towards the cost of bidding document; and registration on e-procurement website (if applicable); (ii) original bid security

		or Bid-Securing Declaration in approved form; and (iii) original affidavit regarding correctness of information furnished with bidding document, with the office **specified in the BDS**, before the deadline for Bid submission, either by registered/speed post/courier or by hand, failing which the bids will be declared non-responsive and will not be opened. Hard copy of rest of the bid or any other document are not to be submitted.
13. Alternative Bids	13.1	Bidders shall submit offers that comply with the requirements of the bidding documents, including the basic technical design as indicated in the drawing and specifications. Alternatives will not be considered.
14. Bid Prices and Discounts	14.1	The prices and discounts (including any price reduction) quoted by the Bidder in the Letter of Bid - Financial Part, and in the Schedules shall conform to the requirements specified below.
	14.2	The Bidder shall submit a bid for the whole of the works described in ITB 1.1 by filling in prices for all items of the Works (both in figures and words), as identified in Section IV, Bidding Forms along with the total bid price (both in figures and words). The Bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. **Items against which no rate or price is entered by the Bidder will not be paid for by the *Employer* when executed and shall be deemed covered by the rates for other items and prices in the Bill of Quantities.** Corrections if any in the bid can be carried out by editing the information before electronic submission on e-procurement portal.
	14.3	The price to be quoted in the Letter of Bid - Financial Part in accordance with ITB 12.1, shall be the total price of the Bid, excluding any discounts offered.
	14.4	Discounts, if any, and the methodology for their application shall be quoted in the Letter of Bid - Financial Part, in accordance with ITB 12.1.
	14.5	Unless otherwise **specified in the BDS** and the Conditions of Contract, the rates and prices quoted by the Bidder shall be fixed
	14.6	If so indicated in ITB 1.1, bids are invited for individual lots (contracts) or for any combination of lots/contracts (packages). Bidders wishing to offer any price reduction for the award of more than one Contract shall specify in their bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Price reductions or

	discounts shall be submitted in accordance with ITB 14.4, provided the bids for all lots/contracts are opened at the same time.
	14.7 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as applicable on the deadline for submission of Bids, shall be included in the rates and prices and the total bid price submitted by the Bidder.
	14.8 Bidders may like to ascertain availability of tax/duty exemption benefits available in India. They are solely responsible for obtaining such benefits which they have considered in their bid and in case of failure to receive such benefits for reasons whatsoever, the Employer will not compensate the bidder (Contractor). The bidder shall furnish along with his bid a declaration to this effect in the Declaration Format provided in Section IV of the bidding documents. Where the bidder has quoted taking into account such benefits, it must give all information required for issue of certificates in terms of the Government of India's relevant Notifications as per the declaration format. In case the bidder has not provided the required information or has indicated to be furnished later on in the Declaration Format, the same shall be construed that the goods/construction equipment for which certificate is required is Nil. To the extent the Employer determines the quantities indicated therein are reasonable keeping in view the quantities in bill of quantities, construction program and methodology, the certificates will be issued within 60 days of signing of the contract and no subsequent changes will be permitted. In case of materials pertaining to Variation items and quantities, the certificate shall be issued only on request from the Contractor when in need and duly certified by the Project Manager. No certificate will be issued for items where no quantity/capacity of equipment is indicated in the statement. If the bidder has considered the tax/duty exemption for materials/construction equipment to be bought for the work, the bidder shall confirm and certify that the Employer will not be required to undertake any responsibilities of the Government of India Scheme or the said exemptions being available during the contract execution, except issuing the required certificate. The bids which do not conform to the above provisions or any condition by the bidder which makes the bid subject to availability of tax/duty exemption for materials/construction equipment or compensation on

	withdrawal of any variations to the said exemptions will be treated as non-responsive and rejected. Any delay in procurement of the construction equipment/machinery/goods as a result of the above shall not be a cause for granting any extension of time.
15. Currencies of Bid and Payment	15.1 The unit rates and prices shall be quoted by the Bidder and shall be paid for, entirely in Indian Rupees.
16. Documents Comprising the Technical Proposal	16.1 The Bidder shall furnish a Technical Proposal in the Technical Part of the Bid, including a statement of work methods, equipment, personnel, schedule and any other information as per details stipulated in Section *IV* (Bidding Forms), in sufficient detail to demonstrate the adequacy of the Bidders' proposal to meet the work requirements and the completion time.
17. Documents Establishing the Qualifications of the Bidder	17.1 To establish Bidder's eligibility in accordance with ITB 4, Bidders shall complete the Letter of Bid – Technical Part, included in Section IV, Bidding Forms. 17.2 To establish its qualifications to perform the Contract in accordance with Section *III,* Evaluation and Qualification Criteria, the Bidder shall provide the complete information as requested in the corresponding information sheets included in Section *IV* (Bidding Forms).
18. Period of Validity of Bids	18.1 Bids shall remain valid for 90 days or for a period **specified in the BDS** after the bid submission deadline date prescribed by the *Employer in accordance with ITB 22.1*. A bid valid for a shorter period shall be rejected by the *Employer* as nonresponsive.
	18.2 In exceptional circumstances, prior to the expiration of the bid validity period, the *Employer* may request Bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. If a bid security is requested in accordance with ITB 19, it shall also be extended for forty-five (45) days beyond the deadline of the extended validity period. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request shall not be required or permitted to modify its bid, except as provided in ITB 18.3.
	18.3 If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial bid validity, the Contract price shall be determined as follows*:*

		(a) In the case of fixed price contracts, the Contract price shall be the bid price adjusted by the factor **specified in the BDS**. (b) In the case of adjustable price contracts, no adjustment shall be made. (c) In any case, bid evaluation shall be based on the bid price without taking into consideration the applicable correction from those indicated above.
19. Bid Security	19.1	Unless otherwise **specified in the BDS**, the Bidder shall furnish as part of the Technical Part of its bid, in original form, either a Bid-Securing Declaration or a bid security, and in the case of a Bid security, in the amount **shown in BDS,** for this particular work.
	19.2	A Bid Securing Declaration shall use the form included in Section IV, Bidding Forms.
	19.3	If a bid security is specified pursuant to ITB 19.1, the bid security shall be a demand guarantee, at the Bidder's option, in any of the following forms: (a) an unconditional bank guarantee, issued by a Nationalized/ Scheduled bank located in India; (b) an irrevocable letter of credit issued by a Nationalized or Scheduled bank located in India; (c) a cashier's or certified check; or demand draft from a Nationalized or Scheduled Bank located in India; (d) another security **indicated in the BDS.** *In case of a bank guarantee, the bid security shall be submitted using the Bid Security form included in the Section IV (Bidding Forms).* The form must include the complete name of the Bidder. The bid security shall be valid for forty-five (45) days beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 18.2.
	19.4	If a Bid Security or Bid Securing Declaration is specified pursuant to ITB 19.1, any bid not accompanied by a substantially responsive Bid Security or Bid Securing Declaration shall be rejected by the Employer as non-responsive.
	19.5	If a bid security is specified pursuant to ITB 19.1, the bid security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing

	the contract and furnishing the performance security and if required in the BDS, the Environmental and Social (ES) Performance Security pursuant to ITB 45.
	19.6 If a bid security is specified pursuant to ITB 19.1, the bid security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required performance security and if required in the BDS, the Environmental and Social (ES) Performance Security.
	19.7 The bid security may be forfeited or the Bid-Securing Declaration executed: (a) if a Bidder withdraws/modifies/substitutes its bid during the period of bid validity specified by the Bidder on the Letter of Bid - Technical Part and repeated in the Letter of Bid - Financial Part, or any extension thereto provided by the Bidder; or (b) if the Bidder does not accept the correction of its Bid Price pursuant to ITB 36; or (c) if the successful Bidder fails to: (i) sign the Contract in accordance with ITB 44; or (ii) furnish a performance security and if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with ITB 45.
	19.8 The Bid Security or the Bid-Securing Declaration of a *JV* shall be in the name of the *JV* that submits the bid. If the *JV* has not been legally constituted into a legally-enforceable *JV,* at the time of bidding, the Bid Security or the Bid-Securing Declaration shall be in the names of all future members as named in the letter of intent mentioned in ITB 4.1 and ITB 11.2.
	19.9 If a bid security is not required in the BDS pursuant to ITB 19.1, and (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid, or (b) if the successful Bidder fails to: sign the Contract in accordance with ITB 44; or furnish a performance security and if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with ITB 45;

	the Borrower may**, if provided for in the BDS,** declare the Bidder ineligible to be awarded a contract by the Employer for a period of time **as stated in the BDS**.
20. Format and Signing of Bid	20.1 The Bidder shall prepare the Bid as per details given in ITB 21. 20.2 The bid shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as **specified in the BDS,** and shall be uploaded along with the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature. 20.3 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives. 20.4 Documents establishing authority to sign the bid on behalf of the JV shall be uploaded along with the bid. 20.5 Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialled by the person signing the Bid.
D. Online Submission and Opening of Bids	
21. Preparation of Bids	21.1 Bids, both Technical and Financial Parts, shall be submitted online on the e-procurement system specified in BDS 7.1. Detailed guidelines for viewing bids and submission of online bids are given on the website. The Invitation for Bids under this Project is published on this website. Any citizen or prospective bidder can logon to this website and view the Invitation for Bids and can view the details of works for which bids are invited. A prospective bidder can submit its bid online; however, the bidder is required to have enrolment/registration in the website, and should have valid Digital Signature Certificate (DSC) in the form of smart card/e-token obtained from any certifying agency authorised by the Government of India (for class of DSC **specified in BDS**). The bidder should register in the website using the relevant option available. Then the Digital Signature registration has to be done with the e-token, after logging into the website. The bidder can then login the website through the secured login by entering the password of the e-token & the user id/ password chosen during registration. After getting the bid schedules, the Bidder should go through

	them carefully and submit the specified documents, along with the bid, otherwise the bid will be rejected.
	21.2 The completed bid comprising of documents indicated in ITB 12, should be uploaded on the e-procurement portal along with scanned copies of requisite certificates as are mentioned in different sections in the bidding document and scanned copy of the bid security.
	21.3 All the documents are required to be signed digitally by the bidder. After electronic on-line bid submission, the system generates a unique bid identification number which is time stamped as per server time. This shall be treated as acknowledgement of bid submission.
	21.4 Physical, E-mail, Telex, Cable or Facsimile bids will be rejected as non-responsive.
22. Deadline for Submission of Bids	22.1 Bids, both Technical and Financial Parts, must be uploaded online no later than the date and time **indicated in the BDS**.
	22.2 The *Employer* may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Document in accordance with ITB 8, in which case all rights and obligations of the *Employer* and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.
23. Late Bids	23.1 The electronic bidding system would not allow any late submission of bids after due date & time as per server time.
24. Withdrawal, Substitution, and Modification of Bids	24.1 Bidders may modify their bids by using the appropriate option for bid modification on e-procurement portal, before the deadline for submission of bids. For this the bidder need not make any additional payment towards the cost of bidding document. For bid modification and consequential re-submission, the bidder is not required to withdraw his bid submitted earlier. The last modified bid submitted by the bidder within the bid submission time shall be considered as the bid. For this purpose, modification/withdrawal by other means will not be accepted. In online system of bid submission, the modification and consequential re-submission of bids is allowed any number of times. A bidder may withdraw his bid by using the appropriate option for bid withdrawal, before the deadline for submission of bids, however, if the bid is withdrawn, re-submission of the bid is not allowed (or allowed **if specified in BDS).**

	24.2	Bids requested to be withdrawn in accordance with ITB 24.1 shall not be opened.
	24.3	No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Letter of Bid or any extension thereof. This will result in the forfeiture of the Bid Security pursuant to ITB 19.7.
E. Public Opening of Technical Parts of Bids		
25. Public Opening of Technical Parts of Bids	25.1	The Employer shall publicly open Technical Parts of all bids received by the deadline, at the date, time and place **specified in the BDS** in the presence of Bidders' designated representatives and anyone who chooses to attend, and this could also be viewed by the bidders online. The Financial Parts of the bids shall remain unopened in the e-procurement system, until the subsequent public opening, following the evaluation of the Technical Parts of the Bids. In all cases, original documents submitted as specified in ITB 12.3 shall be first scrutinized, and Bids that do not comply with the provisions of ITB 12.3 will be declared non-responsive and will not be opened. Thereafter bidder's names, the presence or absence of a Bid Security or Bid-Securing Declaration, if one was required, alternative bids – technical parts, if any, and such other details as the Employer may consider appropriate will be notified online by the Employer at the time of bid opening. In the event of the specified date of bid opening being declared a holiday for the Employer, the bids will be opened at the appointed time and location on the next working day.
	25.2	The electronic summary of the bid opening will be generated and uploaded online. The Employer will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. Only Technical Parts of Bids, and technical parts of Alternative Bids if any, that are opened at technical Bid opening shall be considered further for evaluation.
F. Evaluation of Bids – General Provisions		
26. Confidentiality	26.1	Information relating to the examination, evaluation, comparison, and post-qualification of bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process until information on Contract award is communicated to all Bidders in accordance with ITB 44.

	26.2	Any attempt by a Bidder to influence the Employer in the evaluation of the bids or Contract award decisions may result in the rejection of its bid.
	26.3	Notwithstanding ITB 26.2, from the time of bid opening to the time of Contract award, if any Bidder wishes to contact the *Employer* on any matter related to the bidding process, it shall do so in writing.
27. Clarification of Bids	27.1	To assist in the examination, evaluation, and comparison of the bids, and qualification of the Bidders, the *Employer* may, at its discretion, ask any Bidder for a clarification of its bid, giving a reasonable time for response. Any clarification submitted by a Bidder that is not in response to a request by the *Employer* shall not be considered. The *Employer*'s request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease in the prices or substance of the bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the *Employer* in the evaluation of the bids, in accordance with ITB 36.
	27.2	If a Bidder does not provide clarifications of its bid by the date and time set in the *Employer*'s request for clarification, its bid may be rejected.
28. Deviations, Reservations, and Omissions	28.1	During the evaluation of bids, the following definitions apply: (a) "Deviation" is a departure from the requirements specified in the Bidding Document; (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document; and (c) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Document.
29. Nonconformities, Errors, and Omissions	29.1	Provided that a bid is substantially responsive, the *Employer* may waive any non-conformities in the bid which do not constitute a material deviation, reservation or omission.
	29.2	Provided that a bid is substantially responsive, the *Employer* may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of

		the price or substance of the bid. Failure of the Bidder to comply with the request may result in the rejection of its bid.
	29.3	Provided that a bid is substantially responsive, the *Employer* shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner **specified in the BDS**.
G. Evaluation of Technical Parts of Bids		
30. Evaluation of Technical Parts	30.1	In evaluating the Technical Parts of each Bid, the Employer shall use the criteria and methodologies listed in this ITB and Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted.
31. Determination of Responsiveness	31.1	The Employer's determination of a Bid's responsiveness is to be based on the contents of the Bid itself, as defined in ITB 11.
	31.2	A substantially responsive Bid is one that meets the requirements of the bidding document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that: (a) if accepted, would: (i) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or (ii) limit in any substantial way, inconsistent with the bidding document, the Employer's rights or the Bidder's obligations under the proposed Contract; or (b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids.
	31.3	The Employer shall examine the technical aspects of the Bid submitted in accordance with ITB 16, Technical Proposal, in particular, to confirm that all requirements of Section VII (Works' Requirements) have been met without any material deviation, reservation or omission.
	31.4	If a Bid is not substantially responsive to the requirements of the bidding document, it shall be rejected by the Employer and may not subsequently be made responsive

		by correction of the material deviation, reservation, or omission.
32. Qualification of the Bidder	32.1	The Employer shall determine to its satisfaction whether the eligible Bidders that have submitted substantially responsive Bid - Technical Parts meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.
	32.2	The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17. The determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Subcontractors if permitted in the bidding document), or any other firm(s) different from the Bidder.
	32.3	If a Bidder does not meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria, its Bid shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.
	32.4	Only Bids that are both substantially responsive to the bidding document, and meet all Qualification Criteria shall have the Financial Parts of their Bids opened at the second public opening.
33. Subcontractors	33.1	Unless otherwise **stated in the BDS**, the Employer does not intend to execute any specific elements of the Works by subcontractors selected in advance by the Employer.
	33.2	The Employer may permit subcontracting for certain specialized works as indicated in Section III. When subcontracting is permitted by the Employer, the specialized sub-contractor's experience shall be considered for evaluation. Section III describes the qualification criteria for sub-contractors.
	33.3	Bidders may propose subcontracting up to the percentage of total value of contracts or the volume of works as **specified in the BDS**. Subcontractors proposed by the Bidder shall be fully qualified for their parts of the Works.
H. Public Opening of Financial Parts of Bids		
34. Public Opening of Financial Parts	34.1	Following the completion of the evaluation of the Technical Parts of the Bids, and the Bank has issued its no objection (if applicable), the Employer shall notify in writing those Bidders whose Bids were considered non-responsive to

	the bidding document or failed to meet the Qualification Criteria, advising them of the following information: (a) the grounds on which their Technical Part of Bid failed to meet the requirements of the bidding document; (b) their Financial Part of Bid shall not be opened; and (c) notify them of the date, time, and place for public opening of Financial Parts of the Bids.
	34.2 The Employer shall, simultaneously, notify in writing those Bidders whose Technical Part have been evaluated as substantially responsive to the bidding document and met all Qualifying Criteria, advising them of the following information: (a) their Bid has been evaluated as substantially responsive to the bidding document and met the Qualification Criteria; (b) their Financial Part of Bid will be opened at the public opening of the Financial Parts; and (c) notify them of the date, time, and place for public opening of Financial Parts of the Bids, **as specified in the BDS.**
	34.3 The opening date should allow Bidders sufficient time to make arrangements for attending the opening. The Financial Part of the Bids shall be opened publicly in the presence of Bidders' designated representatives and anyone who choose to attend, and this could also be viewed by the bidders online. The bidder's names, the Bid prices, per lot (contract) if applicable, including any discounts and Alternative Bid - Financial Part if any, and such other details as the Employer may consider appropriate, will be notified online by the Employer at the time of bid opening. In the event of the specified date of bid opening being declared a holiday for the Employer, the bids will be opened at the appointed time and location on the next working day.
	34.4 The electronic summary of the bid opening will be generated and uploaded online. The Employer will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. Only Financial Parts of Bids, Financial Parts of Alternative Bids, and discounts that are opened at Bid opening shall be considered further for evaluation.

I. Evaluation of Financial Parts of Bids	
35. Evaluation of Financial Parts	35.1 To evaluate the Financial Part, the Employer shall consider the following:
	(a) the Bid price, excluding Provisional Sums and the provision, if any, for contingencies in the Summary Bill of Quantities but including Daywork items, where priced competitively;
	(b) price adjustment for correction of arithmetic errors in accordance with ITB 36.1;
	(c) price adjustment due to discounts offered in accordance with ITB 14.4;
	(d) Not used;
	(e) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 29.3; and
	(f) the additional evaluation factors as specified in Section III, Evaluation and Qualification Criteria.
	35.2 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in Bid evaluation.
	35.3 If this bidding document allows Bidders to quote separate prices for different lots (contracts), and to award multiple contracts to a single Bidder, the methodology to determine the lowest evaluated price of the contract combinations, including any discounts offered in the Letter of Bid – Financial Part, is specified in Section III, Evaluation and Qualification Criteria
36. Correction of Arithmetical Errors	36.1 In evaluating the Financial Part of each Bid, the Employer shall correct arithmetical errors on the following basis: (a) only for unit price contracts, if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected; (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in

	which case the amount in figures shall prevail subject to (a) and (b) above.
	36.2 Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITB 36.1, shall result in the rejection of the Bid and the Bid Security may be forfeited in accordance with ITB Sub-Clause 19.7.
37. Conversion to Single Currency	37.1 Not used.
38. Margin of Preference	38.1 Not used.
39. Comparison of Financial Parts	39.1 The Employer shall compare the evaluated prices of all responsive and qualified bids to determine the lowest evaluated bid.
40. Unbalanced or Front-Loaded Bids	40.1 If the bid, which results in the lowest Evaluated Bid Price, is seriously unbalanced, front-loaded or substantially below updated estimates in the opinion of the Employer, the Employer may require the Bidder to produce detailed price analyses (with breakdown of unit rates) for any or all items of the Bill of Quantities, to demonstrate the internal consistency and justification of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, taking into consideration the schedule of estimated contract payments, the Employer may require that the amount of the performance security be increased at the expense of the Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.
41. Employer's Right to Accept Any Bid, and to Reject Any or All Bids	41.1 The *Employer* reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all documents submitted and specifically, bid securities, shall be promptly returned to the Bidders.
J. Award of Contract	
42. Award Criteria	42.1 Subject to ITB 41*, the* Employer shall award the Contract to the Bidder whose offer has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Document, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

43. Notification of Award	43.1 Prior to the expiration of the period of bid validity, the *Employer* shall notify the successful Bidder, in writing, via the Letter of Acceptance included in the Contract Forms, that its bid has been accepted. The Letter of Acceptance shall specify the sum that the Employer will pay the Contractor in consideration of the execution and completion of the Works (hereinafter and in the Conditions of Contract and Contract Forms called "the Contract Price").
	43.2 Until a formal contract is prepared and executed, the notification of award shall constitute a binding Contract.
44. Signing of Contract, Publication of award and Recourse to unsuccessful Bidders	44.1 The Contract Agreement shall incorporate all agreements between the Employer and the successful Bidder. It shall be kept ready in the office of the Employer for the signature of the Employer and the successful Bidder, within 21 days following the date of Letter of acceptance. Within 21 days of receipt of Letter of acceptance, the successful Bidder shall sign the Agreement and furnish the performance security and if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with ITB Clause 45 and revised construction methodology. If the successful bidder is a JV, it shall also furnish the JV agreement duly signed by all the members, if it had submitted only a letter of intent to execute the JV agreement along with the bid.
	44.2 The Employer within 3 weeks of issue of notification of award shall publish in a national website (http://tenders.gov.in or GoI Central Public Procurement Portal https://eprocure.gov.in/cppp/) or on the Employer's website, and on the e-procurement system, the results identifying the bid and lot numbers and the following information: (i) name of each bidder who submitted the bid; (ii) bid prices as read out at bid opening; (iii) name and evaluated prices of each bid that was evaluated; (iv) name of bidders whose bids were rejected and the reasons for their rejection; and (v) name of the winning bidder, and the price it offered, as well as the duration and summary scope of the contract awarded. 44.3 The Employer shall promptly respond in writing to any unsuccessful Bidder who, after publication of contract award, requests the Employer in writing to explain on which grounds its bid was not selected.
45. Performance Security	45.1 Within twenty-one (21) days of the receipt of notification of award from the *Employer*, the successful Bidder shall furnish the performance security and if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with the conditions of contract, subject to ITB

	40.1, using for that purpose the Performance Security and ES Performance Security Forms included in Section X (Contract Forms). The performance security and if required in the BDS, the Environmental and Social (ES) Performance Security of a Joint Venture shall be in the name of the Joint Venture specifying the names of all members.
	45.2 Failure of the successful Bidder to submit the above-mentioned Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security, or to sign the Contract Agreement shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security. In that event the *Employer* may award the Contract to the next lowest evaluated Bidder whose offer is substantially responsive and is determined by the *Employer* to be qualified to perform the Contract satisfactorily.
	45.3 Upon the successful Bidder's signing the Agreement and furnishing of the Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security, pursuant to ITB Clause 45.1, the Employer shall promptly notify the name of the winning bidder to each unsuccessful bidder and shall discharge the Bid Securities of the bidders pursuant to ITB Clause 19.5 and 19.6.
46. Adjudicator	46.1 The Employer proposes the person **named in the BDS** to be appointed as Adjudicator under the Contract, at the daily rate **specified in the BDS**, plus reimbursable expenses (actual boarding, lodging, travel and other incidental expenses). If the Bidder disagrees with this proposal, the Bidder should so state in Letter of Bid. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator proposed by the Bidder, the Employer will request the Appointing Authority designated in the Particular Conditions of Contract (PCC) pursuant to Clause 23.1 of the General Conditions of Contract (GCC), to appoint the Adjudicator.

Section II - Bid Data Sheet (BDS)

The following specific data for the Works to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

A. Introduction

ITB 1.1	The Employer is: ***Vice Chairman & Project Director,*** ***Inland Waterways Authority of India,*** ***Ministry of Ports, Shipping and Waterways, Government of India***
ITB 1.1	The name of the work is: Fairway Maintenance of Tribeni - Katwa (152 km) stretch of National Waterway -1 (River Ganga) The identification number of the work is: ***IN-IWAI-400749-CW-RFB*** The number and identification of lots comprising this bidding process is: **NA**
ITB 2.1	The Borrower is Government of India. The Employer is ***Inland Waterways Authority of India, Ministry of Ports, Shipping & Waterways, Government of India*** The name of the Project is: ***Capacity Augmentation of National Waterway – 1*** Loan or Financing Agreement amount: ***$ 317.22 Million***

ITB 4.1	Bids from consortium are acceptable and shall be treated the same way as that of JV mentioned in the bidding documents. (a) Maximum number of members in the Joint Venture (JV) shall be ***Four (4).*** (b) It is not mandatory to get the JV registered. Interested bidders are requested to submit JV Agreement duly notarized in India. However, the successful bidder (in case of JV) shall submit registered JV. (c) A statement to the effect that all members of the joint venture shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms, shall be included in the authorization nominating a Representative or member in charge, as well as in the Bid and in the Agreement [*in case of a successful bid*]. (d) The joint venture agreement should define precisely the division of assignments to each member of JV. All members of JV should have active participation in the execution during the currency of the contract. This should not be varied/ modified subsequently without prior approval of the Employer.
ITB 4.4	A list of debarred firms and individuals is available at the Bank's external website www.worldbank.org/debarr.
ITB 4.6	Deleted.
B. Contents of Bidding Documents	
ITB 7.1	**Electronic –Procurement System** The Employer shall use the following electronic-procurement system to manage this Bidding process: ***https://eprocure.gov.in/eprocure/app*** Requests for clarification should be received by the Employer before pre-bid meeting. ***The clarifications can be sought / sent by e-mail or by hard copy on the following address:*** *Vice Chairman & Project Director (JMVP)* *Inland Waterways Authority of India* *A-13, Sector-1, Noida - 201301,* *Distt. Gautam Buddha Nagar, U.P.* *Phone No.: +91 120 2424544 Email: vc.iwai@nic.in*

ITB 7.4	A Pre-Bid meeting will take place, at the following date, time and place: ***Date: 12.01.2024*** ***Time: 1500 Hrs. IST*** ***Place: IWAI, Noida or Virtual Meeting Link will be shared on CPP Portal.*** ***Pre-Bid Queries should reach the employer at the following address or by e-mail no later than Date of Pre-Bid Meeting:*** *Vice Chairman & Project Director (JMVP)* *Inland Waterways Authority of India* *A-13, Sector-1, Noida - 201301,* *Distt. Gautam Buddha Nagar, U.P.* *+91 120 2424544 Email: vc.iwai@nic.in* A site visit conducted by the Employer ***shall be*** organized on request. For site visit, bidders are advised to contact: Sh. Arvind Kumar, Director (I/c), IWAI, Kolkata Mob: +91 8902159698 E-mail: dirkol@iwai.gov.in; akumar.iwai@nic.in
ITB 8.2	Addendum to Bidding Documents will be hosted on the Employer's e-procurement portal *[GOI Central Public Procurement Portal https://eprocure.gov.in/cppp]*
	C. Preparation of Bids
ITB 11.2 (j)	(i) The Bidder shall submit with its bid the following additional documents: *(a)* Dredging Management Plan – Methodology Detailed methodology to indicate how various activities will be carried out to achieve the performance parameters laid down in **Section VII - Description of the Services.** (b) Detailed Dredger deployment plan with respect to: • Dredging Management Plan – Methodology (including disposal of dredged material) • No. of dredgers / equipment to be deployed at various points of time alongwith dredging capacities • Details of equipment to be deployed to meet the requirements of survey

(c) List of major items of equipment proposed to carry out the contracted services using the format provided in Section IV - Bidding Forms

(d) To establish its qualifications to perform the contract(s) in accordance with Section III, Qualification Criteria and Requirements, the Bidder shall provide the information requested in the corresponding Information Sheets included in Section IV, Bidding Forms.

(e) Bidder to indicate whether they are presenting
Single Entity Bid or
Joint Venture Bid

In the event of Joint Venture Bid or sub-contracting details of the Joint Venture Partner or the sub-contractor likely to be engaged to be identified & proposed in the Bid along with their credentials like (Experience, Financials & Profile) - Each of the JV member will be required to furnish legally enforceable JV Agreement along with its Techno-commercial Bid holding themselves jointly & severally responsible and liable to IWAI to perform all contractual obligations, valid for entire period of Contract.

Further,

i. No change in the composition of the JV without the written consents of the Employer after submission of Bid shall be allowed.
ii. The leader should maintain at least 51% share in the JV at all the time during the period of contract

(ii) Code of Conduct for Contractor's Personnel (ES)

The Bidder shall submit its Code of Conduct that will apply to Contractor's Personnel (as defined in Sub-Clause 9.1 of the General Conditions of Contract), to ensure compliance with the Contractor's Environmental and Social (ES) obligations under the Contract. The Bidder shall use for this purpose the Code of Conduct form provided in Section IV. No substantial modifications shall be made to this form, except that the Bidder may introduce additional requirements, including as necessary to take into account specific Contract issues/risks.

(iii) Management Strategies and Implementation Plans (MSIP) to manage the (ES) risks

The Bidder shall submit Management Strategies and Implementation Plans (MSIPs) to manage the following key Environmental and Social (ES) risks:

- *Traffic Management Plan to ensure safety of local communities from construction traffic*;
- *Water Resource Protection Plan to prevent contamination of drinking water*;

	• *Boundary Marking and Protection Strategy for mobilization and construction to prevent offsite adverse impacts*; • *Strategy for obtaining Consents/Permits prior to the start of relevant works such as opening a quarry or borrow pit;* • *Gender based violence and sexual exploitation and abuse (GBV/SEA) prevention and response action plan.* The Contractor shall be required to submit for approval, and subsequently implement, the Contractor's Environment and Social Management Plan (C-ESMP), in accordance with the Particular Conditions of Contract Sub-Clause 10.1, that includes the agreed Management Strategies and Implementation Plans described here.
ITB 11.3 (b)	The following schedules shall be submitted with the bid: ***Priced Bill of Quantities***
ITB 11.3 (d)	The Bidder shall submit the following documents in its Bid: On-line: Financial part in .xls Scanned copy of Letter of bid – Financial Part
ITB 12	**Added at the end of 12.3** **Note for Bidders:** Bidders have to submit the bids on the e-procurement portal along with the relevant required documents. For this purpose, the bidders shall fill up online, the forms that are available for online filling on the e-portal. The rest of the forms shall be download by the bidders and filled up. The filled-up pages shall then be scanned and uploaded on the e-procurement portal along with the scanned copies of the supporting documents.
ITB 12.3	**For submission of original documents, the Employer's address is:** *Vice Chairman & Project Director (JMVP)* *Inland Waterways Authority of India* *A-13, Sector-1, Noida, Gautam Buddha Nagar, UP – 201301* *Email: vc.iwai@nic.in*
ITB 13.1	Alternative bids ***shall not be*** permitted.
ITB 14.5	The prices quoted by the Bidder "**shall be**" subject to adjustment during the performance of the Contract. The adjustment of contract price, if provided, will be done in accordance with GCC Clause 45 and corresponding provisions under PCC.
ITB 14.8	Add the following as Sub Clause 14.8 – Any delay in procurement of the construction equipment / dredging equipment / machinery / goods as a result of the above shall not be a cause for granting any extension of time.

ITB 18.1	The bid validity period shall be **120 days** from the date of opening of Technical Bids.
ITB 18.3 (a)	**Not Applicable.**
ITB 19.1	The Bidder shall furnish a **Bid security** for an amount of INR 1,67,60,000.00/- **Cost of bidding Document** of Rs. 6,000/- inclusive of GST shall be submitted by Demand Draft or RTGS. *[Note: For the Two-envelope Bidding, the process requires Bid Security to be submitted in the Technical Part and also original hard copy shall be submitted separately as per ITB 12.3.]* In case, the Bid security is submitted in the form of Bank Guarantee, then it shall be as per the format attached. The Bid Security may also be submitted through e-Bank Guarantee or Demand Draft or Online Transfer. The Bank Guarantee issued in paper shall become operative only when the Bank Guarantee advice transmitted through SFMS is advised to the Beneficiary by the Advising Bank. **Bank details are as given below:** Advising Bank: CANARA BANK Bank Account no.: 87781010014534 IFSC Code: CNRB0018778 Name of beneficiary: IWAI FUND Jal Marg Vikas Branch name: Morna - Sector 18, NOIDA Address: B 16 /17, Ground Floor, Sector-18, NOIDA – 201301
ITB 19.3 (d)	Other types of acceptable securities are: NOT Applicable
ITB 19.8	The Bid Security of a JV shall be in the name of the JV that submits the bid or in the name of the Lead member if the same is not constituted.
ITB 19.9	Deleted.
ITB 20.2	The written confirmation of authorization to sign on behalf of the Bidder shall consist of: (a) Legally valid Power of Attorney is required to demonstrate the authority of the signatory to sign the Bid; and (b) In the case of Bids submitted by an existing or intended JV, if permitted as per ITB 4.1, the authorization shall be evidenced by a Power of Attorney signed by legally authorized signatories of all the members.

	Authorization for such authorized signatories shall be submitted for all the JV members.
D. Online Submission and Opening of Bids	
ITB 21.1	Class of DSC required is: **CLASS – II or above**
ITB 22.1	Both Technical and Financial Bids shall be uploaded on-line in separate electronic envelopes, **The deadline for uploading the bids is:** Date: ***XX.01.2024*** Time: 1500 hrs. IST or as amended from time to time.
ITB 24.1	Re-submission of the bid is ***not allowed***, if withdrawn.
E. Public Opening of Technical Parts of Bids	
ITB 25.1	**The online Bid Opening of Technical Parts of the Bid shall take place on Date: 29.01.2024 Time: 1530 hours or as amended from time to time** *Place:* *Inland Waterways Authority of India* *A-13, Sector-1, Noida, Gautam Buddha Nagar, UP - 201301* *Email: vc.iwai@nic.in*
F. Evaluation of Bids – General Provisions	
ITB 29.3	Deleted.
G. Evaluation of Technical Parts of Bids	
ITB 30.1	The Bids shall be Technically Evaluated, Bidders have to meet the Qualifying requirements as stipulated in the documents under evaluation criteria.
ITB 33.1	At this time the Employer ***does not intend*** to execute certain specific parts of the Works by sub-contractors selected in advance.
ITB 33.2	Specialised Subcontractors: **Not Applicable**
ITB 33.3	(a) Contractor's proposed subcontracting: Maximum percentage of subcontracting permitted is: ***25% of the total contract amount*** (b) Bidders planning to subcontract more than 10 % of total volume of work shall specify, in the Bid Submission Form, the activity (ies) or parts of the works to be subcontracted along with complete details of the sub-contractors and their qualification and experience. The qualification and experience of the sub-contractors must meet the minimum criteria for the relevant work to be sub-

	contracted failing which such sub-contractors will not be permitted to participate. (c) Sub-contractors' qualification and experience will not be considered for evaluation of the Bidder. The Bidder on its own (without taking into account the qualification and experience of the sub-contractor) should meet the qualification criteria. *[Note: Work should not be split into small parts and sub-contracted].*
H. Public Opening of Financial Parts of Bids	
ITB 34.2 (c)	Following the completion of the evaluation of the Technical Parts of the Bids, the Employer will notify all Bidders of the date, time, and place of the public opening of Financial Parts. The online bid opening of Financial Parts of Bids shall take place at: *Inland Waterways Authority of India* *A-13, Sector-1, Noida, Gautam Buddha Nagar, UP - 201301* *Email: vc.iwai@nic.in* The Employer shall also publish a notice of the public opening of the Financial Parts of the Bid on its website ***www.iwai.nic.in*** In addition to the above the Employer shall publish a notice of the opening of the Financial Parts of the Bid on GoI Central Public Procurement Portal https://eprocure.gov.in/cppp
ITB 35.1 (f)	Determining aggregate of the Net Present Value (NPV) for three years prices for Services quoted in the Priced Activity Schedule, by discounting these prices to the Date of Commencement of Services, *assuming only for purpose of the evaluation* that the prices are payable at the end of the respective years. For the purpose of determining NPV, discount factor of 10 % per annum shall be applied.
J. Award of Contract	
ITB 45.1 and 45.2	The successful Bidder shall also be required to submit an Environmental and Social (ES) Performance Security. Throughout this bidding document the term 'performance security', unless the context clearly indicates otherwise, means and includes both 'the performance security and the ES performance security' to be submitted by the successful bidder in the amounts specified in GCC/ PCC 50.
ITB 46.1	The Adjudicator proposed by the Employer is*:* Sh. S. C. Misra. The daily fee for this proposed Adjudicator is ***Rs. 10,000/- per day.*** **The CV is attached at the end of this document.**
ITB 47	**Added new ITB 47.1**

	The Tender / Bid related complaints may be submitted / addressed to: *Vice Chairman & Project Director, (JMVP)* *Inland Waterways Authority of India* *A-13, Sector-1, Noida, Gautam Buddha Nagar, UP - 201301* *Email: vc.iwai@nic.in.*

Brief Biodata of Dr Suresh Chandra Misra

1. **Name:** MISRA SURESH CHANDRA
   Date of birth: 12TH SEPTEMBER 1948

2. **Profession:** ACADEMIC and RESEARCH
   Present Position: Retired as Professor from IIT Kharagpur
   Address:

(a) Official NA	(b) Residential Plot no. 1080, Lane no. 7, Aerodrome Area, Bhubaneswar – 751020, Odisha, India
Phone: NA	Phone: +91 9437477180
	Email: misra1948@gmail.com

3. **Degrees Obtained**

Degree	Awards	University	Specialization	Hall of Residence	Year
B. Tech (Hons.)	Silver Medal	IIT Kharagpur	Design	Patel	1965-70
PhD	National Scholarship	University of Newcastle upon	Naval Architecture		1973-76

4. **Professional Achievements**

Period From	To	Position Held	Organization/Institution	Role	Remarks
1970	1979	Design Engineer	Hindustan Shipyard Ltd.	Design Engineer	Sponsored for three years to do Ph.D. in UK (1973-
1979 1990 till retirement	1989	Assistant Professor Professor	IIT Kharagpur	Teaching, Research and Industrial Consultancy	On British council fellowship for 6 months in Glasgow, univ in 1984., later lien to IIT Madras and NSDRC/ IMU,
1998	2000	Visiting Professor (lien)	IIT Madras	Teaching, Research and Industrial	
2008	2013	Director (on Lien)	NSDRC and later IMU Visakhapatnam campus	Administration, Teaching, Research and Industrial Consultancy	NSDRC was subsumed to Indian Maritime University in 2009 and he was the first Director of IMU Visakhapatnam campus
2013	till date	Chairman, Naval Research Board, DRDO (an honorary position); Founder and current President, Forum for River and Ocean Scientists and Technologists (FROST), Odisha, registration no. 24010/33 of 2018-19; Visiting faculty at IMU, Visakhapatnam Campus; Advisor to General Consultants for Kochi Water Metro project under KMRL, Kochi.			

5. **Record of Contributions to:**
   (a) Intellectual Property
   (Publications/Design/Developments/Patents etc.)

(e) "Modularised Ship Hull Form", Inventors: Prof S C Misra and Prof O P Sha of IIT Kharagpur, patents rights belong to: IIT Kharagpur, Ministry of Ports, Shipping and Waterways of Govt. of India, Department of Science and Technology of Govt. of India, AAGL(Gujarat), BSL Mumbai, GSL Goa, LRS Mumbai, IRS Mumbai, Original Patent application no. 0561/Cal/2002 dt. 25.9.2002, patent no. 214274 awarded on 07/02/2008.

(f) Books:

- S. C. Misra and P. Misra (Ed.),"2020 Lockdown Effects and Future Trends in Water Body Management", LAP Publishing, Germany, October 2020.
- S. C. Misra,"Design Principles of Ships and Marine Structures", CRC Press of Tylor and Francis Group, USA, December 2015.
- S.C.Misra and O.P.Sha, editors "Computer-Aided Ship design", under assistance from CEP Cell of IIT Kharagpur, 1989(contributed as author also).
- M.R.Pranesh and S.C.Misra, "Environmental Hazards and Safety Requirement in the Port sector", under assistance from Curriculum Dev. Prog., IITMadras, 2000(contributed as author also).

(b) **Leadership** (Entrepreneurship/ Organizational Development)

(i) *Converting a ship design organisation, National Ship Design and Research Centre, to a part of a central university, Indian Maritime University, Visakhapatnam Campus*

(ii) *Academic leadership as stated below:*

- *Started a new multidisciplinary Post Graduate Diploma program in Maritime Operation and Management (PGDMOM) exclusively for professional marine engineers which started at IIT Kharagpur in the academic year 2003-2004.*
- *Started the Naval Architecture and Ocean Engineering degree programs at both UG and PG levels at IMU Visakhapatnam Campus in its first year of creation, 2009.*
- *Started a PG program in Dredging and Harbour Engineering at IMU, Visakhapatnam campus in 2010 for the first time in the country.*

(iii) *Developing strong research base at IITs, IISc and in other engineering institutions and generating multi-institutional research programs and developing strong connection between teaching institutions and research organisations in the context of naval research through NRB.*

(iv) *Setting up and establishing FROST, Odisha*

(c) **Society**

13 Invited mentor and speaker of INSPIRE program for development of science interest in school children sponsored by DST at Port Blair Campus of Pondichery University, at IMU Visakhapatnam Campus and at NIT Rourkela during 2012, 2013 and 2015.

14 Lectures at schools and colleges in Odisha regarding water awareness.

15 Safety of wooden boats moving in rivers and coastal waters for tourism and fishing is a major concern which has been a major concern for me. I have now been involved in modifying an existing wooden boat for higher safety and reduction of pollution. This activity is to continue.

(d) **Any other**: More than 50 technical papers published

6. Peer Recognition (National/International Honours, Awards, Prizes including honorary degree)

Awarded National Scholarship for Higher Study Abroad by Government of India in 1973 till 1976.

Awarded Silver Medal by IIT Kharagpur in 1970 for securing first position in B.Tech (H) course in Naval Architecture.
Awarded Marine Engineering Division Medal, Institution of Engineers (India), 2001.
Awarded Institution Medal (Col. G.N.Bajpai), Institution of Engineers (India), 2001.
H.S.Rao Memorial Award for Best paper, June 04 issue of Marine Engineers Review (India), 2005 given by Institution of Marine Engineers (India).
Rashtriya Gaurav Award presented by India International Friendship Society in 2004.

Best Citizen of India Award and Citation in the book by the same title, published by International Publishing House, New Delhi, 2004.

7. Membership/Fellowship of National/International Professional Bodies

Founder President, Forum for River and Ocean Scientists and Technologists, Odisha

Fellow of Institution of Engineers (India)

Fellow of Institution of Marine Engineers(India)
Life Member of Institution of Marine Technologists, Mumbai

Life Member of Indian Society for Technical Education
Member of Society of Naval Architects and Marine Engineers, USA.

Member, Indian technical Committee of Class NK, Nippon Kaiji Kyokai, Japan, 2012 onwards.
Member, Technical Committee of IRS, Mumbai.
Member of PMCC for acquisition of 2 coastal research vessels by NIOT funded by MoES.

8. **Specific outstanding Accomplishments meriting the award** (within 100 words): (Detailed biography may be provided as an annexure)

Apart from teaching naval Architecture to students, Prof Misra has been involved in design of ships and boats and other water based infrastructure including a 600 TEU container vessel and marine engineering laboratory *Ship in Campus*. His book *Design Principles of Ships and Marine Structures* published by Taylor and Fransis Group has been widely appreciated. After his retirement from active service, apart from being the Chairman of Naval research Board, he has formed a think tank FROST. His current interests include safety and sustainability in boats of inland water transportation, increasing water awareness in Odisha and ancient river and coastal transportation system for building shore based temples.

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	Section III - Evaluation and Qualification Criteria	
1	**Technical Part**	
1.1	**Adequacy of Technical Proposal** **a. Dredging Methodology** **b. Environmental, Social, Health and Safety (ESHS) obligation** **c. Work Program** **d. Site Organization and Communications Plans** **e. Sub-Contracting**	
1.2	**Multiple Contracts**	
1.3	**Specialised Sub- Contract**	
1.4	**Qualification Criteria**	
2	**Qualification**	
2.0	**Nature of Bidder**	
2.1	**Eligibility**	
2.2	**Historical Contract Performance**	
2.3	**Financial Situation and performance**	
2.4	**Experience**	
2.5	**Quality Requirements**	
2.6	**Contractors Representative & Key Personnel**	
2.7	**Equipment**	
3	**Financial Part**	

1. Technical Part

1.1 Adequacy of Technical Proposal

Evaluation of the Bidder's Technical Proposal will include:

i. An assessment of the Bidder's technical capacity to mobilize key equipment and personnel for the contract consistent with its proposal regarding work methods, scheduling, material sourcing and Quality Control / Assurance in sufficient detail and fully in accordance with the requirements stipulated in Section VII (Work's Requirements).

For this purpose, the Bidder should also submit:

A. Dredging Methodology:

(i) **Statement of Work Methods:** This shall demonstrate the Bidders capability to define, optimize and carry out on a timely basis the physical interventions detailed in the scope of requirements specified in Section VII (Work's Requirements).

(ii) The **Work methodology** shall include a mobilization and execution plan that details how the bidder will do the work of

Fairway Maintenance of Tribeni - Katwa (152 km) stretch of National Waterway -1 (River Ganga)

B. Environmental, Social, Health and Safety (ESHS) obligation:

A detailed note outlining its proposed methodology and program of dredging including compliance with the Environmental, Social, Health and Safety (ESHS) obligations

(i) An outline proposal on how the contractor shall minimize environmental impacts especially to sensitive and critical areas including but not limited to reed lands, mud flats, mangrove forests and migratory bird habitats taking into account;

(ii) The requirement for dredging sediment volumes in shallow waterways; placing dredged materials in-stream; and, early detection and quantification of hazardous sediment and its removal; and

(iii) The requirement to minimize noise, water and air pollution from its own dredging operations.

(iv) An outline Quality Assurance Plan; and

(v) A Health and Safety Plan specific to the proposed works

C. Work Program:

A Work Program compiled on a project management software (like MS Project, Primavera or similar) which must clearly show the major project works proposed and the corresponding timeline with the following characteristics:

(i) Show work stages (Mobilization, Survey, Dredging, Maintenance services, and Demobilization, etc.) and BOQ Items with the corresponding timeline;

(ii) Show the leading, lagging and critical activities, with linkages to related activities, milestones, key personnel in charge, etc.;

(iii) Resources (equipment, material, personnel, etc.) plan to achieve the Work Program.

D. Site Organization and Communications Plans that clearly provide:

(i) An overall organization chart showing the division between site offices and head office responsibilities;

(ii) A site organization chart clearly showing responsibilities and functions of key personnel. The person in-charge and the second in command for each location and their responsibilities;

(iii) The proposed layout of the Contractor's facilities and equipment, including offices and accommodation units based on the proposed sites and waterways routes;

(iv) Internal Communications Plan within the Contractor's organization and between its home office and the site offices;

(v) External Communication Plan between the Contractor, the Project Manager/Supervision & Performance Monitoring Consultant, Related Stakeholders, Users, and Employer;

(vi) Navigational protocol to assure free passage for ships during dredging or other works.

E. Sub-contracting

An assessment of the details of subcontracting elements of works amounting to more than 10% of the bid price; for each element proposed to be sub contracted furnish details whether the identified Sub-contractor possesses the required qualifications and experiences to execute that element satisfactorily.

[***Work should not be split into small parts and sub-contracted***].

1.2 Multiple Contracts if permitted under ITB 35.3, - Not Applicable

1.3 Specialised Subcontractors - Not Applicable.

1.4. Qualification Criteria

Pursuant to ITB 32.1, the Employer shall assess each Bid against the following Qualification Criteria. Requirements not included in the text below shall not be used in the evaluation of the Bidder's qualifications.

In case a contractor while working / selected for an IWAI contract, applies for another similar contract to be executed by IWAI, then to check whether the contractor meets the qualification criteria for the new contract, IWAI will calculate the bid capacity of the bidder as per the formula mentioned at 2.4.2 (d)

In case a contractor while working / selected for an IWAI contract, applies for another similar contract to be executed by IWAI, then to check whether the contractor is having adequate equipment for the new contract, IWAI will check the adequacy of the equipment as per following priority of ongoing tenders:

1) Ongoing works with IWAI

2) "Access Channel of MMT Haldia"

3) Fairway Maintenance of Farakka – Kahalgaon stretch

4) Fairway Maintenance of Tribeni – Katwa stretch

5) Fairway Maintenance of Katwa - Farakka stretch

6) Fairway Maintenance of Barh – Digha stretch

7) Fairway Maintenance of Digha – Majhaua stretch

8) Fairway Maintenance of Majhaua – Ghazipur stretch

2. Qualification

2.0 **Nature of Bidder**	**Bidder to indicate whether they are presenting a Single Entity bid** **Or Joint Venture Bid** **Or Intend to Sub-Contract**	**In the event of Subcontracting, the details of the Sub-contractor likely to be deployed be identified in the proposal (Max 25% work)** **Details & Profile of Sub-contracting firms to be submitted.**
• Format provided in Section – IV (Bidding Forms)		

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
2.1 Eligibility							
2.1.1	Nationality	Nationality in accordance with ITB Sub-Clause 4.3	Must meet requirement	Existing or intended JV must meet requirement	Must meet requirement	N / A	Forms ELI – 1.1 and ELI - 1.2 with attachments
2.1.2	Conflict of Interest	No conflicts of interest in accordance with ITB Sub - Clause 4.2	Must meet requirement	Existing or intended JV must meet requirement	Must meet requirement	N / A	Letter of Bid
2.1.3	Bank Eligibility	Not having been declared ineligible by the Bank, as described in ITB Sub-Clause 4.4.& 4.7	Must meet requirement	Existing JV must meet requirement	Must meet requirement	N / A	Letter of Bid
2.1.4	Government Owned Entity	Bidder to meet conditions of ITB Sub-Clause 4.5. The entity should not be a	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Forms ELI - 1.1 and 1.2

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
		dependent agency of the borrower or sub-borrower or Employer.					with attachments
2.1.5	United Nations resolution or Borrower's country law	Not having been excluded as a result of prohibition in the Borrower's country laws or official regulations against commercial relations with the Bidder's country, or by an act of compliance with UN Security Council resolution, both in accordance with ITB 4.7 and Section V.	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Letter of Bid
2.2 Historical Contract Non-Performance							
2.2.1	History of Non-Performing Contracts	Non-performance of a contract[1] did not occur as contractor since 1st January 2017 (Past 7 years)	Must meet requirement	Must meet the requirement	Must meet requirement or as member to past or existing JV	N / A	Form CON - 2
2.2.2	Suspension due to withdrawal of the Bid within Bid validity	Not under suspension based on execution of a Bid Securing Declaration pursuant to ITB 4.6 or	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Letter of Bid

[1](a) Non-performance, as decided by the Employer, shall include all contracts where any dispute with IWAI is not concluded.

(b) For entities other than IWAI (i) Non-performance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (ii) contracts that were so challenged but fully settled against the contractor. Non-performance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Non-performance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
		withdrawal of the Bid pursuant ITB 19.9.					
2.2.3	Pending Litigation	Bidder's financial position and prospective long term profitability sound according to criteria established in 2.3.1 below and assuming that all pending litigation will be resolved against the Bidder	Must meet requirement	Must meet requirement by itself or as member to past or existing JV	Must meet requirement by itself or as member to past or existing JV	N/A	Form CON - 2
2.2.4	Litigation History	No consistent history of court/arbitral award decisions against the Bidder[2] since 1st January 2017 (Past 7 years)	Must meet requirement	Must meet requirement		N/A	Form CON - 2
2.2.5	Declaration: Environmental, Social, Health, and Safety (ESHS) past performance	Declare any civil work contracts that have been suspended or terminated and/or performance security called by an employer for reasons related to the non-compliance of any environmental, or social, (including sexual exploitation and abuse (SEA) and gender-based violence (GBV) or health or safety requirements or safeguard in the past five years[3] since 1st Jan, 2019.	Must make the declaration. Where there are Specialized Sub-contractor/s, the Specialized Sub-contractor/s must also	N/A	Each must make the declaration. Where there are Specialized Sub-contractor/s, the Specialized Sub-contractor/s must also	N/A	Form CON-3 ESHS Performance Declaration

[2] The Bidder shall provide accurate information on the letter of Bid about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last seven years. A consistent history of court/arbitral awards against the Bidder or any member of a joint venture may result in disqualifying the Bidder.

[3]The Employer may use this information to seek further information or clarifications in carrying out its due diligence.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
			make the declaration.		make the declaration.		
2.3 Financial Situation and Performance							
2.3.1	Financial Capabilities	(a) The Bidder shall demonstrate that it has access to, or has available liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the **cash flow requirements estimated as INR 6.98 crores** (Six crores & ninety-eight lakhs only) - (about 3 months cash flow at peak period of work) for the subject contract(s) net of the Bidders other commitments	Must meet requirement	Must meet 100% requirement	Each member Must meet at least 15% of the requirement as a minimum, such that all partners combined meet 100 % of the requirement.	Must meet at least 51% of the requirement as a minimum	Form FIN – 3.1, with attachments
		(b) The Bidder shall also demonstrate, to the satisfaction of the Employer, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments	Must meet requirement	Must meet requirement.	N / A	Must meet requirement	Form FIN – 3.1 (A), with attachments
		(c) The audited balance sheets or, if not required by the laws of the Bidder's country, other financial statements acceptable to the Employer, for the last	Must meet requirement	Must meet 100% of the requirement	Must meet requirement	N/A	Form FIN – 3.1, with attachments

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
		5 years (**ending FY 2022-23**) shall be submitted and must demonstrate the current soundness of the Bidder's financial position and indicate its prospective long-term profitability.					
2.3.2	Annual Average Turnover	Minimum average annual turnover of ***INR 25.14 crores (INR Twenty five crores & fourteen lakhs only)***, calculated as total certified payments received for contracts in progress and/or completed within the last five financial years, divided by five years **ending 31st March 2023**.	Must meet requirement	Must meet 100% requirement	Must meet at least 15% of the requirement as a minimum, such that all partners combined meet 100 % of the requirement.	Must meet at least (51%) as a minimum	Form FIN - 3.2
2.4 Experience							
2.4.1	**General Dredging Experience**	Experience under contracts for similar works such as those pertaining to **General Dredging Experience in Ports / River / Lakes/ Canals/ Water Bodies / Management of Vessels / Manning of Vessel or Vessel related Marine Works or Wet excavation in Dams** **a. River Dredging and management of dredged materials**	Must meet requirement	Must meet requirement	N/A	Must meet requirement	Form EXP – 4.1

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
		b. Dredged material used in reclamation of port / harbour will also be considered. in the role of contractor, JV member, sub-contractor, or management contractor during at least the **last seven [7] years** ending last day of month prior to the bid submission deadline **(FY 2022-23)**					
2.4.2 (a)	**Specific Dredging Experience**	Bidder should have successfully completed as a prime contractor, JV member[4], management contractor or sub-contractor, minimum (a) Three similar works each costing not less than **INR 11.17 crores** or Dredged Quantity of **2.1984 Lakh cum** **OR** (b) Two similar works each costing not less than **INR 13.96 crores** or Dredged Quantity of **2.748 Lakh cum** **OR**	Must meet requirement	Must meet requirement	N/A	Must meet requirement for one contract of 51%	Form EXP 4.2 (a). The contractor should have borne responsibility for execution of works to the extent he claims experience. A contractor should not claim experience

[4] For contracts under which the Bidder participated as a joint venture member or sub-contractor, only the Bidder's share, by value, shall be considered to meet this requirement

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
		(c) One similar work costing not less than **INR 22.34 Crores** or Dredged Quantity of **4.3968 Lakh cum** For the purpose of completed works, the value of the completed contract for similar works should not be less than **80% of the contract value**. A certificate for ongoing works from the employer stating the Value[5] of the work & 80% completion has been achieved shall be considered as completed and certificate of employer in this regard stating percentage of completion shall be submitted.					for the works he has never executed.
2.4.2 (b)	**The value of the similar work where 80% of contract value is paid will be considered as complete for evaluation purposes.** In the case of JV, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In determining whether the JV meets the requirement of total number of contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.						Form EXP – 4.2 (b)
2.4.2 (c)	Specific Experience in managing ES aspects	For the contracts in 2.4.2 (a) above and/or any other contracts	Desirable	Desirable	Desirable	Desirable	Form EXP – 4.2 (c)

[5] At FY 2022-23 price level. Cost of completed works of previous years shall be given weightage @5% per year based on rupees value to bring them to the price level of the financial year in which bids are received.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
		[substantially completed and under implementation] as prime contractor, joint venture member, or Subcontractor since 1st January 2019 and Application submission deadline, experience in managing ES risks and impacts.					
2.4.2 (d)	Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity for work is equal to or more than the total bid value of the work. The available bid capacity will be calculated as: - Assessed Available bid capacity[6] = **(A*N*1.5 - B)** where, A = Maximum value of all works executed in any one year during the last five years (updated to the price level of the financial year 31st March, 2023 at the rate of 5% per year), taking into account the completed as well as works in progress). N = Number of years prescribed for completion of the works for which bids are invited (period up to 6 months to be taken as half-year and more than 6 months as one year). B = Value, at the current price level, of existing commitments on on-going works to be completed during the period of completion of the works for which bids are invited. Note: the statements in Section IV showing the value of existing commitments of on-going works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the Engineer in charge, not below the rank of an Executive Engineer or equivalent.					Form EXP – 4.2 (d)
2.5 Quality Requirements							
2.5.1	**ISO 9001-2008/2015** quality Management system requirement	Valid - Quality Management Certificate issued by the International Organization for Standardization	Must meet requirement	Must meet requirement	N/A	Must meet requirement	Valid ISO 9001 Certification. Form EXP – 5.0

[6] During technical evaluation, the available bid capacity will be calculated and compared with the estimated cost. After opening of the financial bids (Part – II) and during the financial evaluation, the bid capacity will be further validated with discovered price.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
2.5.2	**ISO 45001** - Occupational Health and Safety Management or Equivalent	Valid - Relevant ISO 45001 certificate and Experience in occupational health and safety management	Must meet requirement	Must meet requirement	N/A	Must meet requirement	Valid ISO 45001 certificate or equivalent. Form EXP – 5.0
2.5.3	**ISO 14001: 2004 / 2015** Environmental Management systems	Valid - Relevant Environmental management certificate and experience with environmental management systems.	Must meet requirement	Must meet requirement	N/A	Must meet requirement	Valid ISO 14001:2004/ 2015 certificate. Form EXP – 5.0

2.6 Contractors Representative & Key personnel

The Bidder must demonstrate that it will have a suitably qualified (and in adequate numbers) minimum key personnel, as described in the table below, that are required to perform the contract.
The Bidder shall provide details for the key personnel and such other Key Personnel that the Bidder considers appropriate, together with their academic qualifications and work experience.
The Bidder shall complete the relevant Forms in Section IV, Bidding Forms.
The Contractor shall require the Employer's consent to substitute or replace the Key Personnel.

Item No.	Position/specialization required	Qualification Criteria	Minimum years of relevant work experience	Must meet requirement
1.	Contract Manager / Project Manager	Contract Manager shall have a Bachelor's degree in Civil / Mechanical engineering and an experience of minimum 10 years', out of which at least 7 years shall be in managing projects of similar nature. Personnel must have experience in executing dredging projects. The desirable age of the personnel as on the date of bid submission shall not be more than 50 years. However, if the personnel above 50 years is proposed, then the specific health fitness certificate shall be submitted with the bid.	7	Bidder to provide the details (CVs as per Form PER -2 with relevant supporting document) of the manpower along with the Bid. To be considered for Evaluation.
2.	Surveyor	Diploma in Civil Engineering / Mechanical Engineering / Surveying with 3 years' experience in Hydrographic Survey or Survey Recorder I/II in Hydrographic Survey	3	
3.	Dredger Master	Dredging Experience in River/Canal/Port	7	
Suitable experts in the following specializations				
4.	Crew	Must have inland vessel certification	-	Desirable at the time of Bid Submission
5.	Social Expert	Graduate or equivalent in social sciences	3	
6.	Environment Expert	Graduate in Environmental Engineering/ Environmental Sciences	3	
7.	Health & Safety Expert	Graduate in Engineering / Science / Social Sciences and must have Diploma / Certification in health and Safety	3	

The Bidder must not have in his employment:

(i) the near relations (defined as first blood relations, and their spouses, of the bidder or the bidder's spouse) of persons of the following Government Departments: - All organization entities / agencies under Ministry of Ports, Shipping and Waterways
(ii) without Government permission, any person who retired as gazetted officer within the last two years.

The Bidder shall provide details of the proposed personnel and their experience records in the relevant Forms included in Section IV, Bidding Forms.

2.7 Equipment – The Bidder must demonstrate that it has Key equipment listed hereunder

Equipment	Equipment type, numbers & minimum capacity	
2.7.1 Dredger	**Minimum of Two (2) nos. of Cutter Suction Dredgers** having capacity of dredging minimum of 250 cum of solids per hour. a) The dredgers must be registered as 'Dredger' either under Inland Vessel Act, 2021* or under Merchant Shipping Act, 1958 and must have valid registration certificate from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. b) Dredgers must have valid Survey certificates from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. Valid Survey Report by Indian Register of Shipping (IRS) or any other classification society will also be considered valid. The above valid certificates as on date of submission of bid shall be submitted with the technical bid.	The valid statutory certificates shall be submitted along with the bid for evaluation of bid. These Equipment must be either owned or hired or 'to be procured' by the bidder and/or by member of JV. In case the dredgers / survey vessel is leased or hired, a proper lease/hire agreement on Stamp paper shall be submitted along with the technical bid stating that the proposed equipment (along with the details and statutory certificates) shall be available to the bidders for immediate deployment on the Award of the Work. In case, the equipment is proposed to be procured, the proof of intent along with expected delivery period from award date duly accepted / issued by the manufacturer shall be submitted along with the technical bid. Details also to be provided in **Form Schedule E**
2.7.2 Survey Vessel	**Minimum of One (1) no.** equipped with multi beam echo-sounder a) The Survey Vessel must be registered either under Inland Vessel Act, 2021* or under Merchant Shipping Act, 1958 and must have valid registration certificate from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. b) Survey Vessel must have valid Survey certificates from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. Valid Survey Report by Indian Register of Shipping (IRS) or any other classification society will also be considered valid. The above valid certificates as on date of submission of bid shall be submitted with the technical bid.	

2.7.3 **Tug Boats**	Having suitable capacity for pulling the Dredgers and allied equipment / boats / pipelines etc. a) The Tug Boats must be registered either under Inland Vessel Act, 2021* or under Merchant Shipping Act, 1958 and must have valid registration certificate from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. b) Tug Boats must have valid Survey certificates from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. Valid Survey Report by Indian Register of Shipping (IRS) or any other classification society will also be considered valid. The above valid certificates as on date of submission of bid shall be submitted with the technical bid.	Desirable at the time of bidding. Details also to be provided in **Form Schedule E**
2.7.4 **Accommodation Boats**	To accommodate Operational staff. a) The Accommodation Boats must be registered either under Inland Vessel Act, 2021* or under Merchant Shipping Act, 1958 and must have valid registration certificate from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. b) Accommodation Boats must have valid Survey certificates from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. Valid Survey Report by Indian Register of Shipping (IRS) or any other classification society will also be considered valid. The above valid certificates as on date of submission of bid shall be submitted with the technical bid.	

***Bidders to Note - Clause 114 (Repeal and Savings) of IV Act, 2021:**

114. Repeal and savings. — (1) The Inland Vessels Act, 1917 (1 of 1917) is hereby repealed. (2) Notwithstanding the repeal of the enactment referred to in sub-section (1), —

(a) any notification, rule, regulation, bye-law, order or exemption issued, made or granted under the enactment hereby repealed shall, if it is not inconsistent with the provisions of this Act, continue to be in force unless and until revoked, and shall have effect as if it had been issued, made or granted under the corresponding provision of this Act;

(b) any officer appointed and anybody elected or constituted under any enactment hereby repealed shall continue and shall be deemed to have been appointed, elected or constituted unless specifically removed or replaced by appointment of officer or offices, as the case may be, under this Act;

(c) any document referring to the enactment hereby repealed shall be constructed as referring to this Act or to the corresponding provision of this Act;(d) any fine levied or penalty imposed under the enactment hereby repealed may be recovered as if it had been levied under this Act;

(e) any offence committed under the enactment hereby repealed may be prosecuted and punished as if it had been committed under this Act;

(f) sailing vessels or sailing boats registered under the enactment hereby repealed shall be deemed to have been registered under the Act;

(g) mortgages of any mechanically propelled inland vessels recorded in any register book maintained at any port in India under the enactment hereby repealed shall be deemed to have been recorded in the register book under the corresponding provision of this Act;

(h) any licence, certificate of competency or service, certificate of survey, licenses or any other certificate or document issued, made or granted under the enactment hereby repealed and in force at the commencement of this Act shall be deemed to have been issued, made or granted under this Act and shall, unless cancelled under this Act, continue in force until the date shown in the certificate or document, as the case may be.

(3) The matters specifically provided in this section, shall not be held to prejudice or affect the general application of section 6 of the General Clauses Act, 1897 (X of 1897).

	3. Financial Part
1.	Margin of Preference
2.	Alternative Completion Times
3.	Alternative Technical Solutions Financial Part for specified parts of the Works
4.	Other criteria (if permitted under ITB 35.1(f))
	3.1 Multiple Contracts if permitted under ITB 35.3, will be evaluated as under - Not Applicable If works are grouped in multiple contracts pursuant to Sub-Clause 35.3 of the Instructions to Bidders, the Employer will evaluate and compare Bids on the basis of a contract, or a combination of contracts, or as a total of contracts in order to arrive at the least cost combination for the Employer by taking into account discounts offered by Bidders in case of award of multiple contracts, subject to the selected Bidder(s) meeting the required qualification criteria for lot or combination of lots as the case may be.
	3.2 Other Criteria (if permitted under ITB 35.1 (f) In addition to the criteria listed in ITB 35.1 (a) – (e) the following criteria shall apply: - Determining aggregate of the Net Present Value (NPV) of three years prices for Services quoted in the Priced Activity Schedule, by discounting these prices to the Date of Commencement of Services, *assuming only for purpose of the evaluation* that the prices are payable at the end of the respective years. For the purpose of determining NPV, discount factor of 10 % per annum shall be applied.

Section IV. Bidding Forms

Section IV. Bidding Forms

Table of Forms

1. **Bid Submission Form / letter of Bid & Technical Proposal Form**

The bidder's Technical Proposal shall include the following details in the prescribed forms along with technical bid.

SCHEDULE B……Site Organization
SCHEDULE C…… Dredging Methodology & Dredging Management Plan (Method Statement)
SCHEDULE D……Mobilization Schedule.
SCHEDULE E……Contractor's Equipment
SCHEDULE F……Key Personnel Proposed with Resumes
SCHEDULE G……Subcontractors & JV details
SCHEDUEL H……ESHS Management Strategies and Implementation Plans (ESHS-MSIP)
SCHEDUEL I…… Code of Conduct for Contractor's Personnel (ES) Form

	Format	**Reference**	**Content**
1.1	Form ELI-1.1 Form ELI - 1.2 & 1.2A	Section-III QR 2.1- Eligibility	Bidder's / JV Information Form with attachments
1.2	Form CON-2	Section-III QR 2.2 (Historical Contract Non-Performance)	Historical Contract Non-performance, Pending Litigation and Litigation history
1.3	Form CON-3	Section-III QR **2.2.5** (ESHS)	Environmental, Social, Health, and Safety Performance Declaration
1.4	Form FIN-3.1 ; Fim3.1A ; Fin 3.2	Section-III QR 2.3 (Financial)	Financial Situation and Performance; Cash Flow/ Working Capital; Financial Resources; Average Annual Dredging Turn Over.
1.5	Form EXP-4.1 Form EXP-4.2(a) Form EXP-4.2(b)	Section-III QR 2.4 (Experience) **[2.4.1 to 2.4.2(d)]**	General Dredging Experience; Specific Dredging and Contract Management Experience; Specific Dredging Experience of Key Activities;
	Form EXP-4.2(c)	Section-III QR 2.4.2 (c)	Specific Experience in managing ES aspects & Code of Conduct: Environmental, Social, Health and Safety (ESHS).
	Form EXP-4.2(d)	Section-III QR 2.4.2 (d)	Current Contract Commitment for Bid Capacity
1.6	Form Exp 5.0	Section-III QR 2.5 (Quality Requirements)	Quality Requirements
2.	Bid Security (Format)		
3.	Format for the Affidavit		
4.	Letter of Bid – Finance Pat (Bid Price Form) Appendix to Financial Part – BOQ Financial Bid – BOQ online submission Schedule		

Letter of Bid – Technical Part

The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and address.

Date: _____
NCB No.: _____
Invitation for Bid No.: _____

To: ***(Insert name of the Employer)***

Subject: - Fairway Maintenance of Tribeni - Katwa (152 km) stretch of National Waterway -1 (River Ganga)

We, the undersigned, hereby submit our bid, in two parts, namely:

1. the Technical Part, and
2. the Financial Part

In submitting our Bid, we make the following declarations:

a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB 8);

b) We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;

c) We have not been suspended nor declared ineligible by the Employer based on execution of a Bid-Securing Declaration or Proposal-Securing Declaration in the Employer's Country in accordance with ITB 4.6;

d) We offer to execute in conformity with the Bidding Documents the following Works: **Fairway Maintenance of Tribeni - Katwa (152 km) stretch of National Waterway -1 (River Ganga)**

e) Our bid shall be valid for a period of **120 days** from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

f) We accept the appointment of ***[insert name proposed in Bid Data Sheet]*** as the Adjudicator

[or]

We do not accept the appoint of ***[insert name proposed in Bid Data Sheet]*** as the Adjudicator, and propose instead that ***[insert name]*** be appointed as Adjudicator, whose daily fees and biographical data are attached;

g) If our bid is accepted, we commit to obtain a performance security [*and an Environmental, Social, Health and Safety (ESHS) Performance Security,* ***Delete if not applicable***] in accordance with the Bidding Document;

h) We are not participating, as a Bidder, in more than one bid in this bidding process in accordance with ITB 4.2,

i) Our firm, its affiliates or subsidiaries, including any Subcontractors or Suppliers for any part of the contract, has not been declared ineligible by the Bank, under the Employer's country laws or official regulations or by an act of compliance with a decision of the United Nations Security Council (ITB 4.7);

j) We are not a government owned entity / We are a government owned entity but meet the requirements of ITB 4.5[7];

k) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of fraud and corruption.

l) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed;

m) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive; and

n) If awarded the contract, the person named below shall act as Contractor's Representative: –

Name of the Bidder* ***[insert complete name of person signing the Bid]***

Name of the person duly authorized to sign the Bid on behalf of the Bidder** ***[insert complete name of person duly authorized to sign the Bid]***

Title of the person signing the Bid ***[insert complete title of the person signing the Bid]***

Signature of the person named above ***[insert signature of person whose name and capacity are shown above]***

Date signed ***[insert date of signing]*** day of ***[insert month]***, ***[insert year]***

*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

**: Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.

[7]Use one of the two options as appropriate.

Technical Proposal – Site Organization Schedule – B

Bidders shall provide full particulars of the organisation they propose to establish, direct, and administer for the performance of the Contract. In particular, bidders shall indicate the location of site camps and the resources they intend to allocate to Self-Control Units for planning and monitoring purposes.

1. SITE ORGANIZATION CHART

2. NARRATIVE DESCRIPTION OF SITE ORGANISATION CHART

Site Organization and Communications Plans that clearly provide: -

i. An overall organization chart;

ii. A site organization chart;

iii. Internal Communications Plan;

iv. External Communication Plan; and

v. Navigational protocol to assure free passage for vessels during dredging or other works.

Technical Proposal – Dredging Methodology & Dredging Management Plan (Method Statement) - Schedule – C

(a) Contractor's Statement of Work Methods

To demonstrate a clear understanding of the requirements of the Contract, Bidders shall provide in the form of a narrative descriptions, sketches and drawings, how the works shall be undertaken.
The Statement of Work Methods shall demonstrate the Bidders capability to define, optimize and carry out on a timely basis the physical interventions detailed in the scope of requirements specified in Section VII.

The Statement of Work Methods shall include a mobilization and execution plan that details how the bidder will, on waterway stretch, carry out on a timely basis the following: -

Fairway Maintenance of Tribeni - Katwa (152 km) stretch of National Waterway -1 (River Ganga)

i. An outline proposal on how the Contractor shall minimize environmental impacts especially to sensitive and critical areas including but not limited to reed lands, mud flats, mangrove forests and migratory bird habitats taking into account:

   - The requirement for dredging sediment volumes in shallow waterways; placing dredged materials in-stream or in-river; and, early detection and quantification of hazardous sediment and its removal; and,
   - The requirement to minimize noise, water and air pollution from its own operations.

ii. An outline Quality Assurance Plan; and,

iii. A Health and Safety Plan specific to the proposed works.

Technical Proposal – Mobilization Schedule Schedule – D

In accordance with the Particular Conditions, Sub-Clause 16.2, the Contractor shall not carry out mobilization to Site unless the Project manager gives consent that appropriate measures are in place to address environmental and social risks and impacts, which at a minimum shall include applying the Management Strategies and Implementation Plans (MSIPs) and Code of Conduct for Contractor's Personnel, submitted as part of the Bid and agreed as part of the Contract.

Technical Proposal – Contractor's Equipment Schedule – E

The bidder shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for the key equipment listed in Section III (Evaluation and Qualification Criteria), Clause 2.7. The Bidder shall provide all the information requested below.

S. N.	Item of Equipment Description	Capacity	Age (years)	No. available and present location	Owned	Leased / Hired	To be Procured

Technical Proposal – Key personnel Proposed

Schedule F

Form PER – 1: Proposed Personnel

Bidders should provide the names of suitably qualified personnel to meet the specified requirements for each of the positions listed in Section III (Evaluation and Qualification Criteria), Clause 2.6. The data on their experience should be supplied using the Form below for each candidate.

S. No.	Position	Name	Qualification	Years of total Experience	Years of experience in proposed position

Technical Proposal Key personnel

Schedule – F

Form PER – 2: Resume of Proposed Personnel

The Bidder shall provide all the information requested below. Fields with asterisk (*) shall be used for evaluation.

Position*		
Personnel information	Name	Date of birth*
	Professional qualifications	
Present employment	Name of Employer	
	Address of Employer	
	Telephone	Contact (Manager / personnel officer)
	Fax	E-mail
	Job title	Years with present Employer

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

From*	To*	Company, Project, Position, and Relevant Technical and Management Experience*

Declaration: -

I, the undersigned Key Personnel, certify that to the best of my knowledge and belief, the information contained in this Form PER-2 correctly describes myself, my qualifications and my experience.

I confirm that I am available as certified in the following table and throughout the expected time schedule for this position as provided in the Bid:

Commitment	**Details**
Commitment to duration of contract:	*[insert period (start and end dates) for which this Key Personnel is available to work on this contract]*
Time commitment:	*[insert the number of days/week/months/ that this Key Personnel will be engaged]*

I understand that any misrepresentation or omission in this Form may:

(a) be taken into consideration during Bid evaluation;
(b) my disqualification from participating in the Bid;
(c) my dismissal from the contract.

Name of Key Personnel: [*insert name*]
Signature: _____Date: (day month year): _____
Countersignature of authorized representative of the Bidder: Signature:

_____

Date: (day month year): _____

Technical Proposal – Sub Contractors & JV Details
Schedule – G

[Insert proposal of sub-contracting elements of works amounting to more than 10% of the bid price for each element and indicate the name of the sub-contractor, its qualifications and experiences to execute that element satisfactorily]

Form SC- Sub Contracting

SCHEDULE OF SUBCONTRACTORS

Item	Element of work	% of bid price	Name and address of sub-contractor	Qualification and experience of sub-contractor on similar works of the elements executed

The Bidder shall enter in this schedule a list of the major sections and appropriate value of the work for which he proposes to use subcontractors *[for those costing more than 10% of the bid price for each element], together with the names, addresses and experiences of the proposed subcontractors.*

The capability of the sub-contractor will also be assessed (on the same lines as for the main Contractor) before according approval to him.

(Work should not be split into small parts and sub-contracted; but, sub-contracting specialized elements of works is acceptable).

Technical Proposal – ESHS Management Strategies and Implementation Plans

Schedule H

(ESHS-MSIP)

The Bidder shall submit comprehensive and concise Environmental and Social Management Strategies and Implementation Plans (ES-MSIP) as required by ITB 11.2 (j) of the Bid Data Sheet. These strategies and plans shall describe in detail the actions, materials, equipment, management processes etc. that will be implemented by the Contractor, and its subcontractors.

In developing these strategies and plans, the Bidder shall have regard to the ESHS provisions of the contract including those as may be more fully described in the Works' Requirements described in Section VII.

Technical Proposal - Code of Conduct for Contractor's Personnel (ES) Form

Schedule – I

The Bidder shall submit the Code of Conduct that will apply to the Contractor's employees and subcontractors as required by ITB 11.2 (j) of the Bid Data Sheet. The Code of Conduct shall ensure compliance with the ESHS provisions of the contract, including those as may be more fully described in the Works Requirements described in Section VII.

In addition, the Bidder shall submit an outline of how this Code of Conduct will be implemented. This will include: how it will be introduced into conditions of employment/engagement, what training will be provided, how it will be monitored and how the Contractor proposes to deal with any breaches.

Code of Conduct for Contractor's Personnel (ES) Form

CODE OF CONDUCT FOR CONTRACTOR'S PERSONNEL

We are the Contractor, [*enter name of Contractor*]. We have signed a contract with [*enter name of Employer*] for [*enter description of the Works*]. These Works will be carried out at [*enter the Site and other locations where the Works will be carried out*]. Our contract requires us to implement measures to address environmental and social risks related to the Works, including the risks of sexual exploitation and assault and gender-based violence.

This Code of Conduct is part of our measures to deal with environmental and social risks related to the Works. It applies to all our staff, labourers and other employees at the Works Site or other places where the Works are being carried out. It also applies to the personnel of each subcontractor and any other personnel assisting us in the execution of the Works. All such persons are referred to as "**Contractor's Personnel"** and are subject to this Code of Conduct.

Note to the Bidder:

The minimum content of the Code of Conduct form as set out by the Employer shall not be substantially modified. However, the Bidder may add requirements as appropriate, including to take into account Contract-specific issues/risks.

The Bidder shall initial and submit the Code of Conduct form as part of its bid.

This Code of Conduct identifies the behaviour that we require from all Contractor's Personnel.

Our workplace is an environment where unsafe, offensive, abusive or violent behaviour will not be tolerated and where all persons should feel comfortable raising issues or concerns without fear of retaliation.

REQUIRED CONDUCT

Contractor's Personnel shall:

1. carry out his/her duties competently and diligently;
2. comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other Contractor's Personnel and any other person;
3. maintain a safe working environment including by:
    a. ensuring that workplaces, machinery, equipment and processes under each person's control are safe and without risk to health;
    b. wearing required personal protective equipment;
    c. using appropriate measures relating to chemical, physical and biological substances and agents; and
    d. following applicable emergency operating procedures.
4. report work situations that he/she believes are not safe or healthy and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health;
5. treat other people with respect, and not discriminate against specific groups such as women, people with disabilities, migrant workers or children;
6. not engage in any form of sexual harassment including unwelcome sexual advances, requests for sexual favours, and other unwanted verbal or physical conduct of a sexual nature with other Contractor's or Employer's Personnel;
7. not engage in Sexual Exploitation, which means any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. In Bank financed projects, sexual exploitation occurs when access to or benefit from Bank financed Goods, Works, Consulting or Non-consulting services is used to extract sexual gain;
8. not engage in Sexual Assault, which means sexual activity with another person who does not consent. It is a violation of bodily integrity and sexual autonomy and is broader than narrower conceptions of "rape", especially because (a) it may be committed by other means than force or violence, and (b) it does not necessarily entail penetration.
9. not engage in any form of sexual activity with individuals under the age of 18, except in case of pre-existing marriage;
10. complete relevant training courses that will be provided related to the environmental and social aspects of the Contract, including on health and safety matters, and Sexual Exploitation, and Assault (SEA);
11. report violations of this Code of Conduct; and
12. not retaliate against any person who reports violations of this Code of Conduct, whether to us or the Employer, or who makes use of the [Project Grievance [Redress] Mechanism].

RAISING CONCERNS

If any person observes behaviour that he/she believes may represent a violation of this Code of Conduct, or that otherwise concerns him/her, he/she should raise the issue promptly. This can be done in either of the following ways:

1. Contact [*enter name of the Contractor's Social Expert with relevant experience in handling gender-based violence, or if such person is not required under the Contract, another individual designated by the Contractor to handle these matters*] in writing at this address [ ] or by telephone at [ ] or in person at [ ]; or
2. Call [ ] to reach the Contractor's hotline *(if any)* and leave a message.

The person's identity will be kept confidential, unless reporting of allegations is mandated by the country law. Anonymous complaints or allegations may also be submitted and will be given all due and appropriate consideration. We take seriously all reports of possible misconduct and will investigate and take appropriate action. We will provide warm referrals to contractor s that may help support the person who experienced the alleged incident, as appropriate.

CONSEQUENCES OF VIOLATING THE CODE OF CONDUCT

Any violation of this Code of Conduct by Contractor's Personnel may result in serious consequences, up to and including termination and possible referral to legal authorities.

FOR CONTRACTOR'S PERSONNEL:

I have received a copy of this Code of Conduct written in a language that I comprehend. I understand that if I have any questions about this Code of Conduct, I can contact [*enter name of Contractor's contact person with relevant experience in handling gender-based violence*] requesting an explanation.

Name of Contractor's Personnel: [insert name]
Signature: _____
Date: (day month year): _____

Countersignature of authorized representative of the Contractor:
Signature: _____
Date: (day month year): _____

Appendix to Technical Part

Form - ELI - 1.1: Bidder Information Form

Date: *[insert day, month, year]*
NCB No. and title: *[insert NCB number and title]*
Page *[insert page number]* of *[insert total number]* pages

1.1 Bidder Information			
Bidder's legal name			
In case of JV, legal name of each member			
Bidder's country of constitution			
Bidder's year of constitution			
Bidder's legal address in country of constitution			
Bidder's authorized representative (Name, address, telephone numbers, fax numbers, e-mail address)			

Attached are copies of the following original documents.

1. In case of single entity, articles of incorporation or constitution of the legal entity names above, in accordance with ITB 4.1 and 4.3.
2. Authorization to represent the firm or JV named in above, in accordance with ITB 20.2.
3. In case of JV, letter of intent to form JV or JV agreement: in accordance with ITB 4.1 read with BDS
4. In case of government-owned entity, documents establishing legal and financial authority and compliance with the principles of commercial law in accordance with ITB 4.5 read with Sub-clause 2.1.4 of Qualification Criteria.
5. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Appendix to Technical Part

DETAILS OF PARTICIPATION IN THE JOINT VENTURE

PARTICIPATION DETAILS	FIRM 'A' (Lead Member)	FIRM 'B'	FIRM 'C'	Firm 'D'
Financial				
Name of the Banker(s)				
Planning				
Equipment				
Key Personnel				
Execution of Work (Give details on proposed contribution of each)				
The Joint Venture should indicate the details of participation as above.				

Appendix to Technical Part
Form - ELI - 1.2: JV Information Form

(Where permitted as per BDS ITB 4.1)

Each member of a JV must fill in this form
Date: *[insert day, month, year]*
NCB No. and title: *[insert NCB number and title]*
Page *[insert page number]* of *[insert total number]* pages

JV/Specialist Subcontractor Information				
Bidder's legal name				
JV Member's legal name				
JV Member's country of constitution				
JV Member's year of constitution				
JV Member's legal address in country of constitution				
JV Member's authorized representative information (Name, address, telephone numbers, fax numbers, e-mail address)				

Attached are copies of the following original documents:

1. Articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 read with BDS.
2. Authorization to represent the firm names above, in accordance with ITB 20.2.
3. In the case of government-owned entity, documents establishing legal and financial autonomy and compliance with commercial law, in accordance with ITB Sub-Clause 4.5read with Sub-Clause 2.1.4 of Qualification Criteria.
4. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Specialized Subcontractor's Information (Not Applicable)
Form ELI -1.2 A

NCB No. and title: *[insert NCB number and title]*

Bidder's legal name:

Specialized Subcontractor's legal name:

Specialized Subcontractor's country of registration:

Specialized Subcontractor's year of constitution:

Specialized Subcontractor's legal address in country of constitution:

Specialized Subcontractor's authorized representative information
Name: _____
Address: _____
Telephone/Fax numbers: _____ E-mail address: _____

Attached are copies of original documents of

☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.4.

☐ Authorization to represent the Specialized Subcontractor.

Form CON–2

Appendix to Technical Part
Historical Contract Non-Performance, Pending Litigation and Litigation History

[The following table shall be filled in for the Bidder and for each member of a Joint Venture]

Bidder's Name: *[insert full name]* Date: *[insert day, month, year]*
Joint Venture Party Name: *[insert full name]*
NCB No. and title: *[insert NCB number and title]*
Page *[insert page number]* of *[insert total number]* pages

Non-Performed Contracts in accordance with Section III, Qualification Criteria and Requirements			
☐ Contract non-performance did not occur during the (*number)* years specified in Section III, Qualification Criteria and Requirements, Sub-Factor 2.2.1. ☐ Contract(s) not performed during the *(number)* of years specified in Section III, Qualification Criteria and Requirements, requirement 2.2.1			
Year	**Non-performed portion of contract**	**Contract Identification**	**Total Contract Amount (in Indian Rupees)**
[insert year]	*[insert amount and percentage]*	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Reason(s) for non-performance: *[indicate main reason(s)]*	*[insert amount]*
Pending Litigation, in accordance with Section III, Qualification Criteria and Requirements			
☐ No pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2.3. ☐ Pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2.3as indicated below.			

Year of dispute	**Amount in dispute (Rupees)**	**Contract Identification**	**Total Contract Amount (Rupees)**
[insert year]	*[insert amount]*	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Matter in dispute: *[indicate main issues in dispute]* Party who initiated the dispute: *[indicate "Employer" or "Contractor"]* Status of dispute: *[Indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]*	*[insert amount]*
Litigation History in accordance with Section III, Evaluation and Qualification Criteria			
☐ No litigation history in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2.4. ☐ Litigation history in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2.4 as indicated below.			
Year of award	**Outcome as percentage of Net Worth**	**Contract Identification**	**Total Contract Amount (Rupees)**
[insert year]	*[insert percentage]*	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Matter in dispute: *[indicate main issues in dispute]* Party who initiated the dispute: *[indicate "Employer" or "Contractor"]* Reason(s) for Litigation and award decision *[indicate main reason(s)]* Status of dispute: *[Indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]*	*[insert amount]*

Appendix to Technical Part
Form CON – 3: Environmental and Social (ES)
Environmental, Social, Health and Safety Management Strategies and Implementation Plans
Performance Declaration

[The following table shall be filled in for the Bidder, and each member of a Joint Venture and each Specialized Subcontractor]

Bidder's Name	*[insert full name]*
Date:	*[insert day, month, year]*
Joint Venture Member Name	*[insert full name]*:
NCB No. and title	*[insert NCB number and title]*
Page…	*[insert page number]* of *[insert total number]* pages

Environmental, Social, Health, and Safety Performance Declaration
in accordance with Section III, Qualification Criteria, and Requirements

☐ **No suspension or termination of contract**: An employer has not suspended or terminated a contract and/or called the performance security for a contract for reasons related to Environmental, Social, Health, or Safety (ESHS) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.2.5.

☐ **Declaration of suspension or termination of contract**: The following contract(s) has/have been suspended or terminated and/or Performance Security called by an employer(s) for reasons related to Environmental, Social, Health, or Safety (ESHS) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.2.5. Details are described below:

Year	Suspended or terminated portion of contract & Contract Identification		Total Contract Amount
[insert year]	*[insert amount and percentage]*	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Name & Address of Employer: *[insert full name]/ city /* Reason(s) for suspension or termination: *[indicate main reason(s) e.g., for GBV/ SEA breaches]*	*[insert amount]*
…	…	*[list all applicable contracts]*	…

Performance Security called by an employer(s) for reasons related to ESHS performance

Year	Contract Identification	Contract Amount (Rs.)
[insert year]	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Reason(s) for suspension or termination: *[indicate main reason(s) e.g., for GBV/ SEA breaches*	*[insert amount]*

FIN – 3.1

Appendix to Technical Part
Financial Situation

Financial Situation and Performance	
Bidder's Name	*[insert full name]*
Date:	*[insert day, month, year]*
Joint Venture Member Name	*[insert full name]*:
NCB No. and title	*[insert NCB number and title]*
Page…	*[insert page number]* of *[insert total number]* pages

1. Financial data: - *[The following table shall be filled in for the Bidder and for each member of a Joint Venture]*

SUMMARY OF FINANCIAL STATEMENTS

Name of bidder/JV Member:

(Equivalent Rs. Million)

S. No.	**Financial Information in Rupee equivalent with exchange rate at the end of concerned year**	**Actuals for Previous five (5) years excluding the current financial year**					**Ref. of Page Nos. of Balance Sheets**
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Total Assets						
2	Total Turnover						
3	Current Assets						
4	Current Assets + Loan & Advances						
5	Total Liabilities						
6	Current Liabilities						
7	Current liabilities & provision						
8	Profit before Interest and Tax						
9	Profit before Tax						
10	Profit after Tax						
11	Shareholder's Funds (Net Worth) = (Paid up equity +Reserves) - (Revaluation reserves + Miscellaneous expenditure not written off)						
12	Depreciation						
13	Current Ration (2)/ (5)						
14	Net cash Accruals = Profit after Tax + Depreciation						

This information should be extracted from the Annual Financial Statements/ Balance sheets, which should be enclosed. Year 1 will be the latest year for which audited financial statements are available. Year 2 shall be the year immediately preceding year 1 and year 3 shall be the year immediately preceding Year 2.

2. Sources of Finance:

The following table shall be filled in for the Bidder and for each member of a Joint Venture] Specify sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.

No.	Source of finance	Amount Equivalent INR
1		
2		
3.		
4.		

3. Financial documents :

The Bidder and its parties shall provide copies of financial statements for [number] years pursuant Section III, Qualifications Criteria and Requirements, Sub-factor 2.3.1. The financial statements shall:

(a) Reflect the financial situation of the Bidder or member to a JV, and not sister or parent companies.
(b) Be audited by a certified Chartered Accountant
(c) Be complete, including all notes to the financial statements.
(d) Correspond to accounting periods already completed and audited (no statements for partial periods shall be accepted.

☐ Attached are copies of financial statements (balance sheets, including all related notes, and income statements) for the five (5) years required above; and complying with the requirements (If the most recent set of financial statements is for a period earlier than 12 months from the date of bid, the reason for this should be justified)

☐ Attached is a copy of certificate given from the commercial bank assuring cash flow (working capital for contraction) in the format attached.

Appendix to Technical Part

FORM FIN – 3.1 (A)

FORMAT FOR EVIDENCE OF ACCESS TO OR AVAILABILITY OF CASH FLOW
[To be given from a Nationalized or Scheduled Bank in India]

Clause 2.3.1 (b) of Section III – Qualification Criteria

(AVAILABILITY OF CASH FLOW (WORKING CAPITAL)

This is to certify that M/s. _____ is a reputed company with a good financial standing.

If the contract for the works, namely _____ [funded by the World Bank] is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs. _____ to meet their capital requirements for executing the above contract.

-- Sd. --
Name of Bank Manager
Senior Bank Manager & Address of the Bank

***Change the text as follows for Joint venture:**

This is to certify that M/s. …….. who has formed a JV with M/s. ……..... and M/s. ……..... for participating in this bid, is a reputed company with a good financial standing.

If the contract for the work, namely ……. [funded by the World Bank] is awarded to the above Joint Venture, we shall be able to provide overdraft/credit facilities to the extent of Rs. …… to meet the working capital requirements for executing the above contract.
[This should be given by the JV members in proportion to their financial participation.]

Appendix to Technical Part

Form FIN - 3.2

Average Annual Dredging Turnover

[The following table shall be filled in for the Bidder and for each member of a Joint Venture]	
Bidder's Name	*[insert full name]*
Date:	*[insert day, month, year]*
Joint Venture Member Name	*[insert full name]*:
NCB No. and title	*[insert NCB number and title]*
Page…	*[insert page number]* of *[insert total number]* pages

Annual turnover data (Dredging only) *	
Year	**Amount in Rs.**
[Financial year]	*[insert amount]*
1. YR 2022 -23	
2. YR 2021 -22	
3. YR 2020 -21	
4. YR 2019 -20	
5. YR 2018 -19	
Average Annual Dredging Turnover	

*** To be certified by a Chartered Accountant**

Appendix to Technical Part
Joint Venture

Names of all members of a joint venture
1. Member in charge
2. Member
3. Member
4. Member

Total value of annual dredging turnover, in terms of work billed to clients, in Rupees

Annual Turnover Data (dredging only; in Rupees *)							
Member	**Form 2- page no.**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Average**
1. Member in charge							
2. Member							
3. Member							
4. Member							
TOTAL							

Name and address of Bankers to the Joint Venture

Provide details regarding financial responsibility and participation (percentage share in the total) of each firm in the Joint Venture. Attach a Memorandum of Understanding for the Proposed Agreement of joint Venture which should lay down responsibility regarding work and financial arrangements in respect of each of the firm in the Joint Venture (Refer also ITB Clause 4.1).

*** To be certified by a chartered accountant**

Appendix to Technical Part
Form EXP - 4.1
General Dredging Experience

[The following table shall be filled in for the Bidder and in the case of a JV Bidder, each Member]	
Bidder's Name	*[insert full name]*
Date:	*[insert day, month, year]*
Joint Venture Member Name	*[insert full name]*:
NCB No. and title	*[insert NCB number and title]*
Page…	*[insert page number]* of *[insert total number]* pages
[Identify contracts that demonstrate continuous dredging work over the past seven (7) years pursuant to Section III, Qualification Criteria and Requirements, Sub-Factor 2.4.1. List contracts chronologically, according to their commencement (starting) dates.]	

Starting Year	Ending Year	Contract Identification along with Supporting Documents including Completion Certificates	Role of Bidder
[indicate year]	*[indicate year]*	Contract name: *[insert full name]* Brief Description of the Works performed by the Bidder: *[describe works performed briefly]* Amount of contract: *[insert amount in Rupees]* Name of Employer: *[indicate full name]* Address: *[indicate street/number/town or city/country*	*[insert "Prime Contractor" or "JV Member" or "Sub-contractor" or "Management Contractor"]*
		Contract name: *[insert full name]* Brief Description of the Works performed by the Bidder: *[describe works performed briefly]* Amount of contract: *[insert amount in Rupees]* Name of Employer: *[indicate full name]* Address: *[indicate street/number/town or city/country*	*[insert "Prime Contractor" or "JV Member" or "Sub-contractor" or "Management Contractor"]*
		Contract name: *[insert full name]* Brief Description of the Works performed by the Bidder: *[describe works performed briefly]* Amount of contract: *[insert amount in Rupees]* Name of Employer: *[indicate full name]* Address: *[indicate street/number/town or city/country*	*[insert "Prime Contractor" or "JV Member" or "Sub-contractor" or "Management Contractor"]*

Appendix to Technical Part
Form EXP - 4.2(a)
Specific Dredging Experience

[The following table shall be filled in for contracts performed by the Bidder, each member of a Joint Venture, and Specialized Sub-contractors]- along with Supporting Documents including Completion Certificates	
Bidder's Name	*[insert full name]*
Date:	*[insert day, month, year]*
Joint Venture Member Name	*[insert full name]*:
NCB No. and title	*[insert NCB number and title]*
Page…	*[insert page number]* of *[insert total number]* pages

(A) Work performed as prime Contractor or JV Member or Sub-Contractor or Management Contractor (*in the same name and style*) on dredging works of a similar nature and volume over the last Seven years[8]. [*Attach certificate from the Engineer-in-charge*]

Project Name	Name of Employer	Description of work	Contract No.	Value of contract	Date of Issue of Work Order	Stipulated Date of Completion	Actual Date of Completion	Remarks explaining reasons for Delay, if any

[8] Immediately preceding the financial year in which bids are received.

Appendix to Technical Part
Form EXP - 4.2 (b)
Specific Dredging Experience (JV)

Joint Venture's Name	*[Insert full Name]*
Date:	*[Insert day, month, year]*
Joint Venture Member Name	*[Insert full Name]*
NCB No. and title	*[Insert NCB number and title]*
Page	*[Insert page number] of [insert total number] pages*

All Sub-contractors for key activities must complete the information in this form as per ITB 33.

(B) **Quantities of work executed as prime contractor or Sub-Contractor** in the last Seven (7) years:[9]

Key Activity No. One: *[insert brief description of the Activity, emphasizing its specificity]* … Total Quantity of Activity under the contract: _____

Contract Identification	*[insert contract name and number, if applicable]*			
Award date	*[insert day, month, year]*			
Completion date	*[insert day, month, year]*			
Role in Contract *[check the appropriate box]*	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Sub-contractor ☐
Total Contract Amount	*[insert total contract amount in contract currency(ies)]*			
Quantity (Volume, number or rate of production, as applicable) performed under the contract per year or part of the year *[Insert extent of participation indicating actual quantity of key activity successfully completed in the role performed]*	Total quantity in the contract (i)	Percentage participation (ii)	Actual Quantity Performed (i) x (ii)	
Year 1 (FY 2022-23)				
Year 2 (FY 2021-22)				
Year 3 (FY 2020-21)				
Year 4 (FY 2019-20)				
Year 5 (FY 2018-19)				
Year 6 (FY 2017-18)				
Year 7 (FY 2016-17)				
Employer's Name:	*[insert full name]*			
Address: Telephone/fax number E-mail:	*[indicate street / number / town or city / country]* *[insert telephone/fax numbers, including country and city area codes]* *[insert e-mail address, if available]*			

[9] Immediately preceding the financial year in which bids are received.

Appendix to Technical Part
Form EXP - 4.2(c)
Specific Experience in Managing ES aspects

[The following table shall be filled in for contracts performed by the Bidder, and each member of a Joint Venture]				
	Bidder's Name: _____ Date: _____ Bidder's JV Member Name: _____ IFB No. and title: _____ Page _____ of _____ pages			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Subcontractor ☐
Total Contract Amount			Rs.	
Details of relevant experience				

Appendix to Technical Part — Form 4.2 (d)

Form for Current Contract Commitments/Works in Progress

Bidders and each member to a JV should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

(A) Existing commitments and on-going works:

Description of Work	Place & State	Contract No. & Date	Name and Address of Employer	Value of Contract (Rs. equivalent in million)	Stipulated period of completion	Value of works[10] remaining to be completed (Rs. equivalent in million)	Anticipated date of completion	Average Monthly Invoicing Over Last Six Months (Rs. /month) Equivalent in millions)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

(B) Works for which bids already submitted and likely to be awarded – expected additional commitment.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Description of Work	Place & State	Name and Address of Employer	Estimated value of Works (Rs. equivalent in million)	Stipulated period of completion	Date when decision is expected	Remarks, if any

[10] *Attach certificate(s) from the Engineer(s)-in-Charge.*

Appendix to Technical Part

Form EXP – 5.0

Quality Requirements

Bidder's Name	*[insert full name]*
Date:	*[insert day, month, year]*
Joint Venture Member Name	*[insert full name]*:
NCB No. and title	*[insert NCB number and title]*
Page…	*[insert page number]* of *[insert total number]* pages

1.	ISO 9001-2008/2015 Quality management system requirements	Quality management certificate issued by an international standards organization	Must meet requirement	Valid ISO 9001 Certification.	Yes / No – ref.
2.	ISO 45001 - Occupational Health and Safety Management or Equivalent	Valid - Relevant ISO 45001 certificate and Experience in occupational health and safety management	Must meet requirement	Valid ISO 45001 certification or Equivalent	Yes / No – ref.
3.	ISO 14001:2004 / 2015 Environmental Management systems	Relevant Environmental management certificate and experience with environmental management systems	Must meet requirement	Valid ISO 14001:2004 / 2015 certification	Yes / No – ref.

Appendix to Technical Part

(Name of the Project)

(*Declaration regarding tax/duty exemption for materials/construction equipment bought for the work)*

(*Bidder's Name and Address*)

To: ……...
(*Name of the Employer& address*)

Dear Sir:
Re: [*Name of Work*] …….
Certificate for Import/Procurement of Goods/Construction Equipment
Government Order/Circular Number under which tax/duty Exemption is being sought:

1. We confirm that we are solely responsible for obtaining tax/duty waivers which we have considered in our bid and in case of failure to receive such waivers for reasons whatsoever, the Employer will not compensate us.
2. We are furnishing below the information required by the Employer for issue of the necessary certificates in terms of the Government of India's relevant Notifications.
3. The goods/construction equipment for which certificates are required are as under:

Items *(modify the list suitably for each specific work)*	Make /Brand Name	Capacity [*where applicable*]	Quantity	Value	State whether it will be procured locally or imported *[if so from which country]*	Remarks regarding justification for the quantity and their usage in works.
Dredging Equipment						

4. We agree that no modification to the above list is permitted after bids are opened.
5. We agree that the certificate will be issued only to the extent considered reasonable by the Employer for the work, based on the Bill of Quantities and the construction program and methodology as furnished by us alongwith the bid.
6. We confirm that the above goods and construction equipment will be exclusively used for the construction of the above work and the construction equipment will not be sold or otherwise disposed of in any manner for a period of five years from the date of acquisition.

Date: _____
(*Signature*)_____
Place:_____ (*Printed Name*)_____
(*Designation*)_____
(*Common Seal*) _____

[***This certificate will be issued within 60 days of signing of contract and no subsequent changes will be permitted.***]

** Modify the above to suit the requirements given in Government of India's Notifications as current of date of bidding.*

Appendix to Technical Part
Form of Bid Security - Bank Guarantee

[Guarantor letterhead or SWIFT identifier code]

Bid Guarantee No…… *[insert guarantee reference number]*
Date…… *[insert date of issue of the guarantee]*

WHEREAS, _____ *[name of Bidder]*[11] (hereinafter called "the Bidder") has submitted his Bid dated _____ *[date]* or will submit his Bid for the construction of _____ *[name of Contract]* (hereinafter called "the Bid") under Invitations for Bids No……*[insert number]* (hereinafter called "the IFB")

KNOW ALL PEOPLE by these presents that We _____ *[name of bank]* of _____ *[name of country]* having our registered office at _____ (hereinafter called "the Bank") are bound unto _____*[name of Employer]* (hereinafter called "the Employer") in the sum of _____[12] for which payment well and truly to be made to the said Employer the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this _____ day of _____ 20____.

THE CONDITIONS of this obligation are:

(1) If after Bid opening the Bidder (a) withdraws his bid during the period of Bid validity specified in the Letter of Bid; or (b) does not accept the correction of the Bid Price pursuant to ITB 36;

OR

(2) If the Bidder having been notified of the acceptance of his bid by the Employer during the period of Bid validity:

(a) fails or refuses to execute the Contract Agreement in accordance with the Instructions to Bidders, if required; or
(b) fails or refuses to furnish the Performance Security, and if required, the Environmental and Social (ES) Performance Security, in accordance with the Instruction to Bidders.

we undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or any of the four conditions, specifying the occurred condition or conditions.

[11] Insert name of the Bidder, which in the case of a joint venture shall be (a) the name of the joint venture that submits the bid if the JV has been constituted into a legally enforceable JV, or (b) the names of all future members of the JV as named in the letter of intent to execute the JV Agreement submitted by the bidder along with its bid.

[12] The Bidder should insert the amount of the guarantee in words and figures denominated in Indian Rupees. This figure should be the same as shown in Clause 19.1 of the Instructions to Bidders.

This Guarantee will remain in force up to and including the date _____[13] days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not later than the above date.

DATE _____ SIGNATURE OF THE BANK _____

WITNESS _____ SEAL _____

[signature, name, and address]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[13] 45 days after the end of the validity period of the Bid.

Format for the Affidavit

[Reference ITB 12.3 (iii)]

(NOTE: This affidavit should be on a non-judicial stamp paper of Rs.10/- and shall be attested by Magistrate/ Sub-Judge/ Notary Public)

I, ……..… (name of the authorised representative of the bidder) son/daughter of ……..……..… resident of …….. (full address), aforesaid solemnly affirm and state as under:

1. I hereby certify that all the information and documents furnished with the bid submitted online in response to Invitation For Bid ……..…… dated ……..… issued by ……... (Authority inviting bids) for ……..…… …… (name and identification of work) are true and correct.

2. I hereby certify that I have been authorised by …… ……..……..…….. (Bidder) to sign on its behalf, the bid mentioned in paragraph 1 above.

Deponent
Place: ……...
Date: ……

Letter of Bid – Financial Part

The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and address.

To,	Date …… Invitation for Bid No……

Subject: - *Fairway Maintenance of Tribeni - Katwa (152 km) stretch of National Waterway -1 (River Ganga)*

We, the undersigned, hereby submit the second part of our Bid, the Bid Price and Bill of Quantities. This accompanies the Letter of Technical Part:
In submitting our Bid, we make the following additional declarations:

(a) Our bid shall be valid for a period of _____ ***[insert validity period as specified in ITB 18.1**.]* days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(b) The total price of our Bid, excluding any discounts offered in item (c) below is:

-In case of only one lot, total price of the Bid ***[insert the total price of the bid in words and figures]***;
-In case of multiple lots, total price of each *lot* ***[insert the total price of each lot in words and figures]***;
-In case of multiple lots, total price of all lots (sum of all lots) ***[insert the total price of all lots in words and figures]***;

(c) The discounts offered and the methodology for their application are:

(i) The discounts offered are: ***[Specify in detail each discount offered.]***

(ii) The exact method of calculations to determine the net price after application of discounts is shown below*: [**Specify in detail the method that shall be used to apply the discounts**]*;

(d) We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract:[14] [*insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount of each such commission or gratuity*]

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate "none.")

Binding Contract: We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed.

Name of the Bidder***** ***[insert complete name of person signing the Bid]***

Name of the person duly authorized to sign the Bid on behalf of the Bidder****** ***[insert complete name of person duly authorized to sign the Bid]***

[14] If none has been paid or is to be paid, indicate "none".

Title of the person signing the Bid ***[insert complete title of the person signing the Bid]***

Signature of the person named above ***[insert signature of person whose name and capacity are shown above]***

Date signed ***[insert date of signing]*** day of ***[insert month]***, ***[insert year]***

*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder
**: Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.

Appendix to Financial Part: Schedules
Form SC: Sub-Contracting

SCHEDULE OF SUBCONTRACTORS

Item	Element of work	Approximate value of sub-contract	% of bid price	Name and address of sub-contractor	Qualification and experience of sub-contractor on similar works of the elements executed

The Bidder shall enter in this schedule a list of the major sections and appropriate value of the work for which he proposes to use subcontractors *[for those costing more than 10% of the bid price for each element]*, **together with the names, addresses and experiences of the proposed subcontractors.**

The capability of the sub-contractor will also be assessed (on the same lines as for the main Contractor) before according approval to him.

(Work should not be split into small parts and sub-contracted; but, sub-contracting specialized elements of works is acceptable).

Appendix to Financial Part
Bill of Quantities
Part II – Priced Activity Schedule

The rates to be quoted are for Fairway Maintenance of Tribeni - Katwa (152 km) stretch of National Waterway -1 (River Ganga)

- Bidder shall quote prices for Performance based dredging for 3 years including ESHS and 1% Labour welfare cess for the work of "**Fairway Maintenance of Tribeni - Katwa (152 km) stretch of National Waterway -1 (River Ganga)**".

- Bidder has to quote prices duly taking into account the requirements specified in the Section-VII (Works Requirement) as specified therein.

- Bidders shall ensure that the bid price shall include all duties, taxes, labour cess and other levies excluding GST payable by the contractor under this contract or for any other cause, as of 28 days prior to the deadline for the submission of the bids.

- GST amount considered shall be provided separately in the BOQ.

- Bid price shall be filled in by the bidder before uploading the same with the bid on e-procurement portal.

Note:

1. *Item for which no rate or price has been entered in will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities (refer: ITB Clause 14.2 and GCC Clause 41.3)*

2. *Unit rates and prices shall be quoted by the bidder in Indian Rupees (refer: ITB Clause 14.1 and ITB Clause 15.1)*

Appendix to Financial Part
Bill of Quantities

- **Priced Activity Schedule**

Sl. No.	Fairway Maintenance of Tribeni - Katwa (152 km) stretch of National Waterway -1 (River Ganga)	Year wise Lumpsum Price shall be quoted including ESHS & Labour Cess		NPV Factor (Based on discount Factor of 10)*	NPV of quoted bid price for Maintenance Services Col 2 x Col 4 (in Rs) ** *[only for evaluation purpose]*
	(1)	(2)	(3)	(4)	(5)
		In Figures	In Words		In Figures
1.	Year 1			0.909	
2.	Year 2			0.826	
3.	Year 3			0.751	
	TOTAL AMOUNT FOR 3 YEARS inclusive of ESHS & all taxes excluding GST– In Figures In Words				
	(GST Amount Considered)				

We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract:[15][*insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount of each such commission or gratuity*]

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate "none.")

[15] ***If none has been paid or is to be paid, indicate "none".***

Finance Bid: Bill of Quantity
(For On-line Submission Schedule)

Validate | Print | Help

Item Rate BOQ

Tender Inviting Authority: Jal Marg Vikas Project, Inland Waterways Authority of India, Noida

Fairway Maintenance of Tribeni - Katwa (152 km) stretch of National Waterway -1 (River Ganga)

Contract No: IN-IWAI-400749-CW-RFB

Name of the Bidder / Firm / Company:	

PRICE SCHEDULE

Sl. No.	Item Description	Quantity	Unit	Year wise Lumpsum Price shall be quoted including ESHS and 1% of Labour welfare Cess Rs. P.	AMOUNT Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	6	7
1.0	Fairway Maintenance Contract for providing Assured Least Available Depth (LAD) of 3.0 m with 45 m channel width by Performance based dredging including River Conservancy works, channel marking etc. in Tribeni - Katwa (152 km) Stretch of National Waterway -1 (River Ganga)					
	Year-1, LAD-3.0 m; Channel Width- 45m	1	LS		**0.00**	Zero Only
	Year-2, LAD-3.0 m; Channel Width- 45m	1	LS		**0.00**	Zero Only
	Year-3, LAD-3.0 m; Channel Width- 45m	1	LS		**0.00**	Zero Only
2	**GST**					
2.0	**(GST amount considered)**	1	Rs.			
Total in Figures					**0.00**	INR Zero Only
Quoted Rate in Words		**INR Zero Only**				

Evaluation Criteria to Decide L1 NPV – Net Present Value Factor						
Fairway Maintenance Contract for providing Assured Least Available Depth (LAD) of 3.0 m with 45 m channel width by Performance based dredging including River Conservancy works, channel marking etc. in Tribeni - Katwa (152 km) Stretch of National Waterway -1 (River Ganga)			Bid Price for the services to be provided as specified inclusive of all taxes excluding GST – Year-wise (INR)		NPV factor (Based on discount factor of 10% per annum)	NPV of the quoted Bid Price Col 4 x Col 6 (INR)/ (Currency) *(Only for the purpose of evaluation)*
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Year	LAD	Width	In figures	In words	-	In figures
Year 1	3.0 m	45 m			0.909	
Year 2	3.0 m	45 m			0.826	
Year 3	3.0 m	45 m			0.751	
Total for 3 years						
Determining aggregate of the Net Present Value (NPV) of three years' prices for Services quoted in the Priced Activity Schedule, by discounting these prices to the Date of Commencement of Services, *assuming only for purpose of the evaluation* that the quoted prices are payable at the end of the respective years. For the purpose of determining NPV, discount factor of 10 % per annum shall be applied.						

Section V. Eligible Countries

Eligibility for the Provision of Goods, Works and Non-consulting Services in Bank-Financed Procurement

In reference to ITB 4.7, and 5.1, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this bidding process:

Under ITB 4.7 (a) and 5.1 - None

Under ITB 4.7 (b) and 5.1 - None

Section VI. Bank Policy - Corrupt and Fraudulent Practices

Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011:

"**Fraud and Corruption:**

1.16 It is the Bank's policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.[16] In pursuance of this policy, the Bank:

(a) defines, for the purposes of this provision, the terms set forth below as follows:

(i) "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;[17];

(ii) "fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;[18]

(iii) "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;[19]

(iv) "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;[20]

(v) "obstructive practice" is

(aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive

[16] In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

[17] For the purpose of this sub-paragraph, "*another party*" refers to a public official acting in relation to the procurement process or contract execution. In this context, "*public official*" includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

[18] For the purpose of this sub-paragraph, "party" refers to a public official; the terms "benefit" and "obligation" relate to the procurement process or contract execution; and the "act or omission" is intended to influence the procurement process or contract execution.

[19] For the purpose of this sub-paragraph, "parties" refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other's bid prices or other conditions.

[20] For the purpose of this sub-paragraph, "party" refers to a participant in the procurement process or contract execution.

practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or

(bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 1.16(e) below.

(b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

(c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;

(d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,[21] including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated[22];

(e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank."

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[21] A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

[22] A nominated sub-contractor, consultant, manufacturer or supplier, or contractor (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

Section-VII
Description of Services (Work's requirement)

	1	Introduction
	2	Objective
	3	Scope of Works
	4	Technical Specification
	5	Water Level
	6	Meandering
	7	Shoals
	8	Course of Navigation
	9	Quantity of Dredging
	10	Dredging
	11	Dredgers
	12	Navigational Aids (Day Channel Marking)
	13	Bandalling
	14	Monitoring
	15	Clearances (Horizontal & Vertical)
	16	Disposal of Dredged Material
	17	Material Obtained from excavation and treasure, trove, fossils etc.
	18	Survey Vessel
	19	Multi-Beam Echo Sounder
	19	Environmental Management Plan
	20	Other Conditions

1. Introduction	Inland Waterways Authority of India (IWAI) is a statutory body set up in 1986 under the Ministry Ports, Shipping and Waterways, Govt. of India. The Authority is entrusted with development, maintenance and management of National Waterways for shipping and navigation. Inland Waterways Authority of India (IWAI) is implementing Jal Marg Vikas Project (JMVP) for capacity augmentation of National Waterway - 1 between Varanasi - Haldia (1380 Km) with the technical assistance and financial support of the World Bank. The project is extended to be completed by December, 2025. Payment after duration of the World Bank assistance shall be considered by IWAI through its resources. The Ganga-Bhagirathi-Hooghly River system for a length of 1620 km connecting Haldia (Sagar) - Kolkata - Bhagalpur –Sultanganj – Mahendrapur - Barh - Patna - Ghazipur - Varanasi – Allahabad was declared as National Waterway 1 (NW-1) in the year 1986. There is considerable difference between flood and lean season discharges and water level. The targeted Least Available Depths (LAD) in various stretches of NW-1 are Haldia - Farakka - 3.00 m; Farakka –Barh 3.0 m; Barh – Ghazipur - 2.50 m and Ghazipur –Varanasi – 2.20 m. To achieve the navigation of vessels **in Tribeni - Katwa (152 km)** stretch of NW-1, IWAI intends to engage agency for providing fairway with Assured Depth of 3.0 m and channel width of 45.0 m by dredging and other suitable river conservancy measures on performance basis for three years and extendable on yearly basis for another two years on satisfactory performance to tackle the shoals occurring in the river or as per the requirement.
2. Objective	The Objective of the Works & Services is to maintain Assured Least Available Depth (LAD) of 3.0 m and channel width of 45 m between Tribeni - Katwa (152 km) stretch of National Waterway-1 on performance basis for 3 years by Dredging and River conservancy measures (Bandalling, Submerged vanes etc.) as well as erection & maintenance of Navigational Aids (Day Channel Markings).
3. Scope of Work	The Contractor will have to identify the best course of Navigation channel from time to time and remove shoals (shallow area w.r.t assured Least available Depth (LAD). Maintenance of a navigation channel of 45 m width and assured LAD of 3.0 m in all three (3) years throughout the stretch as specified which can be done by the combination of dredging and river training measures. The scope of the contract shall include: (i) To Provide and maintain assured LAD of 3.0 m and Channel width of 45 m with naturally side slopes during three (3) years from the date of commencement of Services.

	(ii) To install and maintain Day Channel Markings (Navigational Aids) throughout the Contract Period. (iii) Assistance to Normal barge and vessels / crafts movement in the navigation channel during dredging operation. The tentative dredging quantity in Tribeni - Katwa (152 km) stretch is 16.486 Lakh cum for three years.
4. Technical Specifications	The material to be dredged is sand, silt, soft clay or a mixture of these materials, compact and sediment clay. If the dredger meets any strata such as boulders, ropes, sand stone, stone debris, wooden logs etc., such patches will also continue to be tackled with a modified cutter or cutter teeth like serrated etc. capable for dredging such materials for a length of up to 20 m. Further steps to be taken, should be decided mutually between the Contractor and the Engineer-in-charge, if hard strata exist beyond 20 m. To achieve the LAD of 3.0 m and Channel width of 45 m, the bidder / Contractor shall take into account tolerance of + 1 m from each edge of the channel and tolerance of +30 cm on the depth. There is however, no restriction on maximum width of the channel which may naturally be available. And no additional payments shall be admissible to this effect.
5. Water Levels	The vertical water level difference is about 10-12 m. The current in the river ranges from 0.5 to 4.5 m/s. However, the current during the lean season seldom exceeds 1.5 m/s. Details of the water levels in Tribeni - Katwa (152 km) stretch are provided in **Annexure A**.
6. Meandering	There has been substantial meandering and details of changes to the river course in past years are given in **Annexure B.**
7. Shoals	There is substantial braiding in the river which during lean season (Mid Oct – Mid June) results into shoals at various places which hinder navigation. 2015 Bathymetric survey shows around 91 shoal locations with a total dredge length of about 30.2 kms, in Tribeni- Katwa Stretch with depths less than 3.0 m. The location of shoals in Katwa - Tribeni stretch is provided in **Annexure C**.
8. Course of Navigation	The Contractor will have to identify the best course of navigation channel from time to time and remove shoals [shallow area w.r.t. assured least available depth of 3.0 m] by dredging and / or bandalling. The tenderer shall inspect and ascertain for himself details of horizontal & vertical clearances available at bridges/locks etc. within the National Waterway-I from the view point of safe mobilization/ demobilization of their various equipment to the dredging locations. Available information in this regard will be provided to the tenderer by the Authority on request.

9. Quantity of Dredging

The quantity of dredging and length of Bandals are to be ascertained by the Contractor as per site conditions and own resources. The Bidder may also take into consideration data available in IWAI website, which gives details of LAD in the past years.

The tentative dredging quantity in Tribeni - Katwa (152 km) stretch is approximately 16.486 Lakh cum for three years.

However, it is a fact that the quantum of dredging and Bandalling as well as erection and maintenance of navigational aids (day channel markings) varies year to year based on the condition of channel after flood season and it may vary to the tune of + 10% to 25%. It is advised that the Bidder should collect necessary information, data, navigational charts of NW-1 or any other site information related to availability of men, material, equipment's etc. and familiarize himself with the site conditions before bidding.

The indicative annual maintenance task to achieve assured LAD and specified Channel width (dredging and bandalling) are given in Table 1.

Stretch of Tribeni - Katwa (152 km) - Tentative Quantity of 16.486 Lakh Cum to be dredged during the lean season of (8) eight months (Mid-Oct to Mid-June) except for flood seasons (Mid-June to Mid-October)

Table-1: Indicative Annual Maintenance Task (Dredging & Bandalling) based on 2015 bathymetric and topographic survey and considering average flow conditions)

S. No.	Description	Year-1	Year-2	Year-3	Total
1.	LAD to be provided	LAD-3.0 m	LAD – 3.0 m	LAD 3.0 m	
2.	Channel Width	45 m	45 m	45 m	
3.	Dredging Quantity	5.496 Lakh cum	5.495 Lakh cum	5.495 Lakh cum	16.486 Lakh cum
4.	Bandalling (m)	4,400	4,400	4,400	13,200

On an average Length of bandalling is taken @100m at each shoal. Actual length required may vary depending upon site conditions and bandalling may not be required at all the shoals. This has to be decided by the contractor after survey.

Indicative amounts for Bandalling include work to erect and re-erect or relocate the same as and when necessary. Bandalling is typically deployed in length of 100-500 m at each deployment location. The number of bandalling location indicated in Table 1 are based on the assumption that bandalling will be required where a shoal is present. However, the number of locations is tentative and shall be selected suitably subjected to the desired benefits in light of local conditions.

Dredged and Bandalling work is not normally required to be done during flood period (normally from June to September or October). The reach wise shoal data are given in Table 2.

Table-2

IWAI Reach	Name of the Beat Details of shoals	Chainages (in Km)	No. of Shoals	Total Shoal Length (m)	Total Shoal Length (m) where Dredging is less than 1m
1	Tribeni - Balagarh	193-221	7	1,903	770
2	Balagarh - Kalna	221-245	10	4,345	3930
3	Kalna - Samudragarh	245-263	8	2,287	1730
4	Samudragarh - Nabadweep	263-280	3	1,120	930
5	Nabadweep - Patuli	280-322	11	2,413	1450
6	Patuli - Katwa	322-345	8	2,395	1920
	Subtotal		**47**	**14,463**	**10,730**

10. Dredging

Dredging is to be carried out with suitable Cutter Suction Dredgers having capacity of dredging minimum of 250 cum solids per hour in shallow patches. Cutter suction dredgers can also be supported by backhoe dredgers, water injection dredgers (WIDs) and plough dredgers. Maintenance of a navigation channel of 45 m width with natural side slope throughout the stretches as specified maybe achieved by the combination of dredging and bandalling or other suitable river conservancy measures.

The maintenance methodology shall be determined by the selected Contractor taking into account the nature of the river and other environmental characteristics, including the nature, location and size of shoals, and the contract period.

Sufficient number of qualified manpower should be deployed by the Contractor on the dredgers and other equipment and on other works throughout the contract period at his cost.

11. Dredgers

The Contractor shall not change the type, numbers, size and make of dredgers submitted in their bid without the prior approval of the Engineer-in-Charge.

The Contractor shall mobilize additional resources like dredger, equipment, etc. at his cost for maintaining the assured depth of 3.0 m and channel width of 45 m in the entire stretch during the entire contract period of 3 years.

	In case of failure in achieving LAD of 3.0 m & channel width 45 m, the Engineer-in-charge may direct Contractor to deploy additional resources and, in such case, Contractor may mobilize additional resources without any cost to the Employer. If the dredger goes out of order, the contractor shall arrange for its replacement with a dredger of equivalent capacity. Contractor shall not be eligible for payment of costs involved in shifting the dredger and its accessories from one shoal to another shoal or from one area to another area in Tribeni - Katwa sector of NW-1. Deployed equipment shall have valid statutory certificates at all times during the contract period.
12. Navigational Aids (Day Channel Marking)	(i) Specified day channel markings are an essential component of navigation through the channel which is to be maintained by the Contractor under this contract. Contractor is advised to acquaint himself adequately with various types of channel marks specified by IWAI under regulation for Prevention of Collision on National Waterways Regulations, 2002. (ii) The inspection of the navigational channel for certifying the maintenance of assured LAD will also be carried out in the channel thus marked by the Contractor. The inland vessels (the end users) also use these channel marks as standard guiding aids for safe navigation. (iii) The number and type of aids to navigation to be provided shall be based on the volume of traffic and degree of risk associated with navigation on the river route. Further, minimum number of day navigational marks is to be erected in the maintained channel during the lean (Mid-June to Mid-Oct) and flood season (Mid-Oct to Mid-June) are 220 & 110 respectively in the way that it is safe for navigation and can be easily identified as navigation route by the end users during their course of navigation without any assistance. (iv) The contract shall also include the maintenance of navigational aids to navigation delineating river fairways. (v) The Contractor will also be required to deploy its own pilots for assisting cargo and passenger / tourist vessels for their movement based on written request by the end users. For this, the Contractors can charge the fee from the users as per IWAI's regulation. (vi) In case any cargo vessel is grounded due to inadequacy of depths or channel marking, the Contractor shall make arrangement for rescue of the vessels by providing rescue tugs at his own cost. EIC has the right to take appropriate action if the contractor fails to satisfy EIC about number type and quality of channel markings or if an end user complains in writing with Prima facie evidence about absences, inadequacy or mistakes in channel marking erected by the contractor under this contract.

Some important aspects of channel marking to be erected and maintained by the Contractor to meet the requirements of this contract are as following:

A. The responsibility of the contract includes erection, supervision, safe keeping, re - erection and maintenance of the channel marks and other allied works and the provision of all labour, materials, mechanized boats, temporary works and everything whether of a temporary or permanent nature required for safe navigation as specified or reasonably to be inferred from the contract.
B. For marking the channel, the material used shall be bamboos, bamboo strips, bamboo mats, coir string, straw, lime, etc., the materials and other tools and plants as may be required are to be arranged at different sectors at Contractor's own cost.
C. Marks shall have to be erected at suitable places as per requirement of E-I-C or his representative and also as per Enclosure-3 herewith. In case, any marks are placed wrongly the same shall be rectified by the Contractor at his own cost.
D. The Contractor shall at his risk and cost, make all arrangements for locating the navigable channels, sand chars, snags, etc., by means of regular soundings along the river and change the position of the marks to indicate the navigable channel by the end users during operating in the stretch.
E. All the marks termed as right-hand marks, left hand marks, channel closing marks and snags (for lean season) and right-hand transit mark and left-hand transit mark (for flood season) are of variable nature and this can be determined only after conducting the survey in the field. In case of additional requirement of marks, the Contractor shall erect the same without additional cost.
F. The Contractor shall be liable to bear the expenditure of all manpower, material and equipment required for the work at his cost. He must, therefore, have thorough knowledge about the work prior to submission of his rates in the bid. No extra claim in this regard shall be entertained once the contract has been awarded. The marks shall be maintained during the entire contract period. The material used for channel marking thereafter shall have to be removed by the Contractor at his risk & cost.
G. Bamboo Harauti of 18 to 23 cm circumference at 45 cm (1'-6") from the bottom about 7 to 7.5 mtrs. long are required for marking the channel. The marks shall be driven properly by using wooden hammer up to at least (one) 1 meter below the ground level. Submerged sand chars, submerged high banks and other possible navigational obstructions shall be duly marked Beginning and end of a channel through chars shall be prominently marked using bamboo poles with bamboo mats reinforced with bamboo strips for being located. These shall also be painted with lime. The reference of marking shall be commenced from upstream of the river and marks shall be put up on the right-hand side of the channel or the left-hand side of channel as given in Enclosure 3.

	H. The navigable channel shall be 45 m wide and 3.0 m deep throughout the year. Marks shall be erected after taking measurement across the river by marked bamboo poles. I. Navigational channel in the crossing from one bank to another shall be marked with transit marks. Where straight reach is available, marking shall be placed at longer distance but shall be visible from first mark. For marking the main channel passing through the shoal / chars the marks shall be erected in water close to the main navigational channel. J. All snags shall be marked with proper care. During the flood a number of trees, trunks & other permanent structures which are uprooted in the U/S of the river, flows down & get strangles at marking places even some time in the main channel. For safety of navigation, these obstructions known as snags should be detected first & marks properly. For these special marks (as mid water snag marks, left & right-hand snag marks) are being used which may be seen in Enclosure-3. If they are deep in water lying on river bed but allowing sufficient navigation depth in lean period then marking is done by a navigation buoy made of a sealed 15 litre empty oil tin painted red, tied with a wire rope & sunk by a sinker. K. The materials used on the work shall be of good quality conforming to the specifications laid in the contract. The work shall be carried out in a workman like and expeditious manner and the quality of work at each stage shall be monitored by the Engineer-in-charge or its representatives. The Engineer-in-charge's decision as to the quality of such materials and work shall be final and binding on the Contractor. The Contractor shall bear full responsibility for the intimation to the Engineer-in-charge forthwith of any accident and take all necessary action required under relevant Acts and Rules, Marine Rules etc., as the case may be. The Contractor shall also report such accidents to the Competent Authority wherever such reports are required under rules. The Engineer-in-charge or his representative must however, be informed immediately in the event of any marine accident. The Contractor should also bear full responsibility for all accident, damages or injury caused to any of the Employer's employees, cause of which is established to be attributable to the Contractor's carelessness or negligence.
13. Bandalling	The Contractor may for the purpose of maintenance of the required LAD and channel width, undertake erection and maintenance of bandals as under, in addition to dredging works and other methods that may be employed by him. i) Bandals of required length are erected at shoal sites to increase the depth of main channel for the purpose of navigation or to maintain desired depth in dredged channel. It will include erection, supervision, safe keeping, re-erection and maintenance of bandals and other allied works complete with all labour, materials, boats, temporary and permanent works, taxes, levies, duties etc. as specified in the contract. ii) Bandals are fabricated using new bamboos, mats and coir string. Length of each unit of bandal is normally about 30 m/ 15 m and size of screen is 1.2 m x 0.9 m. These bandals are placed at 30 degrees to

45-degree angle to the direction of current driving bamboo poles. The bamboo mats are placed in such a way that only 10 cm. is above the water level and rest inside the water. It is required to be maintained at appropriate level by lowering/raising the mats depending on the change in water level. Bandal needs to be erected according to the drawings given in Enclosure 1 & 2. In A type bandal the 90 cm side of the mat will be in vertical position (i.e. 80 cm. inside water and 10 cm. above) and in B type bandal 120 cm. side is in vertical position

iii) New harauti/ Jati bamboo of 18-23 cm circumference at 45 cm from the bottom and 7 to 7.5 m long are used for horizontal, vertical and side support. The vertical bamboo pins are driven in proper line with spacing of 60 cm as per drawings enclosed. The number of bamboos required for 15 m length/30 m length are as under:

For 15 m – 40 Nos. and For 30 m – 80 Nos.

iv) new bamboo mats 1.2 m x 0.9 m made of minimum 1 mm thick and minimum 1.5 to 2 cm. wide bamboo strips closely woven, tied together with the help of bamboo strips and coir string are fixed on vertical bamboo pins of bandal to act as screen as per drawing and direction of EIC. The no. of mats & quantity of thick and thin coir string required during erection of 15 m and 30 m length of Bandals generally are as under:

For 30 m	**For 15m**
Bamboo mats - 56 nos. Coir string (thick)-10 kgs. Coir string (thin) – 5 kgs.	Bamboo mats - 28 nos. Coir string (thick) – 5 kgs. Coir string (thin) – 2.5 kgs.

The bandals of specified length can be erected at the sites as per requirement to maintain the navigational channel/depth.

v) Erected / re-erected bandals are maintained depending upon the requirements. After certain period sand chur may appear behind one or more length of bandal at one end of alignment of bandal. In that case such one or more units of bandal may require to be removed and re-erected at other alignment.

vi) During maintenance period, materials of bandal (e.g., bamboo, bamboo mats, coir strings) is changed due to decay of material only.

vii) For effective bandalling, sufficient anticipated amount of materials (e.g. bamboo, bamboo mats, coir string) is generally be stored at each bandal site so that during maintenance materials may be replaced without any loss of time. Replacement of decayed mats is completed at shortest period and no part of bandal is kept without mats at any time.

viii) Sometimes it may be observed that the required depth of main channel is achieved at any shoal by erecting bandals, but after a period of time, continuing the bandals is no longer considered

	necessary. In that case the erected bandals are required to be removed. ix) Re-erection of bandal at new places is done with the help of salvaged materials obtained from the removed bandal and by using other fresh materials e.g., bamboo, bamboo mats and coir string, by substituting whatsoever may be found damaged in the process of re-erection. x) Adequate number of boats / logistics are arranged by for erection and maintenance of the bandals at each site are to be arranged by the Contractor. Contractor may use power boats/ launches for timely erection and proper maintenance of bandals. The above details of bandals are given only for the guidance of Contractor. However, the Contractor is free to alter the specification of bandals. In fact, Contractor is also free to employ every other method of aid for maintenance of targeted LAD. This may include any type of temporary or semi-permanent river training works. It is to be reiterated that for performance of this contract or for payments to be made under the contract the only objective / measurement to be made is the LAD recorded on specified joint inspections and not either the quantity of dredging or bandalling or channel marking or anything else. But if the Contractor wishes to employ any other method (other than traditional dredging or bandalling), he has to request for the same with sufficient details and obtain written permission from Engineer-in-charge for every innovative work. If such works are found prima facie practical, they will be accepted and encouraged.
14. Monitoring	Monitoring shall be undertaken by the Employer. This shall be done directly and through an appointed Supervision Consultant (TSSC-III). This may also include monitoring by placing survey sounders on select merchant ships passing through part of the route. Any supervision and monitoring shall not relieve the Contractor of his obligations under the Contract, including his duty to make his own surveys. IWAI may conduct aerial surveys from time to time to monitor the depth and width of the navigational channel maintained by the contractor. Contractor shall install the Online Dredging monitoring Software (like developed by NTCPWC or any other Organisation) at his cost.
15. Clearances (Horizontal & Vertical)	The Contractor shall inspect and ascertain himself details of horizontal & vertical clearances available at bridges/locks etc. within the National Waterway from the view point of safe mobilization / demobilization of their various equipment to the specified dredging locations. The Contractor shall be liable to bear the expenditure of all manpower, material and equipment required for all the related work. No extra claim in this regard shall be entertained once the contract has been awarded. .

16. Disposal of Dredged Materials	Disposal of dredged materials would be effected into the free -stream of the river / on the banks /into the nearby redundant channels at a least distance of 150-200 m from the navigation channel. The disposal locations should be so positioned so as to avoid material working its way back into the dredged channel by taking such precautions as, disposing into faster flowing water, downstream and to the side of the working dredger. Disposal of material into secondary and redundant channels could also be considered as this provides a location where material is less likely to be remobilized. Materials dredged may also be disposed on to the banks of the river or onto the low-lying area ashore in case of narrow stretch of the river / channel. In wider stretches, it shall be deposited off at least 150 to 200 meters away from the navigational channel and in case the dredged material has a tendency to come back to channel, then its disposal distance shall be increased suitably to avoid repeated work. If required, temporary dykes may be constructed for holding the material. In case the Contractor intends to dispose of the dredged materials on banks outside the river, they may do so after obtaining necessary permission from Engineer-in-charge and also from the land owner(s) and the concerned Department of the State Govts. (Forest / Mining / Revenue etc.) for dumping the material on their lands. In case of any dispute with State Govts. (Forest / Mining / Revenue etc.) regarding selling of dredged material, IWAI may forfeit the Performance Security of the contractor. Expenditure involved in such disposal including payment to the land owner(s) for dumping the material on their lands shall be borne by the Contractor.
17. Material Obtained from Excavation and Treasure, Trove, Fossils etc.	Material of any kind obtained from excavation on the site shall remain the property of the Authority and shall be disposed off as directed by the Engineer-in-Charge. However, if any of the materials thus obtained from excavation on the site is such as can be used in the execution of work under the contract, the contractor will be allowed to use the same free of cost (except that any amount of royalty paid for in this regard by the Authority shall be recoverable from the contractor) for the aforesaid purpose provide the same is found suitable and is approved by the Engineer-in-Charge. Fossils, coins, articles of value, structures and other remains of things of geological or archaeological interest discovered on the site shall be the absolute property of the Authority. The contractor shall take reasonable precautions to prevent is labor or any other person from removing or damaging any such article or things and shall acquaint the

	Engineer-in-Charge with such discovery and carryout the Engineer-in-Charge's directions as to the disposal of the same at the expense of the Authority.
18. Survey Vessel	The Survey Vessel shall have: (a) Multi-Beam Echo sounder; (b) Sufficient size and stability to safely and properly carry out the survey work under the prevailing site conditions; (c) Good manoeuvrability even at low speeds of 1 to 2 knots; (d) Ample space for instruments, recorders, etc; (e) Day accommodation for two men of the EIC's staff besides the normal crew and Contractor's own surveyors; (f) A helmsman experienced in survey work; (g) Adequate radio communication between all persons concerned in the surveys; (h) Facility for operation of Automated Hydrographic Survey System (AHSS) etc.
19. Multi Beam Echo-Sounder	Multi Beam Echo-Sounder: - The digital echo sounder for hydrographic surveys shall in principle be operated in the 210 kilo Hertz range (narrow beam transducer). The Accuracy of the survey shall be not less than 0.1 m. At the start of each hydrographic survey, the Automated Hydrographic Survey System (AHSS) is to be calibrated to the specified accuracy. To this effect, the Contractor shall establish a fixed point (or fixed points) with known coordinates such that the survey boat can easily be positioned with the transducer of the echo-sounder always in the same position relative to the calibration point.
20. Environmental Management Plan	The Contractor shall be required to dispose of dredged materials complying with environmental consideration as detailed under Environmental Management Plan, which has been published on IWAI's website (http://www.iwai.nic.in) and same is appended to the bidding document as **Annexure D**
21. Other Conditions	Mobilization / Demobilization charges for the dredgers and its accessories and other logistics for survey/ inspection/works etc. should be inbuilt in the bid by the Contractor. No additional payment/ claim in this regard will be considered. (a) Normal barge and vessels/crafts movement in the channel shall not be interrupted by the dredging operation. (b) No idle time charges shall be payable to the Contractor on any account during the contract period. (c) The Contractor shall arrange at its own cost the transits, buoys, lights, mooring etc. as required for dredging and also for cautioning other vessels in the waterway.

(d) The Engineer-in-charge or his representative will inspect, co-ordinate and measure the work as per the contract condition. He has the right to inspect at any time during the contract period besides the specified schedule of inspections.

(e) The Contractor shall provide the Engineer-in-Charge or his representative boat/ survey launch from shore to dredger and back to shore and movement in the stretch for inspection & supervision.

(f) The Contractor may execute the work round the clock and on all days including Sundays and Public Holidays with the permission of the Engineer-in-charge in writing excepting National Holidays and subject to such restrictions as may be imposed by State Govt./local body.

(g) If the Contractor's personnel or any outside labour employed to work during execution of contract, breaks or damages/destroys any vessel, craft, net, fishing stakes etc. building, road, kerb, water pipe, fence, bund, wires, trees, crop, fruit or cultivated ground etc. during the period of agreement, the same shall be made good by the Contractor at his own expenses or in default the Employer may cause the same to be made good by other sources and deduct the expenses from any sums that may be then or at any time thereafter may become due to the Contractor.

(h) Any dispute with the local fishermen, for removal of fishing nets, stakes, from the channel to be dredged shall be solved by the Contractor. However, on request the Employer may extend the assistance for solving the issues only through the concerned official/ dept. of the State Govts. or local bodies.

(i) Contractor shall pay special attention for identification of disposal sites with a view to ensure uninterrupted dredging operation and plan in advance disposal details ahead of location of dredger. In the event of non-availability of dumping site, Employer shall not be responsible for delays caused in in the dredging operation/ maintenance of navigational channel.

(j) In case obstructions like concrete piles, structures of fishing nets, plastic debris, fallen trees, sunken boats etc. are encountered, those will be removed by the Contractor and no extra payment on this account shall be admissible to the Contractor.

(k) In case of any local objections against dredging or disposal of dredged spoils, it has to be settled by the Contractor. However, on request, Employer will extend liaison/ help to the Contractor to approach concerned officials of State Administration.

(l) If the maintenance of navigational channel is stopped continuously for more than 3 days due to law and order, Contractor has to report to the same to the Engineer-in-charge and take actions mutually in accordance with prevailing local laws for removal of such problem and proceeding further with the work. In case of delay in work, the Engineer-in-charge may take suitable decision without affecting the main objective of the project.

(m) The Contractor shall adopt adequate precaution and measures such as construction of temporary protection etc. during the dredging operation, to avoid any collapse/ damages to the

	existing bank. Protection work of the dredged area shall be at its own cost. (n) The Contractor shall forthwith dispatch, raise and remove any plant (floating or otherwise) belonging to him or to any person employed by him which may be sunk in the course of execution and completion of the works or otherwise deal with the same as the Engineer-in-charge or his representative may direct. Until the same shall be raised and removed, the Contractor shall display at night search lights and do all such things for the safe navigation as may be directed by the Engineer-in-charge. In the event of the Contractor not carrying out the obligations imposed upon him by this clause, the Engineer-in-charge shall raise and remove the same (without prejudice to the right of the Employer to hold the Contractor liable) and the Contractor shall pay to the Employer all costs incurred in connection therewith. The fact that sunken vessel, craft or plant is insured or has been declared a total loss, shall not absolve the Contractor from his obligation under this clause to raise and remove the same. (o) During execution of the work if any environmental degradation occurs, consequent on dumping of dredged material or any other reason the same shall be undone or necessary mitigation measures to the satisfaction of Engineer-in-charge by the Contractor at his cost, without claiming any additional payment from Employer. (p) Any charges incurred on testing of the dredged material, testing/ analysing the quality of water for adopting environmental safeguards, minimizing detrimental impacts, enhancing the beneficial aspects of the project and for effective management of the environmental resources affected by the project shall be met by the Contractor. No additional charges on any such account shall be payable by the Employer.

Environmental and Social (ES) requirements

SUGGESTED CONTENT FOR AN ENVIRONMENTAL AND SOCIAL POLICY

The Works' policy goal, as a minimum, should be stated to integrate environmental protection, occupational and community health and safety, gender, equality, child protection, vulnerable people (including those with disabilities), sexual harassment, gender-based violence (GBV), sexual exploitation and abuse (SEA), HIV/AIDS awareness and prevention and wide stakeholder engagement in the planning processes, programs, and activities of the parties involved in the execution of the Works. The Employer is advised to consult with the World Bank to agree the issues to be included which may also address: climate adaptation, land acquisition and resettlement, indigenous people, etc. The policy should set the frame for monitoring, continuously improving processes and activities and for reporting on the compliance with the policy.
The policy shall include a statement that, for the purpose of the policy and/or code of conduct, the term "child" / "children" means any person(s) under the age of 18 years.
The policy should, as far as possible, be brief but specific and explicit, and measurable, to enable reporting of compliance with the policy in accordance with the Particular Conditions of the Contract Sub-Clause 26.2 and Appendix B to the General Conditions of Contract.
As a minimum, the policy is set out to the commitments to:

1. *apply good international industry practice to protect and conserve the natural environment and to minimize unavoidable impacts;*
2. *provide and maintain a healthy and safe work environment and safe systems of work;*
3. *protect the health and safety of local communities and users, with particular concern for those who are disabled, elderly, or otherwise vulnerable;*
4. *be intolerant of, and enforce disciplinary measures for illegal activities. To be intolerant of, and enforce disciplinary measures for GBV, inhumane treatment, sexual activity with children, and sexual harassment;*
5. *incorporate a gender perspective and provide an enabling environment where women and men have equal opportunity to participate in, and benefit from, planning and development of the Works;*
6. *work co-operatively, including with end users of the Works, relevant authorities, contractors and local communities;*
7. *engage with and listen to affected persons and organizations and be responsive to their concerns, with special regard for vulnerable, disabled, and elderly people;*
8. *provide an environment that fosters the exchange of information, views, and ideas that is free of any fear of retaliation, and protects whistleblowers;*
9. *minimize the risk of HIV transmission and to mitigate the effects of HIV/AIDS associated with the execution of the Works;*

The policy should be signed by the senior manager of the Employer. This is to signal the intent that it will be applied rigorously.

Minimum Content of ES requirements: -

In preparing detailed specifications for ES requirements, the specialists should refer to and consider:

- *project reports e.g., ESIA/ESMP*
- *consent/permit conditions*

- *required standards including World Bank Group EHS Guidelines*
- *relevant international conventions or treaties etc., national legal and/or regulatory requirements and standards (where these represent higher standards than the WBG EHS Guidelines)*
- *relevant international standards e.g., WHO Guidelines for Safe Use of Pesticides*
- *relevant sector standards e.g., EU Council Directive 91/271/EEC Concerning Urban Waste Water Treatment*
- *grievance redress mechanism including types of grievances to be recorded and how to protect confidentiality e.g., of those reporting allegations of GBV/SEA.*
- *GBV/SEA prevention and management.*

The detail specification for ES should, to the extent possible, describe the intended outcome rather than the method of working.

The ES requirements should be prepared in manner that does not conflict with the relevant General Conditions of Contract and Particular Conditions of Contract.

Payment for ES Requirements

The Employer's ES and procurement specialists should consider how the Contractor will cost the delivery of the ES requirements. In the majority of cases, the payment for the delivery of ES requirements shall be a subsidiary obligation of the Contractor covered under the prices quoted for other Bill of Quantity items. For example, normally the cost of implementing workplace safe systems of work, including the ***measures*** *necessary for ensuring traffic safety, shall be covered by the Bidder's rates for the relevant works. Alternatively, provisional sums could be set aside for discrete activities for example for HIV counselling service, gender-based violence and SEA awareness and sensitization or to encourage the contractor to deliver additional ES outcomes beyond the requirement of the Contract.*

ANNEXURE – A

[Farakka - Tribeni 351 Km]

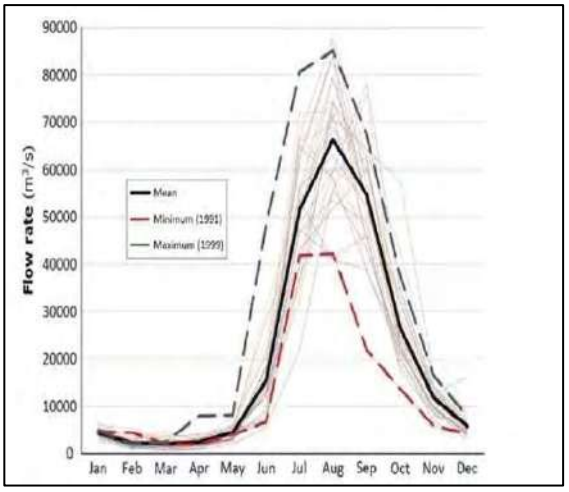
The report "Status on River Ganga: State of the Environment and Water Quality" from the National River Conservation Directorate (2009) provides useful information in terms of understanding water discharges along the upstream reaches of NW-1. The report presents water discharges with a probability of exceedance of 50%, 10% and 90% at 6 stations: Allahabad, Mirzapur, Varanasi, Buxar, Patna and Azamabad during the low flow season. It also presents average post-monsoon flows (in October-November), average flows in December-February and in March-May periods. These values are summarized in below.

Table A- 1: Characteristic discharges obtained from the National River Conservation Directorate (2009) report

Flow regime Discharge (m3/s)	Allahabad	Mizarpur	Varanasi	Buxar	Patna	Azamabad
Q50 (flow with 50% probability of exceedance) during low season	300	300	300	450	1050	1400
Q90 (flow with 90% probability of exceedance) during low season	175	175	175	250	600	1050
Q10 (flow with 10% probability of exceedance) during low season	450	450	450	600	1600	2000
Average in October-November	2000	2200	2400	3100	5500	9500
Average in December-February	500	500	500	750	1300	2200
Average in March-May	400	400	400	500	1000	1500

Source: The National River Conservation Directorate, Ministry of Environment and Forests, Government of India (2009)

Farakka Barrage, with a length of 2.2 km and about 15 km from the border with Bangladesh, regulates the flow of the River Ganga diverting some of the water into the 42 km long Feeder Canal linking with the Bhagirathi River downstream towards Kolkata. The navigation lock at Farakka, as well as the Feeder Canal, are part of the Farakka Barrage Project and become the link between the Bhagirathi-Hugli system and the main River Ganga upstream of the Farakka Barrage



The existing agreement between India and Bangladesh, includes specific water allocation rules during the low flow season. The treaty establishes that during the period January – May water shall be shared alternatively through the Farakka Barrage on a 10 day cycle in each month by both countries.

Data extracted from Jeuland et al (2013) shows the historical flows at Farakka for the period 1969-2001

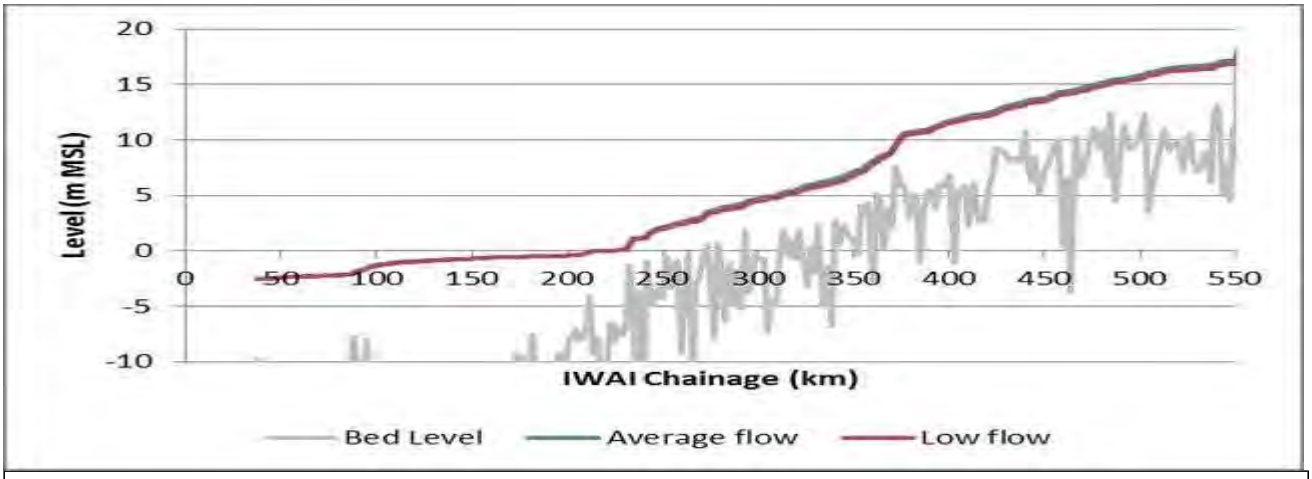
Source: The National River Conservation Directorate, Ministry of Environment and Forests, Government of India (2009)

1. Water Levels

The 1D model has been run for the whole waterway from Allahabad to Haldia. The model has been run considering the following discharges from Allahabad to Farakka:

- The average dry season flow;
- The 1 in 2 year low flow (50% annual probability of occurrence)
- The 1in 10 year low flow (10% annual probability of occurrence)

Water level results for the reach from Tribeni to Farakka are presented in figure below:



2.1. Analysis of LAD

Least Available Depth (LAD) available from Tribeni to Allahabad was analysed to get an understanding of the variations of water depths. Data for the period April 2002 to June 2015 was used to build probability curves of LAD. The probability curves for the reaches between Barh-Doriganj are shown in Figure A-2. The curves shows the percentage of the years where LAD value lower than the value shown in the graph..

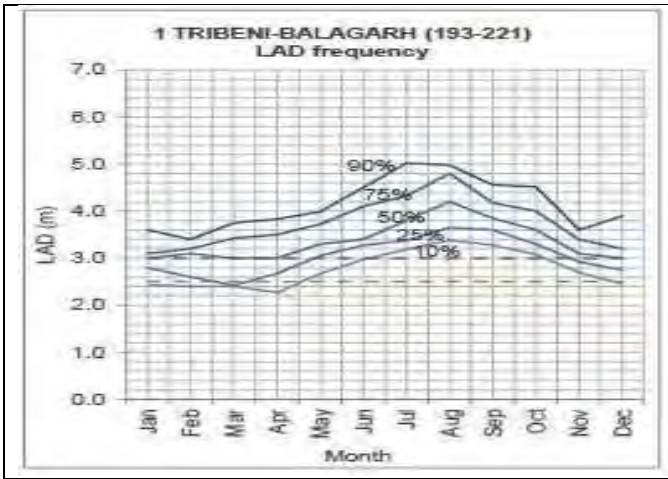


Figure 1: Reach 1 Tribeni – Balagarh LAD frequency curves

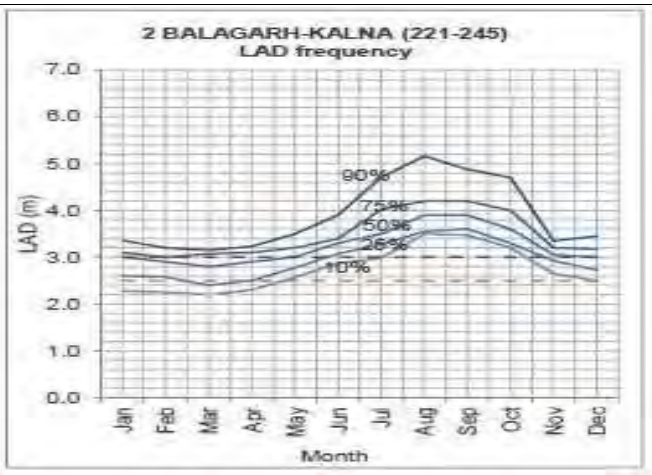


Figure 2: Reach 2 Balagarh – Kalna LAD frequency curves

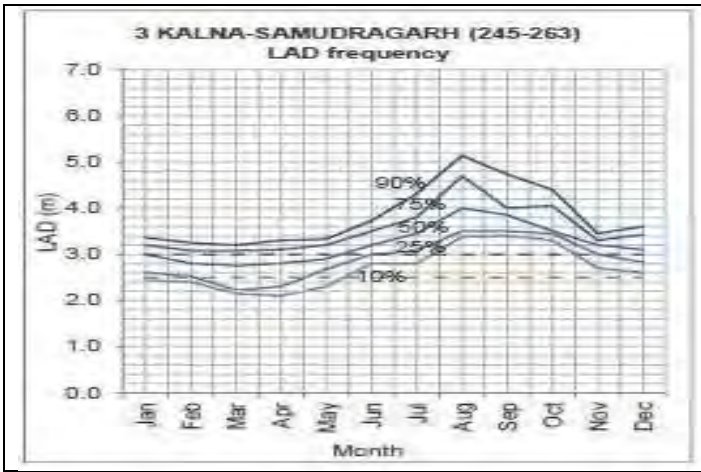


Figure 3: Reach 3 Kalna - Samudragarh LAD probability curves

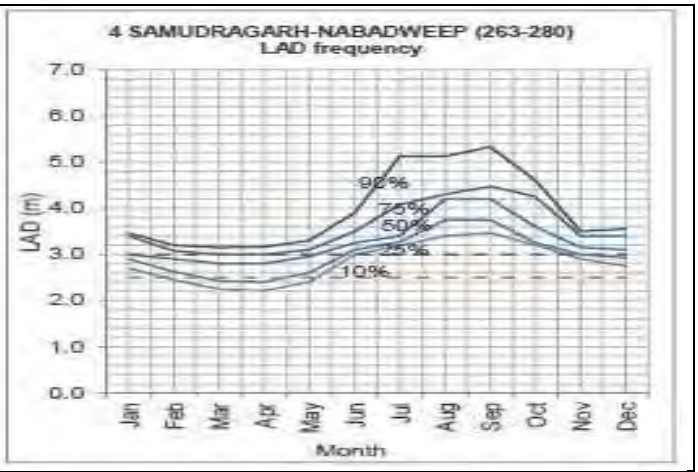


Figure 4: Reach 4 Samudragarh - Nabadweep LAD probability curves

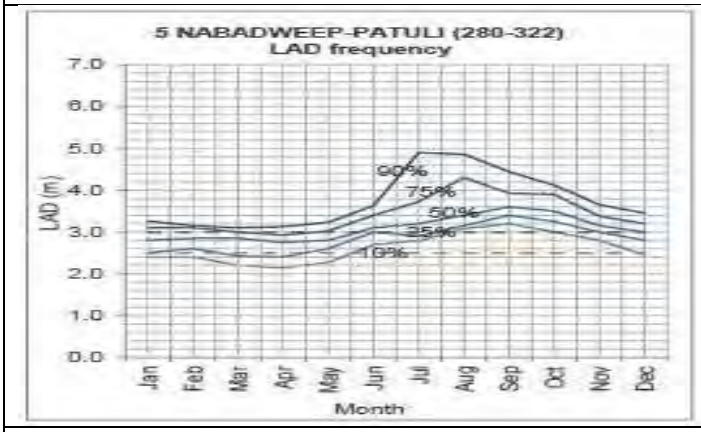


Figure 5: Reach 5 Nabadweep - Patuli LAD probability curves

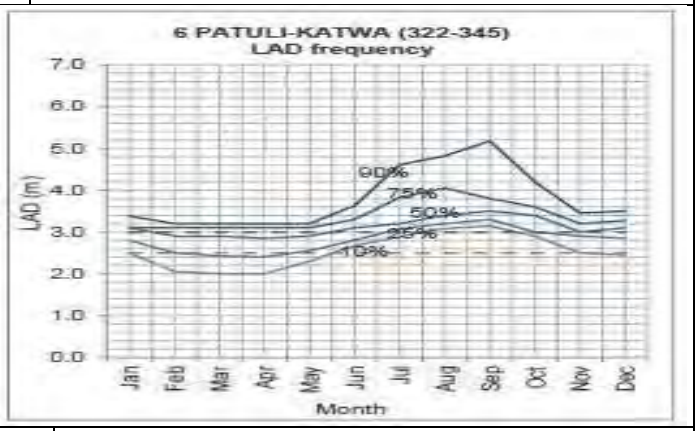


Figure 6: Reach 6 Patuli - Katwa LAD probability curves

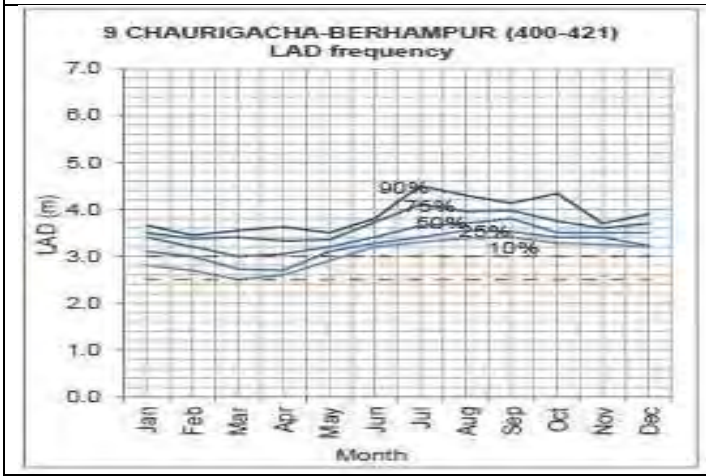


Figure 7: Reach 7 Katwa - Palassey LAD probability curves



Figure 8: Reach 8 Palassey - Chaurigacha LAD probability curves

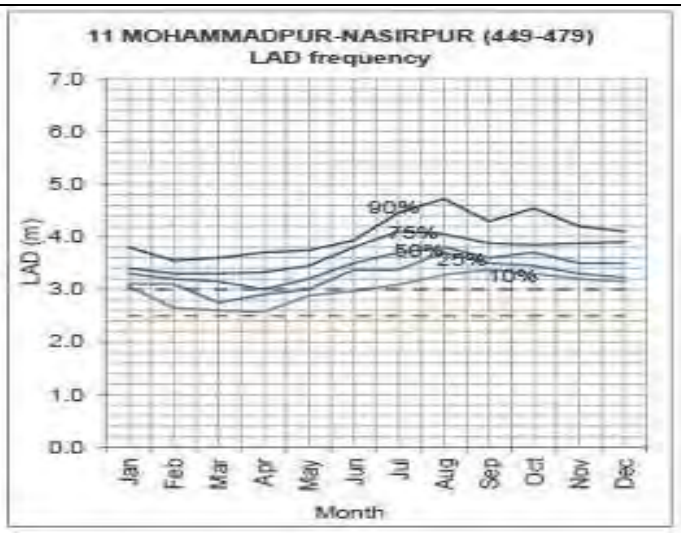


Figure 9: Reach 9 Chaurigacha - Berhampur LAD probability curves

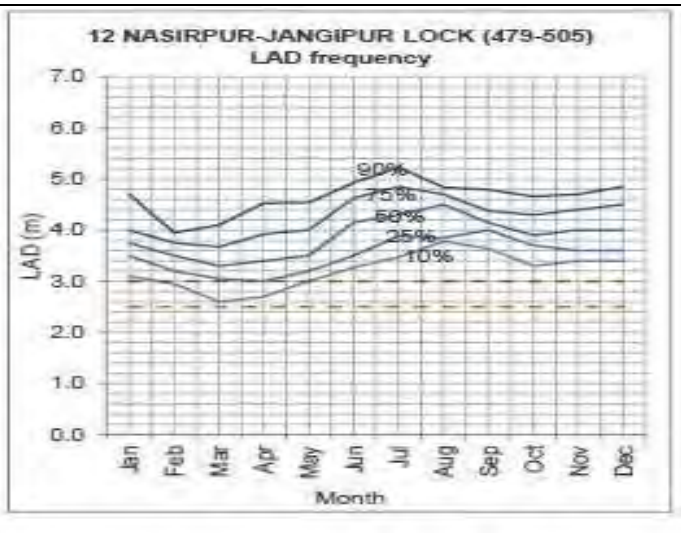


Figure 10: Reach 10 Berhampur – Mohammadpur LAD probability curves

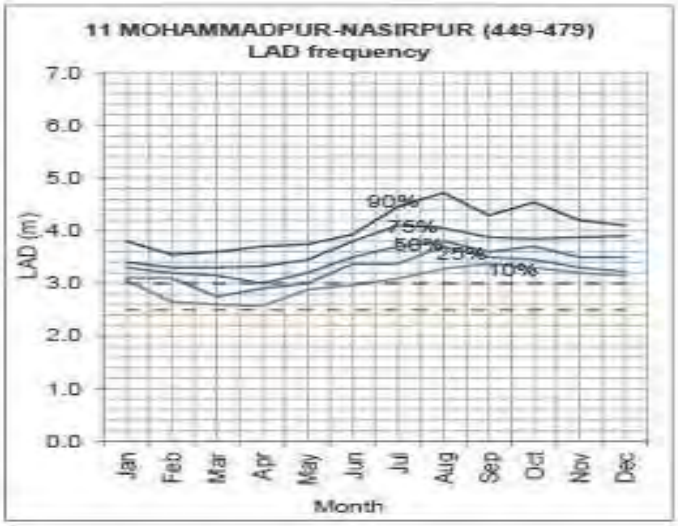


Figure 11: Reach 11 Mohammadpur – Nasirpur LAD probability curves

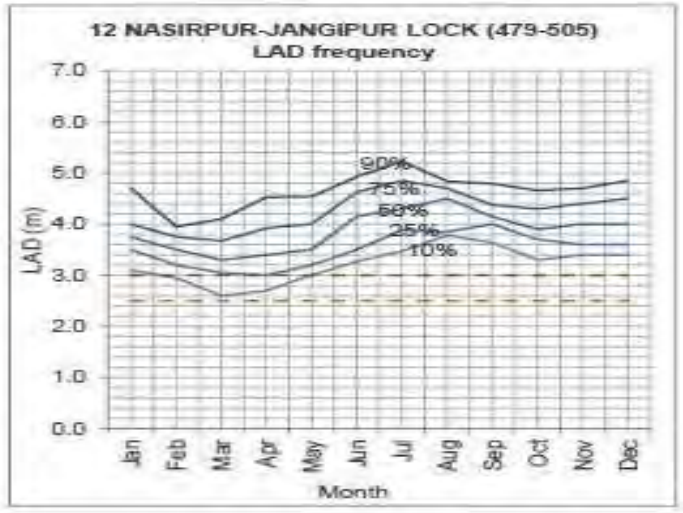


Figure 12: Reach 12 Nasirpur – Jangipur Lock LAD probability curves

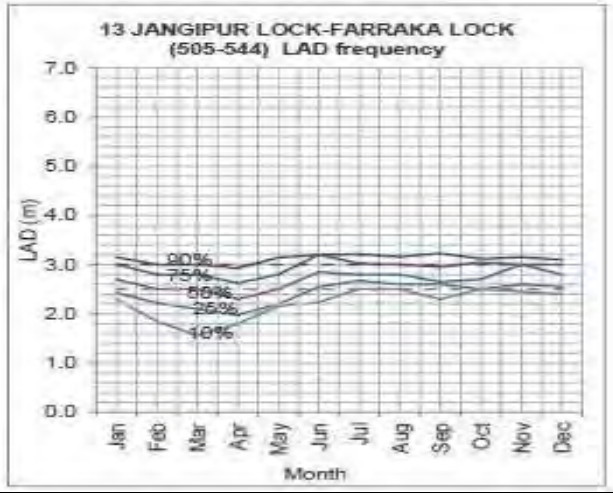


Figure 13: Reach 13 Jangipur Lock – Farakka Lock LAD probability curves

Figure A-1: Probability curves of LAD in Tribeni-Farakka

This statistical information has also been analysed to show the periods when available water depths have a 50% probability to be lower than a certain value mentioned here. The information is presented in Table A- 1below.

Table A- 1: 50% probability of LADs being lower than mentioned LAD (in metres)

	Name	Chainage (km)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	Tribeni – Balagarh	193-221	3.00	3.10	3.00	3.00	3.30	3.40	3.80	4.20	3.80	3.60	3.10	3.00
2	Balagarh – Kalna	221-245	3.00	2.90	2.80	2.90	3.00	3.30	3.50	3.95	3.90	3.60	3.05	3.05
3	Kalna - Samudragarh	245-263	3.00	2.80	2.75	2.80	2.90	3.20	3.60	4.00	3.80	3.50	3.20	3.10
4	Samudragarh-Nabadweep	263-280	3.00	2.90	2.80	2.80	2.95	3.25	3.40	4.20	4.20	3.70	3.20	3.10
5	Nabadweep – Patuli	280-322	2.80	2.85	2.85	2.75	2.80	3.10	3.30	3.50	3.70	3.50	3.10	3.00
6	Patuli – Katwa	322-345	3.10	2.90	2.90	2.85	2.90	3.10	3.20	3.40	3.50	3.30	3.00	3.05
7	Katwa – Palassey	345-371	2.80	2.65	2.50	2.50	2.70	3.00	3.00	3.50	3.40	3.10	2.80	2.80
8	Palassey - Chaurigacha	371-400	2.90	2.95	2.80	2.90	3.00	3.10	3.10	3.40	3.40	3.20	3.05	3.00
9	Chaurigacha - Berhampur	400-421	3.40	3.20	3.00	3.05	3.20	3.40	3.70	3.70	3.80	3.55	3.50	3.50
10	Berhampur– Mohammadpur	421-449	3.20	3.00	3.00	3.00	3.10	3.45	3.60	3.95	3.70	3.60	3.40	3.30
11	Mohammadpur - Nasirpur	449-479	3.30	3.20	3.15	3.00	3.20	3.50	3.70	3.80	3.50	3.70	3.50	3.50
12	Nasirpur – Jangipur Lock	479-505	3.75	3.50	3.30	3.40	3.50	4.15	4.30	4.50	4.20	3.95	4.00	4.00
13	Jangipur Lock – Farrakka Lock	505-544	2.70	2.50	2.50	2.30	2.50	2.85	2.80	2.80	2.70	2.75	3.00	2.80

Key3.0m =< LAD	2.5m =< LAD < 3.0m	2.2m =< LAD < 2.5m	LAD < 2.2m

The different colours in show the range of minimum depths available. Green corresponds to the months when available depths are larger than 2.5 m. The table clearly shows the behaviour of water depths upstream of Doriganj. The LADs for the period 2006 & 2010 -2015 are shown in the tables below.

Table A- 2: LAD for 2015 (in metres)

	Name	Chainage (km)	Jan IFN	Jan IIFN	Feb IFN	Feb IIFN	Mar IFN	Mar IIFN	Apr IFN	Apr IIFN	May IFN	May IIFN	Jun IFN	Jun IIFN	Ju	Au	Se	Oct IFN	Oct IIFN	Nov IFN	Nov IIFN	Dec IFN	Dec IIFN
1	Tribeni - Balagarh	193-221	3.1	3.7	3.3	3.1	3.0	3.7	3.2	3.5	3.3	3.3	4.2	4.1	4.	4.	3.	N/	3.	3.1	3.5	3.0	3.2
2	Balagarh - Kalna	221-245	3.1	3.3	3.0	3.0	3.0	3.3	3.3	3.5	3.2	3.5	3.4	3.4	4.	4.	3.	N/	3.	3.0	3.3	3.3	3.2
3	Kalna - Samudragarh	245-263	3.5	4.0	3.8	3.3	3.2	3.6	3.6	3.6	3.2	3.3	3.3	3.5	3.	4.	3.	N/	3.	3.4	3.3	3.3	3.3
4	Samudragarh - Nabadweep	263-280	3.4	3.2	3.4	3.3	3.2	3.6	3.3	3.5	3.3	3.3	3.4	3.9	3.	4.	3.	N/	3.	3.5	3.2	3.2	3.1
5	Nabadweep - Patuli	280-322	3.2	3.3	3.2	3.2	3.1	3.2	3.3	3.2	3.1	3.3	3.4	3.5	3.	4.	3.	N/	3.	3.0	3.0	2.9	2.9
6	Patuli - Katwa	322-345	3.2	3.2	3.3	3.2	3.1	3.3	3.3	3.3	3.1	3.2	3.1	3.3	3.	4.	3.	N/	3.	2.9	3.0	2.9	2.8
7	Katwa - Palassey	345-371	3.1	3.1	3.1	3.0	3.0	3.3	3.1	3.2	3.3	3.3	3.4	3.4	4.	4.	3.	N/	3.	3.2	3.1	2.9	2.9
8	Palassey - Chaurigacha	371-400	3.3	3.3	3.4	3.1	3.1	3.3	3.3	3.2	3.1	3.2	3.1	3.3	3.	4.	3.	N/	3.	3.1	3.1	2.9	2.9
9	Chaurigacha - Berhampur	400-421	3.7	3.6	3.9	3.4	3.5	3.9	3.8	4.0	3.5	3.4	3.8	4.1	3.	4.	3.	N/	3.	4.1	3.6	3.4	3.5
1	Berhampur – Mohammadpur	421-449	3.8	3.7	3.8	3.4	3.2	3.9	3.7	3.8	3.9	3.8	3.8	3.9	4.	4.	3.	N/	3.	3.6	3.4	3.2	3.3
1	Mohammadpur - Nasirpur	449-479	3.3	3.3	3.3	3.2	3.0	3.7	4.0	3.7	3.8	3.9	3.9	3.5	3.	4.	3.	N/	3.	3.5	3.3	3.3	3.2
1	Nasirpur – Jangipur Lock	479-505	4.1	4.8	4.6	4.2	3.3	4.7	4.9	4.9	5.0	5.0	5.0	4.9	4.	4.	4.	N/	4.	4.0	4.2	4.0	4.0
1	Jangipur Lock – Farakka Lock	505-544	3.2	3.2	3.2	3.2	2.8	3.1	3.1	3.1	3.3	3.2	3.2	3.3	3.	3.	3.	N/	3.	3.0	3.0	2.7	2.7

	3.0m =< LAD	2.5m =< LAD < 3.0m	2.2m =< LAD < 2.5m	LAD < 2.2m

Table A- 4: LAD for 2014 (in metres)

	Name	Chainage (km)	Jan IFN	Jan IIFN	Feb IFN	Feb IIFN	Mar IFN	Mar IIFN	Apr IFN	Apr IIFN	May IFN	May IIFN	Jun IFN	Jun IIFN	Jul	Aug	Sep	Oct IFN	Oct IIFN	Nov IFN	Nov IIFN	Dec IFN	Dec IIFN
1	Tribeni - Balagarh	193-221	3.	3.	2.	3	3	3	3	3.5	3	3	3	3	4.1	3.3	3.6	4	N/	3.	3.4	3	3.1
2	Balagarh - Kalna	221-245	2.	3.	2.	2	3	3	3	3.1	3	3	3	3	3.5	3.5	3.6	3	N/	3.	3.1	3	3.1
3	Kalna - Samudragarh	245-263	3.	3.	3.	3	3	3	3	3.0	3	3	3	3	3.3	3.5	3.5	3	N/	3.	3.8	3	3.5
4	Samudragarh -	263-280	2.	3.	2.	2	3	2	3	3.1	3	3	3	3	3.6	3.8	3.6	3	N/	3.	3.4	3	3.6
5	Nabadweep - Patuli	280-322	3.	3.	2.	2	2	2	3	3.0	3	3	3	3	3.3	3.1	3.5	3	N/	3.	3.1	3	3.2
6	Patuli - Katwa	322-345	3.	3.	3.	3	3	3	3	3.0	3	3	3	3	3.2	3.0	3.5	3	N/	3.	3.3	3	3.1
7	Katwa - Palassey	345-371	2.	2.	3.	3	3	3	3	3.0	3	3	3	3	3.2	3.4	3.6	3	N/	3.	3.0	3	3.1
8	Palassey - Chaurigacha	371-400	2.	3.	3.	3	3	3	3	3.0	3	3	3	3	3.1	3.4	3.5	3	N/	3.	3.1	3	3.2
9	Chaurigacha - Berhampur	400-421	3.	3.	3.	3	3	3	3	3.3	3	3	3	3	3.5	3.6	3.4	3	N/	3.	3.5	3	3.6
10	Berhampur –	421-449	2.	2.	3.	3	3	3	2	2.9	2	3	3	3	3.6	3.7	3.9	3	N/	3.	3.8	3	3.8
11	Mohammadpur - Nasirpur	449-479	3.	3.	3.	3	3	3	3	2.9	3	3	3	3	3.4	3.3	3.5	3	N/	3.	3.4	3	3.2
12	Nasirpur – Jangipur Lock	479-505	3.	4.	3.	3	3	4	4	3.7	3	3	3	4	4.3	4.5	4.7	4	N/	4.	4.9	4	4.4
13	Jangipur Lock – Farakka Lock	505-544	2. 8	2. 8	2. 8	2 .	3 .	2 .	2 .	2.5	2 .	4 .	4 .	3 .	3.1	3.0	3.0	3 .	N/ A	3. 1	3.0	3 .	3.0
	3.0m =<	2.5m =< LAD <	2.2m =< LAD <	LAD <																			

Table A- 4: LAD for 2013 (in metres)

	Name	Chainage (km)	Jan IFN	Jan IIFN	Feb IFN	Feb IIFN	Mar IFN	Mar IIFN	Apr IFN	Apr IIFN	May IFN	May IIFN	Jun IFN	Jun IIFN	Jul	Aug	Sep	Oct IFN	Oct IIFN	Nov IFN	Nov IIFN	Dec IFN	Dec IIFN
1	Tribeni - Balagarh	193-221	3.9	N/A	4.5	3.5	3.8	3.5	3.2	3.5	3.9	5.3	4.1	4.0	3.	3.7	3.7	N/A	3.8	3.1	3.5	3.0	3.1
2	Balagarh - Kalna	221-245	3.4	N/A	3.2	3.2	3.1	3.5	3.1	3.1	3.5	3.5	3.4	3.3	4.	3.5	3.2	N/A	4.0	3.1	3.0	3.4	3.1
3	Kalna - Samudragarh	245-263	3.3	N/A	3.5	3.1	3.1	3.1	3.1	3.1	3.3	3.2	3.2	3.2	3.	3.5	3.6	N/A	4.2	3.1	3.1	3.5	3.7
4	Samudragarh - Nabadweep	263-280	3.3	N/A	3.1	3.1	3.1	3.0	2.9	2.8	2.9	3.0	3.2	3.2	3.	4.3	3.2	N/A	4.0	2.9	2.9	2.8	2.8
5	Nabadweep - Patuli	280-322	3.3	N/A	3.2	3.1	3.0	3.0	2.9	2.9	3.0	3.1	3.2	3.1	3.	3.6	3.7	N/A	4.6	3.2	3.4	2.9	3.0
6	Patuli - Katwa	322-345	3.5	N/A	3.2	3.1	3.1	3.0	2.9	2.9	3.2	3.2	3.3	3.1	3.	3.4	3.3	N/A	4.2	2.9	2.9	3.0	3.0
7	Katwa - Palassey	345-371	3.3	N/A	3.1	3.0	3.0	3.0	2.9	2.9	3.0	3.0	3.1	3.0	3.	3.4	3.0	N/A	3.3	2.8	2.8	2.7	2.8
8	Palassey - Chaurigacha	371-400	3.3	N/A	3.4	3.0	3.0	3.4	3.0	2.9	3.4	3.2	3.2	3.1	3.	3.9	3.6	N/A	4.2	2.9	3.0	3.0	3.1
9	Chaurigacha - Berhampur	400-421	3.4	N/A	3.2	3.2	3.2	3.4	3.1	3.0	3.5	3.2	3.5	3.2	3.	4.3	3.9	N/A	4.5	3.5	3.7	3.6	3.9
10	Berhampur – Mohammadpur	421-449	3.0	3.2	3.5	3.2	3.3	3.1	3.1	3.0	3.5	3.2	3.9	3.7	3.	4.2	3.5	N/A	4.0	3.3	3.1	3.4	3.1
11	Mohammadpur - Nasirpur	449-479	3.1	3.2	3.5	3.3	3.2	3.2	3.1	3.0	3.2	3.2	3.7	3.6	4.	4.1	4.2	N/A	3.8	3.4	3.3	3.9	3.5
12	Nasirpur – Jangipur Lock	479-505	3.6	4.0	3.5	3.6	3.4	3.6	3.5	3.1	3.9	4.2	4.7	4.9	4.	5.0	4.4	N/A	5.2	4.1	4.1	4.9	3.8
13	Jangipur Lock – Farakka Lock	505-544	3.6	3.0	3.0	3.0	3.0	3.0	3.0	2.9	3.1	3.0	3.2	3.2	3.	3.4	3.3	N/A	3.3	3.1	3.1	3.1	3.0
	3.0m =<	2.5m =< LAD <	2.2m =< LAD <	LAD <																			

Table A- 4: LAD for 2012 (in metres)

	Name	Chainage (km)	Jan IFN	Jan IIFN	Feb IFN	Feb IIFN	Mar IFN	Mar IIFN	Apr IFN	Apr IIFN	May IFN	May IIFN	Jun IFN	Jun IIFN	Jul	Aug	Sep	Oct	Oct	Nov	Nov	Dec	Dec
1	Tribeni - Balagarh	193-221	3.1	3.0	3.2	3.4	3.5	3.2	3.0	3.5	3.8	3.5	3.4	5.1	4.1	5.6	4.7	4.2	N/A	3.3	3.9	4.4	3.3
2	Balagarh - Kalna	221-245	3.2	2.8	3.0	2.8	3.1	3.1	3.1	3.1	3.2	3.1	3.4	3.9	4.0	4.2	4.1	3.9	N/A	3.3	3.6	3.5	3.1
3	Kalna - Samudragarh	245-263	3.2	3.0	2.9	2.8	3.0	3.5	3.1	3.3	3.4	3.4	3.6	3.7	3.7	3.9	3.5	3.5	N/A	3.4	3.3	3.1	3.1
4	Samudragarh - Nabadweep	263-280	3.0	3.0	2.9	2.2	2.7	3.0	3.1	3.3	3.2	3.3	3.4	3.7	3.4	3.7	5.0	3.6	N/A	3.4	3.2	3.1	3.1
5	Nabadweep - Patuli	280-322	3.2	3.0	3.0	2.5	3.0	3.2	3.1	3.1	3.2	3.1	3.4	3.7	3.6	3.7	3.7	3.8	N/A	3.7	3.6	3.3	3.2
6	Patuli - Katwa	322-345	3.1	3.1	2.7	2.0	3.0	3.3	3.1	3.1	3.2	3.2	3.1	3.6	3.2	3.0	3.3	3.4	N/A	3.5	3.3	3.1	3.2
7	Katwa - Palassey	345-371	3.0	3.0	2.7	2.0	2.5	3.2	2.8	3.0	3.3	3.1	3.2	3.4	3.5	3.1	3.4	3.1	N/A	2.8	2.6	3.2	3.2
8	Palassey - Chaurigacha	371-400	2.6	2.6	2.7	2.7	2.7	2.8	3.1	3.5	3.3	3.0	3.3	3.6	3.7	3.5	3.4	3.2	N/A	3.4	3.1	3.0	3.1
9	Chaurigacha - Berhampur	400-421	2.8	2.8	2.7	2.0	2.5	2.8	3.2	3.5	3.2	3.2	3.2	3.8	3.6	3.7	3.4	3.4	N/A	3.4	3.4	3.5	3.5
10	Berhampur –	421-449	2.2	2.6	2.7	2.5	2.8	3.0	3.0	3.0	3.1	3.0	3.0	3.1	3.4	3.2	3.3	3.2	N/A	3.0	3.0	3.0	3.1
11	Mohammadpur - Nasirpur	449-479	2.5	2.5	2.7	2.7	3.0	3.1	3.0	3.6	3.2	3.0	3.0	3.8	3.7	3.2	3.7	3.6	N/A	3.5	3.3	3.1	3.4
12	Nasirpur – Jangipur Lock	479-505	2.9	2.9	3.1	2.9	3.0	3.2	3.3	3.9	3.0	3.2	3.3	4.6	4.2	4.2	4.3	4.3	N/A	3.6	4.0	4.1	3.6
13	Jangipur Lock – Farrakka	505-544	2.0	2.5	2.0	1.7	2.5	2.8	2.8	2.8	2.8	2.8	3.0	3.1	3.2	3.1	3.2	3.1	N/A	3.0	3.0	3.0	3.1

K

3.0m =<	2.5m =< LAD <	2.2m =< LAD <	LAD <

Table A- 4: LAD for 2011 (in metres)

	Name	Chainage (km)	Jan IFN	Jan IIFN	Feb IFN	Feb IIFN	Mar IFN	Mar IIFN	Apr IFN	Apr IIFN	May IFN	May IIFN	Jun IFN	Jun IIFN	Jul	Aug	Sep	Oct IFN	Oct IIFN	Nov IFN	Nov IIFN	Dec IFN	Dec IIFN
1	Tribeni - Balagarh	193-221	3.6	3.4	3.4	3.2	3.2	4.1	4.6	4.7	3.6	4.2	5.1	4.1	3.6	3.4	4.1	3.1	3.1	3.1	3.6	3.2	3.2
2	Balagarh - Kalna	221-245	3.6	3.4	3.2	3.2	3.1	2.9	3.1	3.2	3.0	4.0	4.6	3.9	3.5	5.1	3.9	3.2	3.2	3.4	3.2	3.2	3.2
3	Kalna - Samudragarh	245-263	3.3	3.4	3.2	3	3.0	2.7	2.9	3.3	3.4	3.1	4.3	4.5	3.2	5.3	3.8	3.4	3.4	3.2	3.2	3.2	3.2
4	Samudragarh - Nabadweep	263-280	3.5	3.5	3.2	3.1	3.0	2.6	2.8	3.0	3.1	3.6	3.9	3.1	3.3	4.2	3.9	3.2	3.2	3.4	3.4	3.4	3.4
5	Nabadweep - Patuli	280-322	3.1	3.5	3.1	3.1	3.1	2.7	2.7	3.5	3.3	3.3	4.4	3.3	3.1	3.6	3.5	3.3	3.3	3.2	3.2	3.4	3.5
6	Patuli - Katwa	322-345	3.5	3.5	3.1	3.1	3.1	2.7	2.9	3.2	3.0	3.0	4.4	3.5	3.2	5.7	4.1	3.5	3.5	3.5	3.4	3.5	3.3
7	Katwa - Palassey	345-371	3.1	3.2	2.8	2.8	2.7	2.5	2.5	2.9	3.0	3.0	4.2	3.3	3.0	5.3	4.1	3.2	3.2	2.8	2.8	2.8	2.8
8	Palassey - Chaurigacha	371-400	3.1	3.1	3	3.1	2.8	2.5	2.8	3.0	3.1	3.1	3.8	4.0	3.2	4.3	4.1	3.2	3.2	3.3	3.2	3.0	3.0
9	Chaurigacha - Berhampur	400-421	3.5	3.5	3.3	3.1	2.8	2.6	2.7	3.0	3.1	3.1	4.3	3.8	3.2	4.0	4.2	3.3	3.3	3.6	3.6	3.3	3.3
10	Berhampur – Mohammadpur	421-449	3.5	3.3	3	3	3.0	2.5	2.7	3.0	3.4	3.1	4.2	3.9	3.1	5.1	4.1	3.6	3.6	3.7	3.8	3.4	3.3
11	Mohammadpur - Nasirpur	449-479	3.5	3.3	3.2	3.2	3.2	2.7	3.0	3.3	3.8	3.5	4.7	3.6	3.1	5.1	3.3	3.7	3.7	3.2	3.8	3.8	3.6
12	Nasirpur – Jangipur Lock	479-505	3.8	4.0	3.6	3.6	3.6	3.3	3.0	4.0	4.1	3.9	5.3	4.2	3.5	5.1	5.0	3.7	3.7	3.5	3.6	4.2	3.7
13	Jangipur Lock – Farrakka Lock	505-544	3.1	3.0	2.5	2.3	2.1	1.4	1.4	2.0	2.0	2.2	3.2	3.2	3.2	3.7	3.3	3.1	3.1	3.8	4.0	2.7	2.7

3.0m =<	2.5m =< LAD <	2.2m =< LAD <	LAD <

Table A- 4: LAD for 2010 (in metres)

	Name	Chainage (km)	Jan IFN	Jan IIFN	Feb IFN	Feb IIFN	Mar IFN	Mar IIFN	Apr IFN	Apr IIFN	May IFN	May IIFN	Jun IFN	Jun IIFN	Jul	Aug	Sep	Oct IFN	Oct IIFN	Nov IFN	Nov IIFN	Dec IFN	Dec IIFN
1	Tribeni - Balagarh	193-221	3.1	3.0	3.4	3.2	3.1	3.6	3.9	3.0	4.4	3.9	3.4	4.0	3.7	4.5	4.2	4.5	N/A	3.4	3.6	3.4	4.2
2	Balagarh - Kalna	221-245	3.0	3.0	3.0	3.0	2.6	2.5	3.0	2.7	3.0	3.0	3.0	3.4	3.4	4.0	3.8	3.2	N/A	3.2	3.2	3.3	3.5
3	Kalna - Samudragarh	245-263	3.0	3.0	3.0	2.5	2.1	1.5	2.1	2.0	2.3	2.8	3.0	3.0	2.8	3.5	3.4	3.3	N/A	3.4	3.2	3.5	3.5
4	Samudragarh - Nabadweep	263-280	3.4	3.4	3.0	3.0	2.4	2.3	3.0	3.0	2.8	2.6	3.1	3.5	3.0	4.0	3.7	3.2	N/A	3.7	3.3	3.4	3.6
5	Nabadweep - Patuli	280-322	3.2	3.0	3.1	2.9	2.5	2.0	2.6	2.5	2.7	2.2	3.0	3.1	3.0	3.4	3.2	3.2	N/A	3.2	3.2	3.2	3.1
6	Patuli - Katwa	322-345	3.1	3.1	3.0	2.8	2.8	2.0	3.0	2.4	2.2	2.3	2.5	2.8	2.6	3.1	3.5	3.1	N/A	3.0	3.2	3.2	3.2
7	Katwa - Palassey	345-371	3.0	3.0	3.0	3.0	2.4	1.5	2.2	1.6	2.3	2.2	2.5	3.2	2.9	3.2	3.1	3.1	N/A	3.3	3.2	3.1	3.1
8	Palassey - Chaurigacha	371-400	3.0	3.0	3.0	3.0	2.6	2.0	3.0	2.1	3.0	2.5	3.0	3.3	3.1	3.4	3.3	3.0	N/A	3.1	3.3	3.3	3.1
9	Chaurigacha - Berhampur	400-421	3.8	3.5	3.2	3.0	2.8	2.2	3.0	2.2	3.3	2.8	3.3	3.6	3.6	3.8	3.4	3.0	N/A	3.3	4.0	3.5	3.5
10	Berhampur – Mohammadpur	421-449	3.0	3.2	3.0	3.0	2.5	2.0	2.9	2.1	3.4	3.0	3.5	3.4	3.0	3.8	3.6	3.1	N/A	3.6	3.4	3.5	3.2

11	Mohammadpur - Nasirpur	449-479	3.4	3.3	3.7	3.0	2.9	2.6	3.0	2.2	3.0	3.2	3.5	3.9	3.6	3.8	3.5	3.1	N/A	3.7	4.1	3.9	4.0
12	Nasirpur – Jangipur Lock	479-505	3.7	3.1	3.9	3.2	3.3	2.3	3.0	2.5	4.2	3.2	3.8	4.4	3.8	4.8	4.0	3.7	N/A	3.4	4.0	4.8	4.5
13	Jangipur Lock – Farrakka Lock	505-544	3.0	3.0	3.0	2.7	2.0	1.9	1.9	1.9	2.2	1.8	2.6	2.6	2.6	2.8	2.6	3.0	N/A	3.0	3.2	3.0	3.1

3.0m =<	2.5m =< LAD <	2.2m =< LAD <	LAD <

Table A- 4: LAD for 2006 (in metres)

	Name	Chainage (km)	Jan IFN	Jan IIFN	Feb IFN	Feb IIFN	Mar IFN	Mar IIFN	Apr IFN	Apr IIFN	May IFN	May IIFN	Jun IFN	Jun IIFN	Jul IFN	Jul IIFN	Aug IFN	Aug IIFN	Sep IFN	Sep IIFN	Oct IFN	Oct IIFN	Nov IFN	Nov IIFN	Dec IFN	Dec IIFN
1	Tribeni - Balagarh	193-221	2.8	2.8	3.1	2.4	2.4	2.5	2.1	2.9	2.9	2.7	3.1	3.4	3.1	4.9	4.9	4.6	3.7	5.6	3.7	2.9	2.8	2.9	2.9	2.7
2	Balagarh - Kalna	221-245	3.1	3.1	3.1	2.1	2.1	2.4	1.8	2.7	2.4	2.6	3.5	3.1	2.8	4.8	4.1	3.6	3.9	5.9	4.0	3.7	3.2	3.0	2.8	2.7
3	Kalna - Samudragarh	245-263	3.2	3.1	3.1	2.4	2.0	2.6	1.8	2.8	2.3	2.8	3.8	3.1	2.8	5.5	4.4	4.7	4.7	5.3	4.1	3.5	3.2	3.1	3.0	2.7
4	Samudragarh - Nabadweep	263-280	3.4	3.0	3.0	2.5	2.2	2.7	1.9	2.7	2.5	2.7	4.2	3.1	3.3	4.8	4.2	4.3	4.5	6.1	4.6	3.0	3.0	3.0	3.0	2.7
5	Nabadweep - Patuli	280-322	2.4	2.4	2.6	2.1	1.8	2.6	1.5	2.5	2.2	2.6	3.5	2.7	2.5	4.9	4.3	4.3	3.7	5.3	3.8	3.0	3.0	3.0	3.0	2.8
6	Patuli - Katwa	322-345	3.0	3.0	2.8	2.1	1.6	2.6	1.5	2.8	2.4	2.6	3.7	2.7	3.2	4.7	3.2	3.2	3.0	6.5	3.7	3.5	3.0	3.0	3.0	2.8
7	Katwa - Palassey	345-371	2.8	2.8	2.8	2.0	1.6	2.2	1.5	2.5	2.3	2.5	2.7	2.4	2.7	4.7	3.9	3.9	3.5	4.4	3.1	2.6	2.8	2.6	2.5	2.4
8	Palassey - Chaurigacha	371-400	3.2	3.2	3.2	2.0	2.2	2.7	2.2	3.1	2.5	2.7	2.9	2.6	2.8	4.5	3.7	3.4	3.3	4.9	3.2	3.1	3.0	3.0	2.8	2.8
9	Chaurigacha - Berhampur	400-421	3.5	3.1	3.0	2.5	2.5	2.7	1.8	3.0	2.5	2.9	3.4	3.1	3.3	4.0	3.3	3.7	3.8	5.0	3.5	3.6	3.5	3.5	3.2	3.0
10	Berhampur –	421-449	3.8	3.2	3.0	2.5	2.4	3.5	2.2	3.5	3.1	3.9	3.2	3.0	3.3	3.7	3.1	4.4	3.7	3.8	3.6	3.8	3.7	3.7	3.3	3.5
11	Mohammadpur - Nasirpur	449-479	3.8	3.8	3.1	2.6	2.5	3.3	2.1	3.0	2.7	3.7	3.4	3.5	3.7	4.1	4.0	4.2	3.7	4.2	4.0	4.5	4.2	4.4	4.1	3.6
12	Nasirpur – Jangipur Lock	479-505	4.5	4.8	3.3	3.0	3.2	3.3	2.9	3.6	3.5	3.1	4.2	4.0	4.3	4.7	4.7	4.8	4.2	4.7	4.6	4.4	4.4	4.4	4.4	4.7
13	Jangipur Lock – Farakka	505-544	2.7	2.7	1.4	1.5	0.9	0.7	0.8	2.2	2.2	2.5	2.4	2.1	2.7	2.8	2.6	2.6	2.7	2.6	2.9	2.8	3.0	3.0	2.8	2.7

3.0m =<	2.5m =< LAD <	2.2m =< LAD <	LAD <

Annexure B

Studies of Changes to the River Course in Past Ten Years

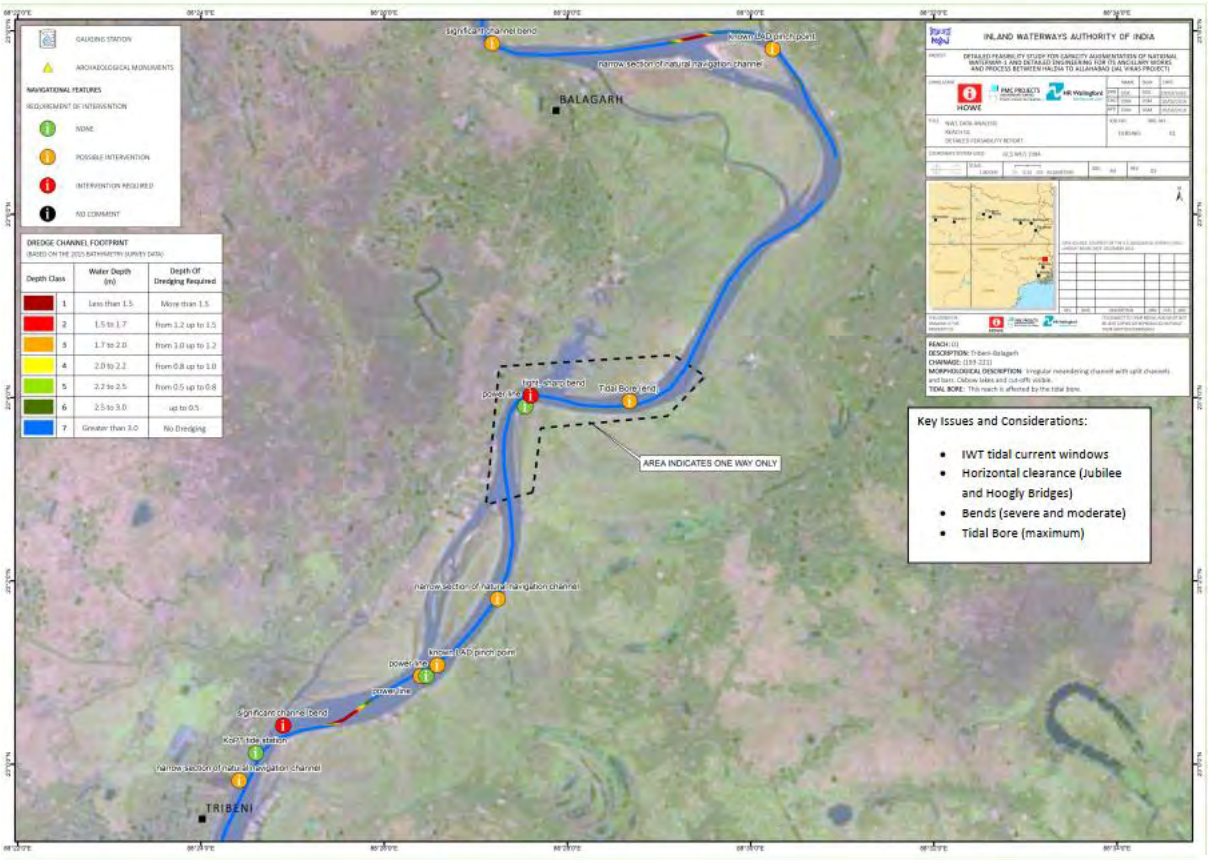
In this section, the general character of the river morphology is discussed having in mind its possible impacts to navigation. The river Ganga is a dynamic system which has continuous and unsteady inputs (e.g., water discharge, sediment transport) and thus, it is continuously adjusting in response to the changing inputs. Depending on those inputs, the river is significantly mobile, changing pattern from one season to another.

From the analysis of satellite images in the last 10 years, the general river typologies along each river reach have been identified. These are presented below.

Table: Description of the Morphological Character from Tribeni - Katwa

Reach	Description	Chainage	Morphological description
1	Tribeni-Balagarh	(193-221)	Irregular meandering channel with split channels and bars. Oxbow lakes and cut-offs visible
2	Balagarh-Kalna	(221-245)	Tortuous meandering channel showing split channels at bends. Oxbow lakes and cut-offs visible
3	Kalna-Samudragarh	(245-263)	Irregular meandering channel showing some degree of split at a few locations. Oxbow lakes and cut-offs visible
4	Samudragarh-Nabadweep	(263-280)	Tortuous meandering channel with bars at the near the inner bank of bends
5	Nabadweep-Patuli	(280-322)	Tortuous meandering channel with chutes at bends and several split channels. Oxbow lakes and cut-offs visible
6	Patuli-Katwa	(322-345)	Tortuous meandering channel with localised bars and chutes at bends and some degree of split channels. Oxbow lakes and cut-offs visible

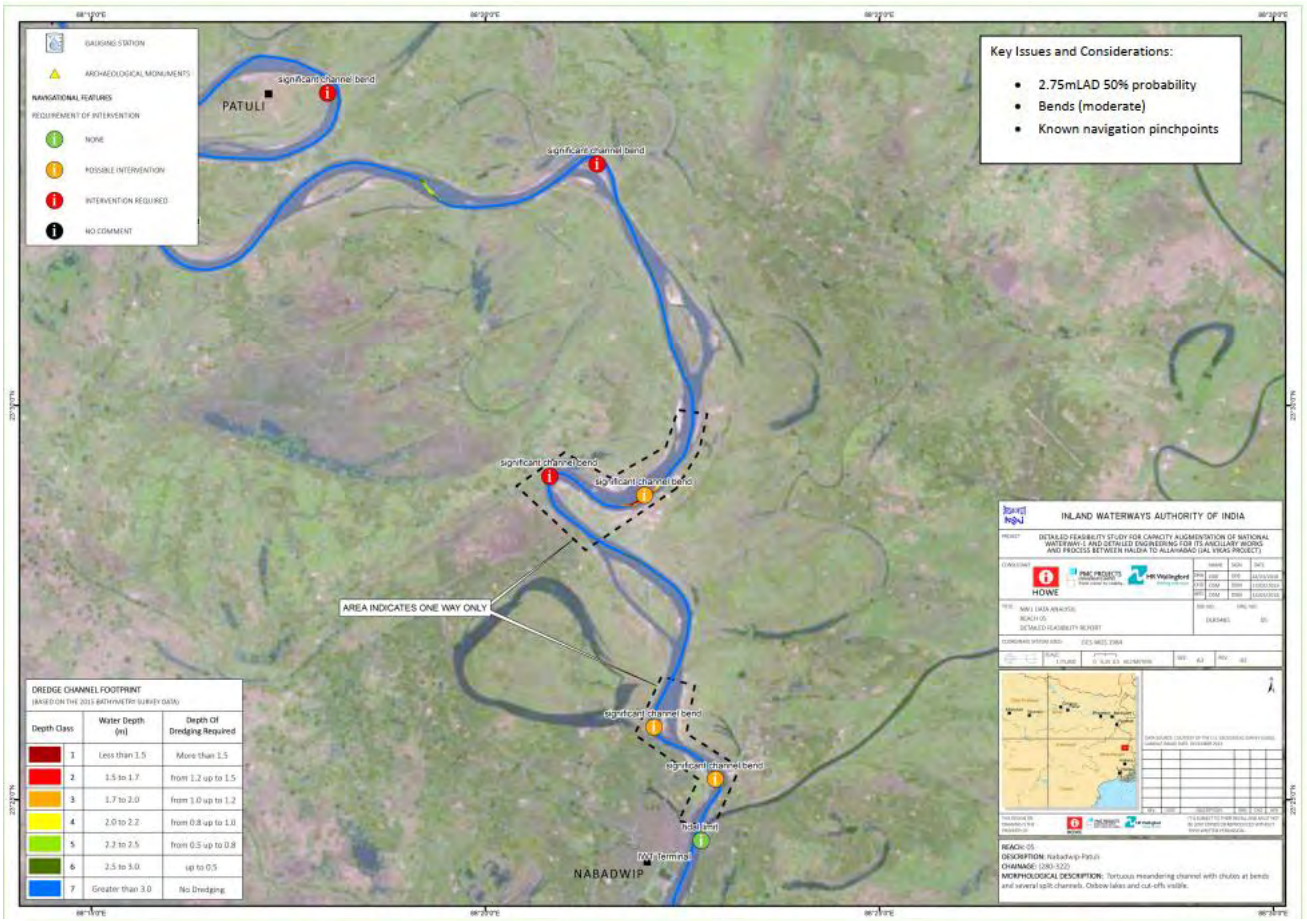
Annexure C: River Reach Figures: Farakka - Tribeni (351 Km)

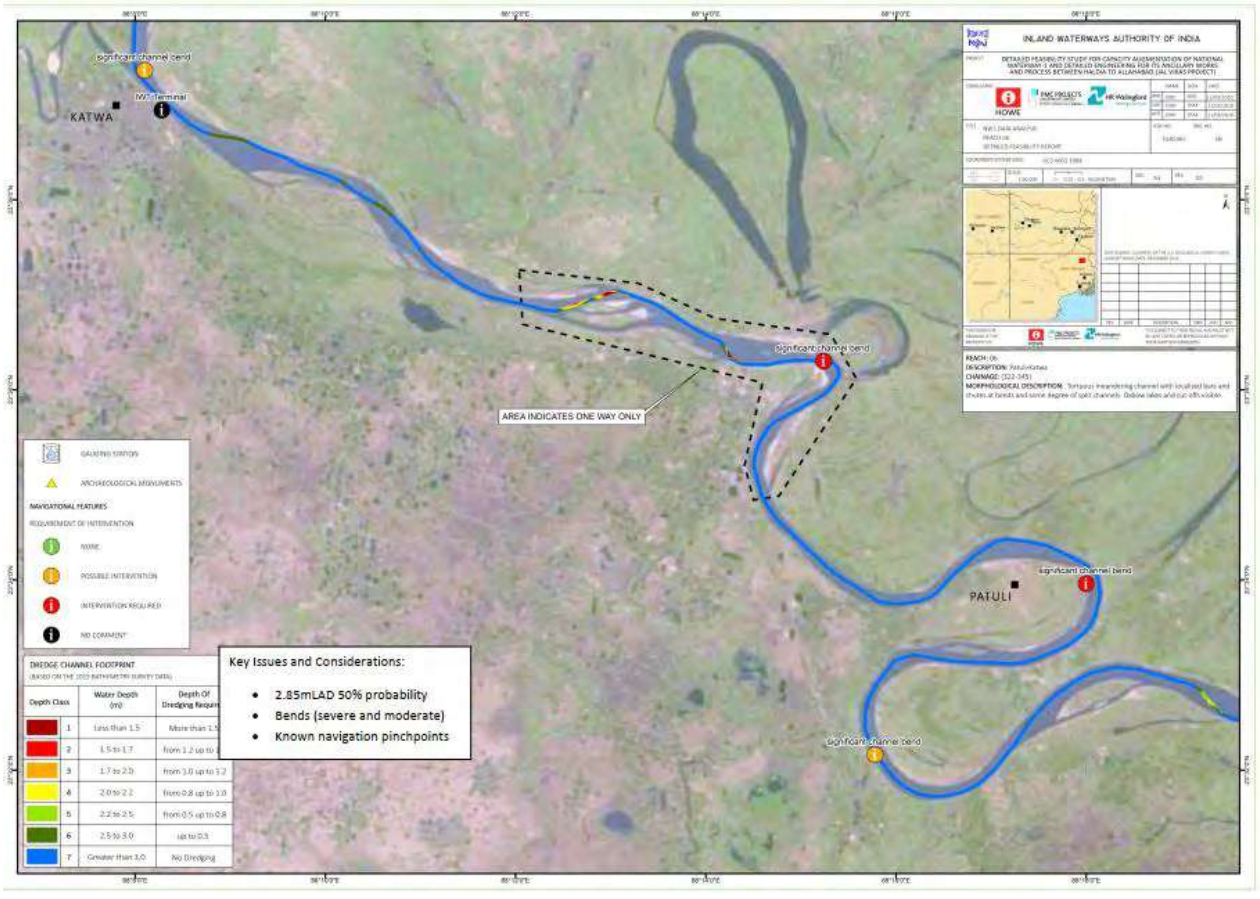





SAMUDRAGARH
significant channel bend
AREA INDICATES ONE WAY ONLY
Key Issues and Considerations:
2.75mLAD 50% probability
Bends (severe and moderate)
Known navigation pinchpoints
KALNA
INLAND WATERWAYS AUTHORITY OF INDIA


NABADWIP
Key Issues and Considerations:
2.80mLAD 50% probability
Bends (severe and moderate)
Horizontal clearance Goranga Setu
Known navigation pinchpoints
AREA INDICATES ONE WAY ONLY
SAMUDRAGARH
INLAND WATERWAYS AUTHORITY OF INDIA


PATULI
significant channel bend
Key Issues and Considerations:
2.75mLAD 50% probability
Bends (moderate)
Known navigation pinchpoints
AREA INDICATES ONE WAY ONLY
NABADWIP
INLAND WATERWAYS AUTHORITY OF INDIA
DREDGE CHANNEL FOOTPRINT


KATWA
significant channel bend
AREA INDICATES ONE WAY ONLY
PATULI
Key Issues and Considerations:
2.85mLAD 50% probability
Bends (severe and moderate)
Known navigation pinchpoints
INLAND WATERWAYS AUTHORITY OF INDIA

"CAPACITY AUGMENTATION OF NATIONAL WATERWAY.1"

(Jal Marg Vikas Project)

ENVIRONMENTAL IMPACT ASSESSMENT REPORTS

VOLUME - 8:
Environmental Management Plan (EMP)
for
Maintenance Dredging

May 2016

(Revised September 2016)

EQMS India Pvt. Ltd. In JV with IRG Systems South Asia Pvt. Abnaki Infrastructure Applications & Integrated Development Pvt. Ltd.

Table of Contents

CHAPTER 1. EMP FOR MAINTENANCE DREDGING 145
1.1.Introduction 145
1.2.Description of Environment 145
1.3.Environmental Management Plans 147
1.3.1. Environmental Management Plan for Maintenance Dredging 147

List of Tables

Table 1.1 : Salient Environmental Features along NW-1 Alignment..... 146

Table 1.2 : Dredging and Disposal Management Plan for NW-1..... 148

Table 1.3 : Environmental Management Plan for Maintenance Dredging 150

List of Figures

Figure 1.1 : Location Map 145

Figure 1.2 : Fish Breeding and Spawning Grounds along NW-1 (Haldia to Baidyapur Stretch)..... 149

Figure 1.3 : Fish Breeding and Spawning Grounds along NW-1 (Baidyapur to Sahibganj Stretch) 150

Figure 1.4 : Fish Breeding and Spawning Grounds along NW-1 (Sahibganj to Patna Stretch)**Error! Bookmark not defined.**

Figure 1.5 : Fish Breeding and Spawning Grounds along NW-1 (Patna to Allahabad Stretch)**Error! Bookmark not defined.**

List of Annexure

Annexure 1.1: Standards for onshore & off-shore disposal of dredged material 156

CHAPTER 1. EMP FOR MAINTENANCE DREDGING

1.1. Introduction

Inland waterways Authority of India (IWAI) has proposed to augment the navigation capacity of waterway NW-1 (Haldia to Allahabad) and continue to maintain the entire stretch. Under this project, IWAI has proposed to develop the infrastructure facility like Multimodal terminals, Navigation aids for day & night navigation, River information system with all hardware and software, Ro-Ro jetties, Bank & slope protection, River training works, Equipment like tow barges, inland vessels, survey vessels including rescue boats & survey equipment and Dredging of the navigation channel, to augment the navigation capacity of the waterway. Location map of NW-1 is given in Figure 1.1.

To improve the navigation in national waterways-1 IWAI has proposed a project "Capacity Augmentation of the Nation Waterway 1 (1620 kms, with minimum water depth of 2.5-3 m) between Haldia and Allahabad". For which dredging is required at different locations along the NW-1 and to be carried out so as to maintain the least available depth (LAD).

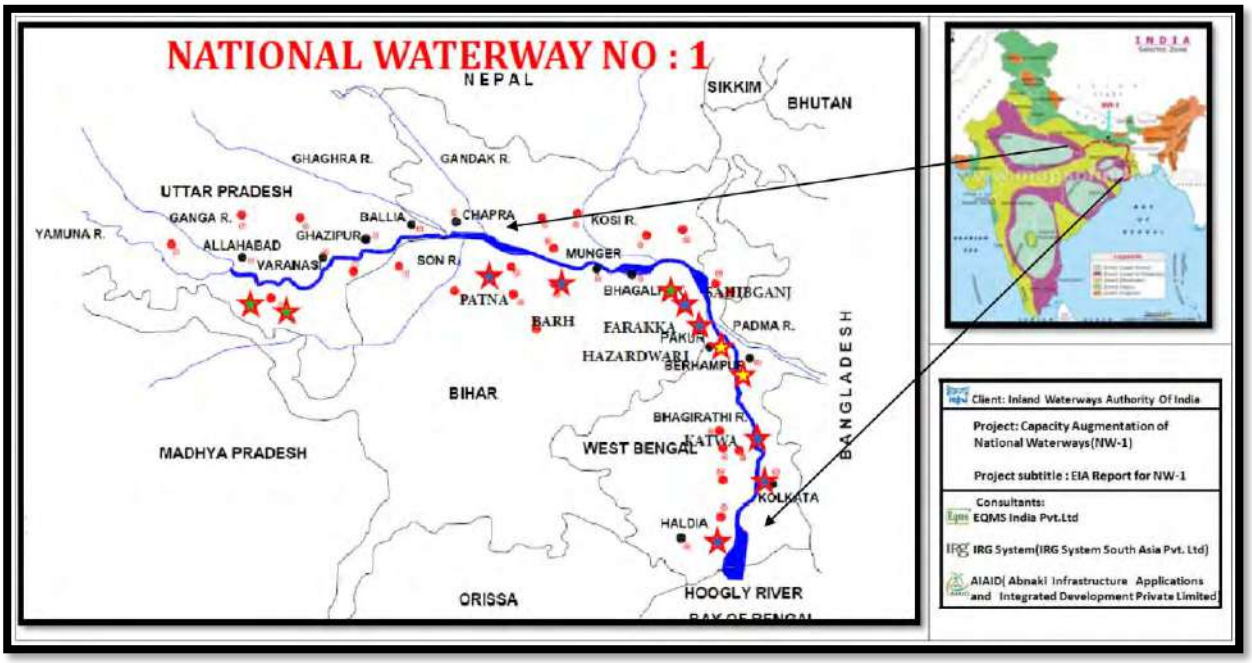


Figure 1.1 : Location Map

1.2. Description of Environment

The NW-1 stretch starts from Haldia to Allahabad (1620 KM long) on Ganga - Bhagirathi - Hooghly river system. The Hooghly river portion of the waterway from Haldia to Nabadwip is under tidal influence. From Nabadwip to Jangipur the NW-1 stretch is formed by Bhagirathi river. Bhagirathi river flow is regulated through barges at Farakka and Jangipur. From Farakka upstream the navigable route depends upon the main Ganga river flow. The Feeder Canal and the navigation lock at Farakka become the link between the Bhagirathi and main Ganga upstream of Farakka Barrage. NW-1 is passing through four states namely UP, Bihar, Jharkhand and West Bengal. The salient environmental features around NW-1 within, 500m, 2km and 10km stretches are summarised in **Table 1.1.**

Table 1.1 : Salient Environmental Features along NW-1 Alignment

S. No.	Environmental Features	Within NW-1 (500 M)	Within 2 km area around NW-1	Within 10 km area around NW-1
1	**Ecological Environment**			
A	Presence of National Park/Biosphere Reserves, Tiger reserve etc.	None	None	None
	Presence of Wildlife Sanctuary	Yes o) Kashi Turtle Sanctuary at Varanasi p) Vikramshila Dolphin Sanctuary Kahalgaon to Sultanganj q) Hilsa Sanctuary stretch in west Bengal	None	Yes Udhwa lake sanctuary in Jharkhand (about 9 km away from NW-1
B	Reserved /Protected Forests	None	None	Yes (Bethuadahari RF, Bahadurpur RF & RF near Rajmahal Hills)
C	Wetland of state and national interest	None	None	Yes (Udhwa Bird sanctuary)
D	Migratory route for wild terrestrial animals	None	None	None
E	Presence of Schedule-I Terrestrial Fauna	None	Yes Migratory birds near Farakka Barrage and surrounding	Yes Migratory birds at important birds' areas
F	Presence of Schedule-I Aquatic Fauna	Yes Dolphin, and Turtle	None	None
G	Important Bird Area	Vikramshila sanctuary area	Yes 3. Danapur Cantonment area 4. Mokama tal 5. Kurseala river course and diyara floodplain. 6. Farakka Barrage and surround area	Yes Udhwa lake sanctuary

S. No.	Environmental Features	Within NW-1 (500 M)	Within 2 km area around NW-1	Within 10 km area around NW-1
H	Seismicity	NW-1 falls in Zone-III (moderate risk) and zone IV (high damage risk zone) as per Seismic Zoning Map of India		
B.	**Social Environment**			
I	Physical Setting	Rural, Industrial and Urban		
	Densely populated area	Allahabad, Sirsa, Mirzapur, Chunar, Varanasi, Zamania, Ghazipur, Gahmar, Buxar, Ballia, Chappra, Patna, Barh, Bihat, Munger, Bhgalpur, Kahalgaon, Sahibganj, Farakka, Berhampore, Katwa, Kalna, Kolkatta and Haldia are densely populated areas.		
J	Physical Sensitive Receptors	Yes Ghats, Temples, Schools, Colleges and Hospitals are present all along the NW-1.		
K	Archaeological Monuments	Yes There are 9 archaeological sites located within 300 m area of the NW-1 and these are Kardmeshwar Mahadeva Mandir, Ramnagar fort, archaeological excavation site, Varanasi, Manmahal and observatory, St. John's Church, Temple of Gour Chandra and Krishnachandra at Chatra (Gaur Chandra Ghat), Hazardwari Palace, Sindhi Dalan and Jami Masjid.		

1.3. Environmental Management Plans

Major activities associated with the project are construction and operation of the civil interventions, barge movement and maintenance dredging. Barge movement and maintenance dredging will be carried out during the operation phase of the project only whereas development of civil interventions will have components distributed during design, construction and operation phases. Civil interventions include construction of jetty, terminals, river training works, bend corrections, barge maintenance facility, and RO-RO jetties. A detailed environmental management plan for each associated development for all the three phases of the project, i.e. design/pre-construction, construction and operation phase is prepared as applicable. EMP lists the activities involved, associated impact with each activity on environment, suggestive mitigation measures, allocated environment budget for impact mitigation, implementation plan covering monitoring, reporting and implementation and supervisory responsibility.

-

1.3.1. *Environmental Management Plan for Maintenance Dredging*

Maintenance dredging will be carried out during operation phase of the project to maintain LAD for navigation. Maintenance dredging will be carried out as per the availability of the depth naturally and depth required for movement of the cargo depending on the size of the cargo planned to ply in the stretch. The design consultant estimates estimation of the required amount of maintenance dredging in different stretch of the waterway. An analysis has been done during EIA study to establish the environmental, biological and social sensitivity of the waterway and a dredging and dredge disposal management plan is prepared which is presented in **Table 1.2.** Environment Management Plan for Dredging Activity is given in **Table 1.3.**

-

Table 1.2 : Dredging and Disposal Management Plan for NW-1

Stretch/Dredging Quantity & Quality/Proposed Disposal Location	**Biological, cultural, social and religious Sensitivity**	**Aquatic sensitivity**		**Management Measures**
		Sensitive zone	**Breeding & Spawning Period and grounds***	
Stretch: Haldia to Farakka Dredged Qty: 3620000 cum between Tribeni to Farakka Dredged Quality: Not contaminated Disposal Location: In river/shoals/scours	Imp. Bird area- Farakka Barrage and adjoining area (Surrounding NW-1) Archaeological locations- St. John's Church (300 m, E), Temple of Gour Chandra and Krishna Chandra at Chatra-Gaur Chandra Ghat (0 m, W) & Hazardwari Palace (30 m, E) Fest & Festivals: Ganga Sagar Mela at Sagar (January)	Hilda Sanctuary (Within NW-1)- 4 locations	Peak spawning season for Hilsa is July-August Breeding & Spawning grounds for Hilsa: Stretch between Nischintpur (Kolkata) & Diamond Harbour, Hoogly ghat & Kalna and Lalbagh to Farakka23	Dredging should be regulated during July-August Dredge disposal should not be carried out within Sanctuary area and other defined sensitive locations Dredge disposal should be carried out at minimum distance of 100 m from bank Dredging & disposal should not be carried out during time & location of festivals
Stretch: Farakka to Barh Dredged Qty: 3960000 cum Dredged Quality: Not contaminated Disposal Location: In river/shoals/scours	Imp. Bird Area- Udhwa Lake Bird Sanctuary (9 km, W), Vikramshila Gangetic Dolphin Sanctuary- VGDS (within NW-1), Mokama Taal (Barah) Wetlands (Along NW-1) & Kurseala River Course and Diyara Flood Plains (Along NW-1) Archaeological locations- Sindhi Dalan (300 m, W) & Jama Masjid (140 m, W) Religious locations: Community Temple at Sahibganj Terminal site (to be shifted) Fest & Festivals: Chatt (Oct-Nov)	Vikramshila Gangetic Dolphin Sanctuary (within NW-1)	Major Birth season for Dolphin is October to March24 Breeding Ground: Very shallow waters for giving birth	Dredging should be stopped if Dolphins are sighted Dredge disposal should not be carried out within Sanctuary area and other defined sensitive locations Dredge disposal should be carried out at minimum distance of 100 m from bank Dredging & disposal should not be carried out during time & location of festivals
Stretch: Barh to Patna Dredged Qty:16,00,000 cum Dredged Quality: Not contaminated Disposal Location: In river/shoals/scours	Fest & Festivals: Chat (Oct-Nov)	None	Peak spawning season for Indian Major Carps is May-August Breeding & Spawning grounds: Shallow waters and areas inundated during monsoon season25	Dredging should be stopped if any dolphin or big aquatic species is sighted Dredging should be avoided during May-August Dredge disposal should be carried out at minimum distance of 100 m from bank Dredging & disposal should not be carried out during time & location of festivals
Stretch: Patna to Buxar Dredged Qty: 27,70,000 cum Dredged Quality: Not contaminated Disposal Location: In river/shoals/scours	Imp. Bird Area- Danapur cantonment area (2 km, S) Fest & Festivals: Chatt (Oct-Nov)	None	Peak spawning season for Indian Major Carps is May-August Breeding & Spawning grounds: Shallow waters and areas inundated during monsoon season	Dredging should be stopped if any dolphin or big aquatic species is sighted Dredging should be avoided during May-August Dredge disposal should be carried out at minimum distance of 100 m from bank Dredging & disposal should not be carried out during time & location of festivals

[23]Perspectives of reproductive biology and spawning behavior of Indian shad (*Tenualosa ilisha*)-A global review, Utpal Bhaumik, Former Divisional Head, Riverine Ecology and Fisheries, Central Inland Fisheries Research Institute, Barrackpore, India

[24]Ganges River Dolphins, WWF (http://wwf.panda.org/what_we_do/endangered_species/cetaceans/about/river_dolphins/ganges_river_dolphin/)

[25] Genetic Resources of Indian Major Carps, Their Distribution and Characterization, FAO (http://www.fao.org/docrep/006/x3850e/X3850E02.htm)

Stretch/Dredging Quantity & Quality/Proposed Disposal Location	**Biological, cultural, social and religious Sensitivity**	**Aquatic sensitivity**		**Management Measures**
		Sensitive zone	**Breeding & Spawning Period and grounds***	
Stretch: Buxar to Varanasi Dredged Qty: 29,00,000 cum Dredged Quality: Not contaminated Disposal Location: In river/shoals/scours	Archaeological locations- Kardmeshwar Mahadeva Mandir (240 m, W), Ramnagar, fort (40 m, E), archaeological excavation site, Varanasi (130 m, E) & Manmahal and observatory (40 m, W) Cultural locations: Ghats Fest & Festivals: Ganga Mahotsav at Varanasi (Oct-Nov) & Dhrupad Mela at Tulsi Ghat of Varanasi (Feb to March)	None	Peak spawning season for Indian Major Carps is May-August Breeding & Spawning grounds: Shallow waters and areas inundated during monsoon season	Dredging should be stopped if any dolphin or big aquatic species is sighted Dredging should be avoided during May-August Dredge disposal should be carried out at minimum distance of 100 m from bank Dredging & disposal should not be carried out during time & location of festivals
Stretch: Varanasi to Allahabad Dredged Qty: Nil Dredged Quality: NA Disposal Location: NA	Fest & Festivals: Ganga Mahotsav at Varanasi (Oct-Nov), Dhrupad Mela at Tulsi Ghat of Varanasi (Feb to March) & kumbh at Allahabad (Jan-Feb)	Kashi Turtle Sanctuary (within NW-1)	Spawning season for River Turtles: March-April Breeding & Spawning grounds: Wetlands/River banks	Dredging should be regulated during July-August Dredge disposal should not be carried out within Sanctuary area and other defined sensitive locations Dredge disposal should be carried out at minimum distance of 100 m from bank Dredging & disposal should not be carried out during time & location of festivals

*Map Showing locations of breeding & spawning grounds is given in **Figure 1.2-1.3**

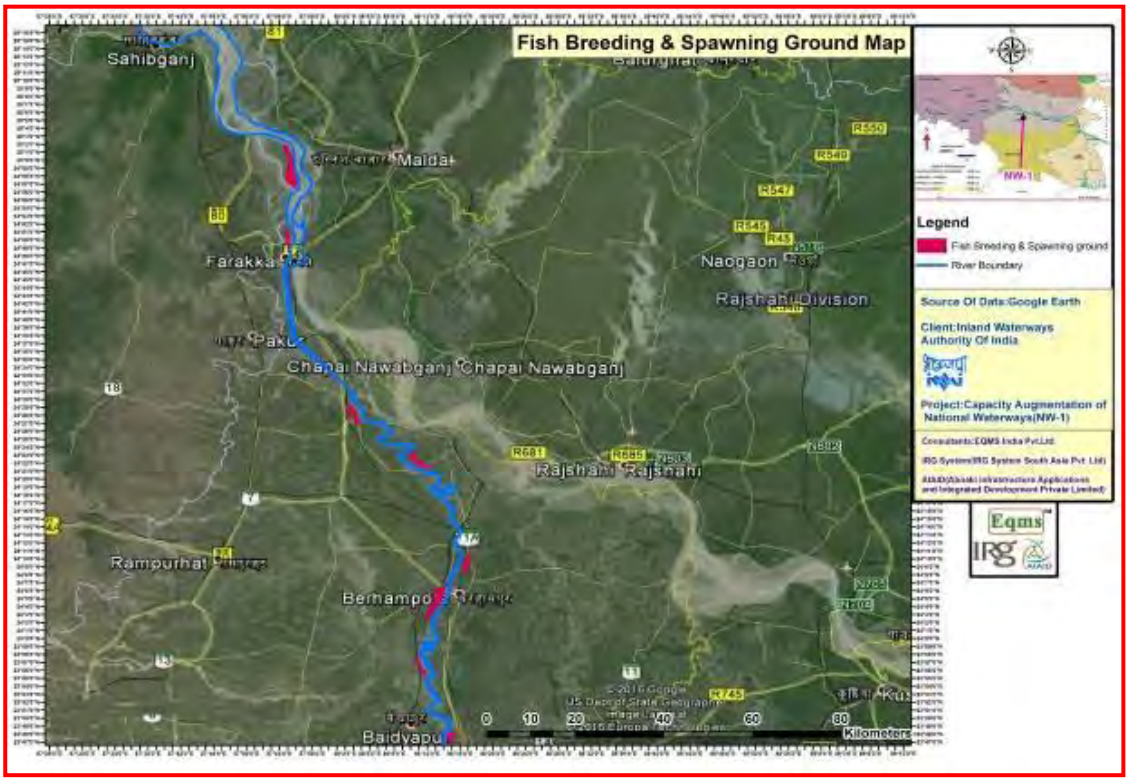


Figure 1.2 : Fish Breeding and Spawning Grounds along NW-1 (Haldia to Baidyapur Stretch)



Figure 1.3 : Fish Breeding and Spawning Grounds along NW-1 (Baidyapur to Sahibganj Stretch)

:Environmental Management Plan for Maintenance Dredging

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
1. Physical Environment							
Impact on Soil quality & River Bed sediments	• Standards should be developed by concerned authorities for onshore and off-shore dredged material disposal and development of the process to ensure its compliance • Dredged material shall be checked for toxicity and contamination prior its disposal for prevention of contamination of water and its impacts on aquatic life. International standards for judging onshore & off-shore disposal of dredged material are given in **Annexure 1.1.** • If any stage on land disposal of dredge material is planned, then dewatering of the dredged sediments should be carried out prior to on land disposal. • If dredge material is found contaminated at any particular location, then it should be disposed on land after decontamination. On land disposal of dredged material						

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	should be carried out only at approved TSDF site such as approved TSDF site of Haldia Dock Complex at Sagar. The contaminated dredge material shall be collected in the leak proof container for decontamination and disposal to the landfill site. • The disposal facilities should be designed with adequate liners to contained the leachate and also should have provision of leachate collection and testing to periodically check the functionality of the disposal site. • Dredge material should not be disposed in river banks, Disposal should be inline with the dredging sensitivity analysis defined at Table 1.2 above . • If dredged material is disposed on land, then the care should be taken that the tail water is collected and made free from sediments prior to its discharge back to surface water body.						
Water Quality	• Attempt shall be made to minimizing and optimizing the dredging requirements by effective assessment and study of the Thalweg profiles of the river. This can be achieved some of the following measures: o Increase use of bandalling which helps in diverting the flow of river towards the channel and reduces the quantity of dredging o Low draft vessels should be deployed which will reduce the requirement of dredging • Dredged material shall be checked for toxicity and contamination prior its disposal onshore for prevention of contamination of water and its impacts on aquatic life. Standards for judging onshore & off-shore disposal of dredged material are given in **Annexure 1.1.** • Dredging should not be carried out during very low flow seasons so as to minimize the dispersion of fine sediments • Usage of silt or air bubble screens/curtains should be	Water Act, 1974	Within River	During Dredging Operation	Part of Project Cost (IWAI & Contractor)	Contractor	IWAI/PMU/PMC[26]

[26] It is proposed to set up Project Unit (PMU) in IWAI to manager social and environmental aspect of NW1 augmentation. PMC (Project Management Consultants) anticipated to be appointed for project management and quality check.

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	explored to minimize the sediment release during dredging operations. Silt/air bubble screens can hang from surface floats or stands attached to the bottom and held upright by sub-surface floats (PIANC). The use of silt curtains is reported to considerably reduce the loss of suspended sediments from the dredge area, by up to 75% where current velocities are very low. However, they are generally ineffective in areas with high current velocities which exceed 0.5 m/s (UK Marine SACs Projects). • To minimize the sediment dispersal during disposal of dredge sediments, it should be place as close to the bed possible preferable at a level of 1m above the bed to minimise the dispersal of sediments. • Provision shall be made of emergency response equipment like floating blooms to deal with any emergency of oil spills or leakages. Regular servicing and maintenance of dredgers should be taken up so as to prevent any leakage of the dredged material. Leakage detection of the sediment transportation pipe shall be carried out regularly to prevent any sediment loss and water pollution at leakage location. Corrective actions should be taken immediately after detection of such leaks. • Cutter head of CSD should be selected according to material to be dredged so as to maximize the dredged material transport from dredging point to suction mouth and prevention of sediment loss and re-suspension. • Ratio of cutter revolutions and pump velocity should be adjusted to ensure that cutter advancement rate is not greater than the ability of the suction pump to remove the material that is cut. This will prevent the suspension of the dredged material. • Dredge cuts and lifts should be designed so as to prevent undercutting of material and hence a collapse of material locally at the cutter head, leading						

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	to an increase in the sediment being disturbed by dredging. • If dredge material is found contaminated at any particular location that it should be disposed off-shore. Off-shore disposal of dredged material should be carried out only at approved TSDF site such as approved TSDF site of Haldia Dock Complex at Sagar. • Dredge material if disposed on river banks or on land caution should be exercised as per the Dredging and Disposal Management Plan for NW-1 given at Table 1.2 above. • *If dredged material is disposed at land, then the care should be taken that the tail water is collected and made free from sediments prior its discharge back to surface water body. Regular monitoring of the excess water should be done in case dredged material is disposed on land. This will help in assessing the efficiency of sediment trap system provided at site and controlling contamination of water by minimizing the sediments.* • Sensitivity along NW-1 for dredge disposal is discussed in Table 1.2 above. Dredge material if disposed on river banks or on land caution should be exercised as per the Dredging and Disposal Management Plan is prepared for entire for NW-1 considering the sensitivities discussed in Table 1.2						
2. Biological Environment							
Aquatic Ecology- Removal of benthic communities, increasing underwater noise levels, increasing sediments/turbidity, release of locked pollutants in sediment, disposal of	• Dredging plan including timeframe should be prepared for each stretch prior initiating dredging activity. No dredging should be undertaken within VGDS, Turtle sanctuary. No dredging shall be carried out in winter season (November to February) along Mokama Taal to minimize impact on aquatic species and avifauna. • Dredging operations should not be carried out during the breeding and spawning season of the valued aquatic species which is from June to August (Monsoon season). Bends and meandering locations are the most potential	Wildlife Protection Act, 1972 & 1993 and Bio-diversity Act, 2002	Within River	During Dredging	Part of Project Cost (IWAI & Contractor)	Contractor	IWAI/PMU/PMC

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
dredged material, increasing depth	breeding grounds and are indicated at Figure No. 1.2-1.6 • Dredging if required to be taken at critical stretches (Turtle and Dolphin Sanctuaries) as mention above then dredgers should be provided with turtle and Dolphin deflectors. This would prevent the sucking of the animals (fish or turtle) swimming nearby. But such dredgers are inefficient and costly. • Measures like provision of bubble curtains or creation of agitation in water should be carried out prior carrying out dredging operations so as to provide avoidance time and let the species move away from drudging point. and to prevent any injury/mortality. Dredging operations should be halted in case of sighting of aquatic mammal in adjoin locations. • Contractors should submit SOPs and action time chart with risk management plan prior to any dredging work. Dredging sub-contractor should follow the defined safety procedures to avoid accidents and spills, and IWAI should ensure that other vessel users are provided with adequate information and instruction to avoid conflict with the dredgers.						
Avifauna (Migratory & water birds)	• Dredging operations should be restricted to day time only, i.e. 6:00 Am-10:00 Pm only to minimize noise impacts on the avifauna near Important Bird Areas listed at Table 1.2 and located close to river. • Dredgers should be equipped with the noise reduction/masking equipment to reduce the noise generation inside and outside water. Noise from dredgers can be reduced at source (dredger) by isolation of exhaust system, by keeping engine room doors shut and by shielding.	Wildlife Protection Act, 1972 & 1993 and Bio-diversity Act, 2002	Within River & bird areas along NW-1	During Dredging	Part of Project Cost (IWAI & Contractor)	Contractor	IWAI/PMU/PMC
3. Socio-Economic Environment							
Location of Socio-economic importance and socio-economic	• Dredging operations should be restricted to day time only, i.e. 6:00 Am-10:00 Pm only to minimize noise impacts on the residents of nearby settlements. Dredgers should be equipped with the noise reduction/masking equipment to reduce the noise generation	--	Area near the dredging operations and dredging locations	During dredging operation	Part of project cost (IWAI/Contractor)	Contractor	IWAI/PMU/P

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
environment	• Dredgers should be placed in consultation with the fishermen so as to minimize the impact on their equipment/gears and their fishing activities • Dredging should not be carried out in the areas close to Ghats in Varanasi and buffer of 2 km should be maintained for dredging during time of religious gatherings during Chat and Kumbh festivals. • In case contaminated dredged material is disposed on land, then it should be disposed at approved TSDF sites to prevent any harm to community residing in nearby areas. One of such approved TSDF site is located Sagar (Haldia Dock Complex site) • Material to be disposed on land may create nuisance odour due to exposure of anaerobic sediments with air. Thus if land disposal is involved than disposal site should not be in upwind direction of any settlement area or sensitive locations like hospitals, schools etc. • Log book should be maintained for recording the accidents at site/mortality of the any marine mammal should be maintained. Analysis shall be carried out to assess the reason for the accident/mortality and measures should be taken to prevent repetition of the event. • Contractors having experience of dredging and well trained staff should only be allowed to carry out dredging. This will help in prevention of spillage of dredged material or any accidents during the dredging operations • Dredging plan should be prepared by contractor and submitted to IWAI for approval prior to carrying out dredging operations. Dredging plan should be reviewed considering its location w.r.t environmental sensitive locations/archaeological locations/cultural festival/pollution influx in the area/dredged material quality & texture/available depth etc. as given in this EIA report and through local sources and past experience. • Contractors should submit method statement & risk assessment plan prior to carrying out any dredging work. Dredger should follow the defined safety procedures to avoid accidents and spills, and IWAI should ensure that other vessel users are provided with adequate information and instruction to avoid conflict with the dredgers. • Post-dredging monitoring of the sediment nature, rate of sedimentation shall be made part of contractor's job as best dredging						MC

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	practise. This will provide information which can be taken into consideration before the next maintenance dredge is carried out. • Re-use of dredged material should be explored if dredged material is not contaminated. Economically and environmentally feasible options can be adopted to minimize the dredge spoil burdens. Some of such measures include • Dredged sediment can be used for beach nourishment/development of artificial beach/deposition on shoal & thus enrichment of habitat o Dredged material can be explored for its usage for coast/bank protection purpose/flood protection o Use of dredged material can be explored for land filling, as construction material for road foundations, dikes, mounds, noise/wind barriers.						

Appendix 3.1 Annexure 1.1: Standards for onshore & off-shore disposal of dredged material

Criteria for Disposal of Harmful Bottom Sediments: No specific standards are defined in India for disposal of dredged material. If dredged material is toxic / harmful then these sediments should either be disposed off in landfill or in Sea. Criteria followed in Japan are given in the **Table 1**.

Table 1: Criteria for Harmful Bottom Sediments, Japan (unit: mg/l)

Contaminated Material	Dumping in Landfills (mg/l)	Dumping at sea (mg/l)
Alkyl mercuric compounds	Not detectable	Not detectable
Mercury and its compounds	0.005	0.005
Cadmium and its compounds	0.1	0.1
Lead and its compounds	1	1
Organophosphorus compounds	1	1
Chromium (VI) compounds	0.5	0.5
Arsenic and its compounds	0.5	0.5
Cyanogen compounds	1	1
PCB	0.003	0.003
Copper and its compounds	-	3
Zinc and its compounds	-	5
Fluoride	-	15

Note: Criteria are based on the examination of dissolution of contaminated materials

Source: Assessment of the Environmental Impact of Port Development, United Nations, New York, 1992

Criteria for Off-shore dumping of Dredged material: No criteria are defined for off-shore disposal of dredged material in India, thus reference to the UN standards can be made and is given in **Table 2**.

Table 2: Criteria for Off-Shore Dumping of Dredged Material (unit: ppm or ppb)

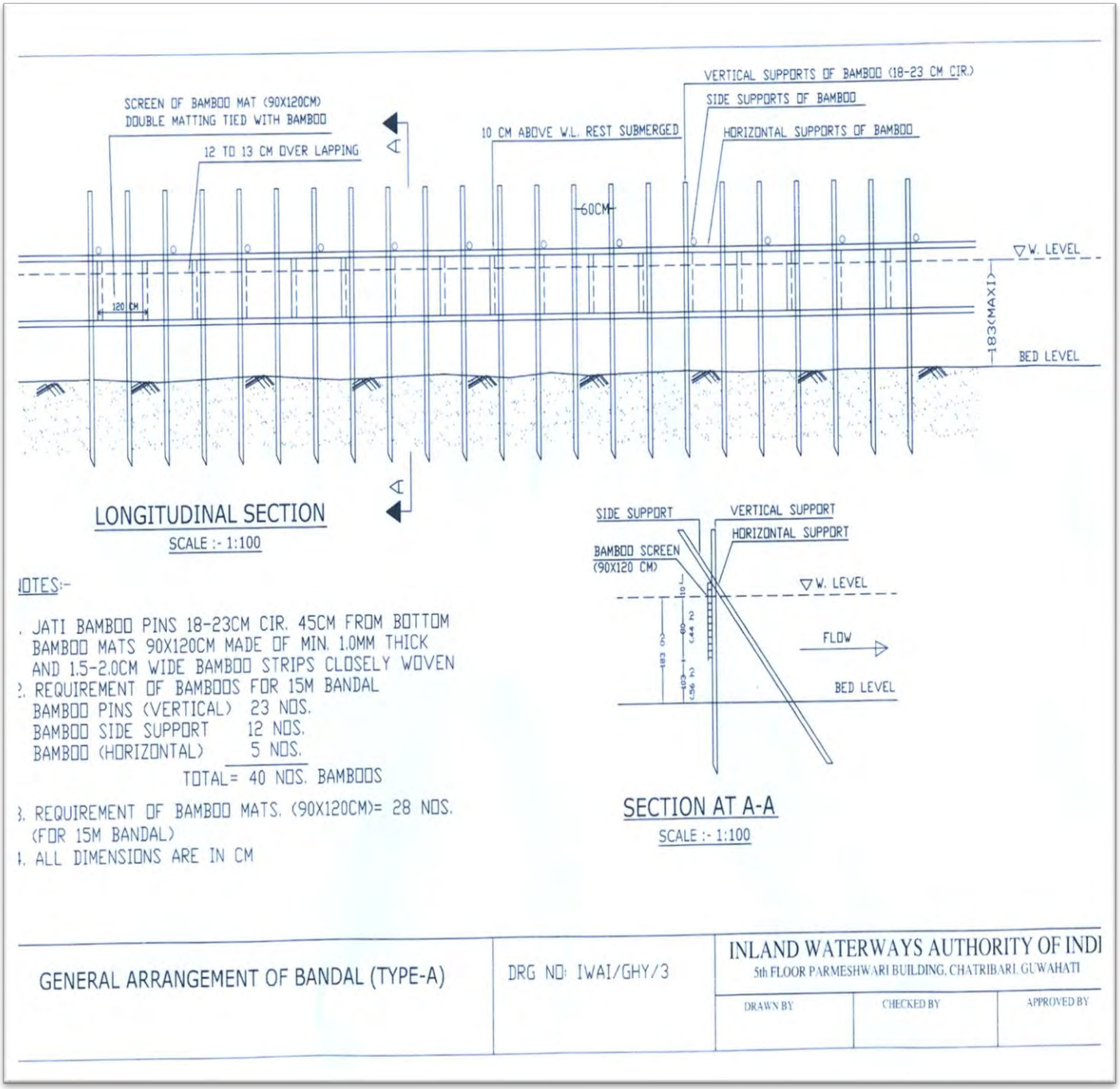
Substance	Canada	USA
PCB (ppb)	100	380

Substance	Canada	USA
Hg (ppm)	0.5	0.15
Cd (ppm)	0.60	0.7
Zn (ppm)	169	105
Cu (ppm)	45	68
As (ppm)	(5 – 25)	12.5
Pb (ppm)	45	33
Organochlorine pesticide (ppb)	10 for any compound	5.0 Sum of DDT, DDE and DDD
Polyaromatic hydrocarbon (ppb)	(1,000) Sum of 16 compounds	680 Sum of six low mol. Wt. compounds 2,690 Sum of 10 high mol. Wt. compounds

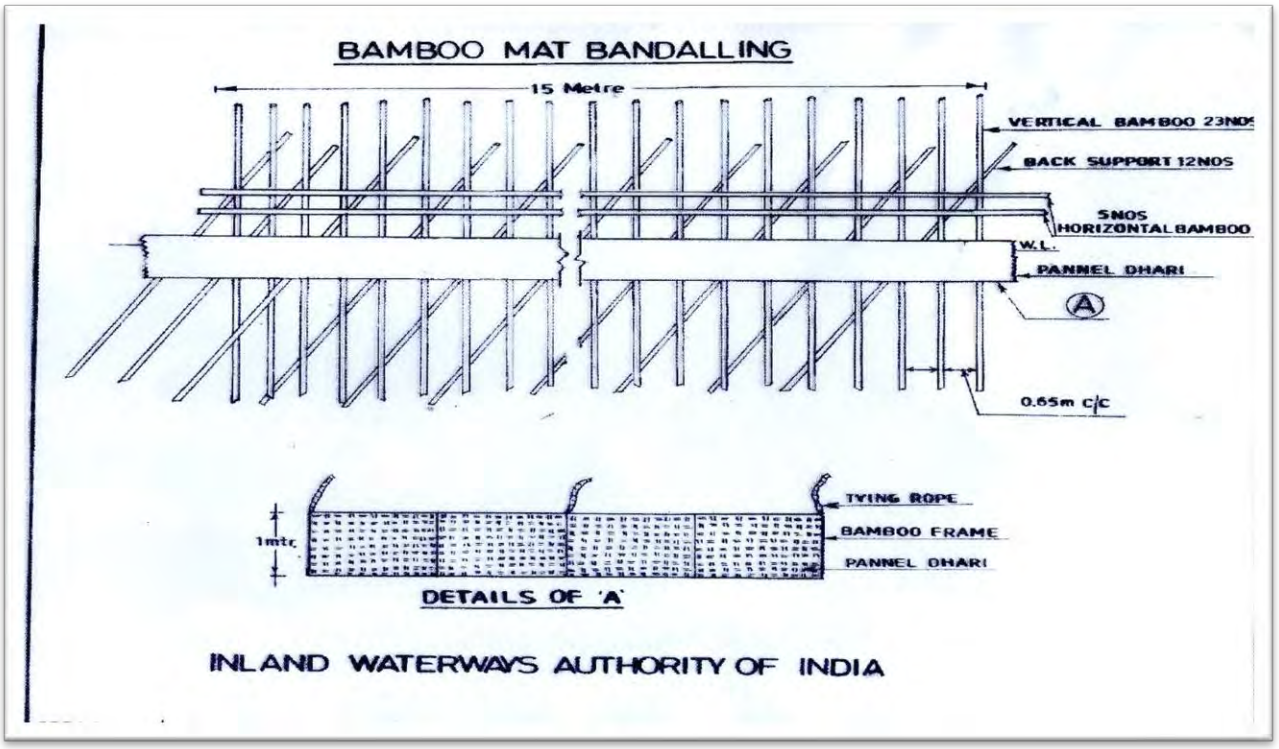
Source: Assessment of the Environmental Impact of Port Development, United Nations, New York, 1992

Enclosure-1

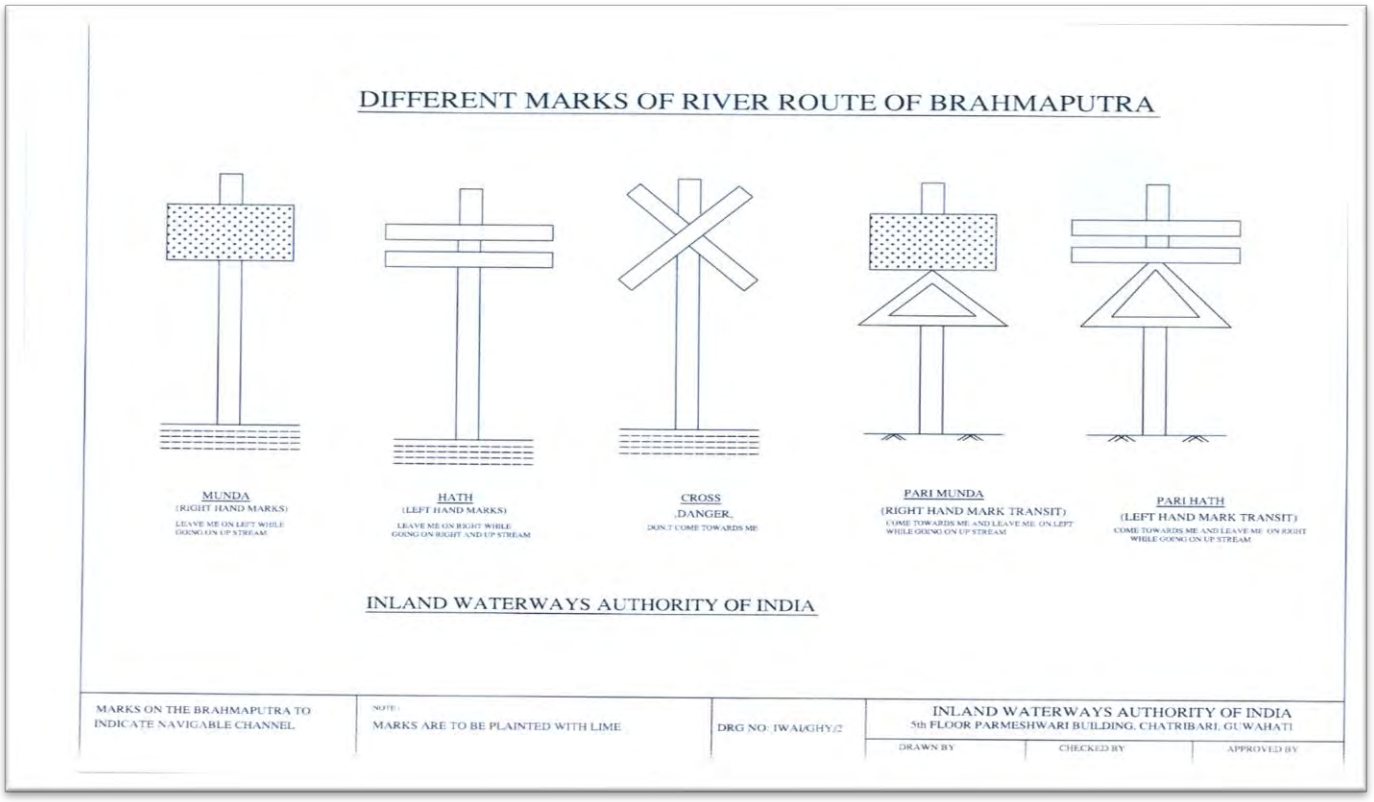
General Arrangement of Bandal



Enclosure-2 Bamboo Mat Bandalling



Enclosure-3 Various typical Navigational Channel Markers



Part 3 – Conditions of Contract and Contract Forms

Section - VIII General Conditions of Contract

General Conditions of Contract
A. General

1. Definitions	1.1 Boldface type is used to identify defined terms. (a) The Accepted Contract Amount means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects. (b) Not used. (c) The Adjudicator is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in GCC 23. (d) Bank means the financing institution **named in the PCC**. (e) Bill of Quantities means the priced and completed Bill of Quantities forming part of the Bid. (f) Compensation Events are those defined in GCC Clause 42 hereunder. (g) The Completion Date is the date of completion of the Works as certified by the Project Manager, in accordance with GCC Sub-Clause 53.1. (h) The Contract is the Contract between the Employer and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in GCC Sub-Clause 2.3 below. (i) The Contractor is the party whose Bid to carry out the Works has been accepted by the Employer. (j) The Contractor's Bid is the completed bidding document submitted by the Contractor to the Employer. (k) The Contract Price is the Accepted Contract Amount stated in the Letter of Acceptance and thereafter as adjusted in accordance with the Contract. (l) Days are calendar days; months are calendar months. (m) Not used. (n) A Defect is any part of the Works not completed in accordance with the Contract. (o) The Defects Liability Certificate is the certificate issued by Project Manager upon correction of defects by the Contractor. (p) The Defects Liability Period is the period named in the PCC pursuant to Sub-Clause 34.3 and calculated from the Completion Date. (q) Drawings means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract, include calculations and other information provided or approved by the Project Manager for the execution of the Contract. (r) The Employer is the party who employs the Contractor to carry out the Works, **as specified in the PCC**.

	(s) Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works. (t) "In writing" or "written" means hand-written, type-written, printed or electronically made, and resulting in a permanent record; (u) The Initial Contract Price is the Contract Price listed in the Employer's Letter of Acceptance. (v) The Intended Completion Date is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is **specified in the PCC**. The Intended Completion Date may be revised only by the Project Manager by issuing an extension of time or an acceleration order. (w) Materials are all supplies, including consumables, used by the Contractor for incorporation in the Works. (x) Plant is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function. (y) The Project Manager is the person **named in the PCC** (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract. (z) PCC means Particular Conditions of Contract. (aa) The Site is the area defined **as such in the PCC**. (bb) Site Investigation Reports are those that were included in the bidding documents and are factual and interpretative reports about the surface and subsurface conditions at the Site. (cc) Specification means the Specification of the Works included in the Contract and any modification or addition made or approved by the Project Manager. (dd) The Start Date is **given in the PCC**. It is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates. (ee) A Subcontractor is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site. (ff) Temporary Works are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works. (gg) A Variation is an instruction given by the Project Manager which varies the Works. (hh) The Works are what the Contract requires the Contractor to construct, install, and turn over to the Employer, **as defined in the PCC**.
2. Interpretation	2.1 In interpreting these GCC, words indicating one gender include all genders. Words indicating the singular also include the plural and words indicating the plural also include the singular. Headings have no significance. Words have their normal

	meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC. 2.2 If sectional completion is **specified in the PCC**, references in the GCC to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works). 2.3 The documents forming the Contract shall be interpreted in the following order of priority: (a) Agreement, (b) Letter of Acceptance, (c) Contractor's Bid& Priced Bill of Quantities, (d) Particular Conditions of Contract, (e) General Conditions of Contract including Appendices, (f) Specifications, (g) Drawings, (h) Joint Venture Agreement [where applicable], and (i) any other document **listed in the PCC** as forming part of the Contract.
3. Language and Law	3.1 The language of the Contract and the law governing the Contract are **stated in the PCC**. Salient features of major labour and other laws that are applicable to construction industry in India are given as Appendix 1 to these General Conditions of Contract. 3.2 Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in India when (a) as a matter of law or official regulations, India prohibits commercial relations with that country; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, India prohibits any import of goods from that country or any payments to any country, person, or entity in that country.
4. Project Manager's Decisions	4.1 Except where otherwise specifically stated, the Project Manager shall decide contractual matters between the Employer and the Contractor in the role representing the Employer. However, if the Project Manager is required, under the rules and regulations and orders of the Employer, to obtain approval

	of some other authorities for specific actions, he will so obtain the approval. Provided further that any requisite approval shall be deemed to have been given by the Employer for any such authority exercised by the Project Manager.
5. Delegation	5.1 Unless otherwise **specified in the PCC**, the Project Manager may delegate any of his duties and responsibilities to other people, except to the Adjudicator, after notifying the Contractor, and may revoke any delegation after notifying the Contractor.
6. Communications	6.1 Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered. All oral instructions shall be confirmed in writing in seven working days.
7. Subcontracting	7.1 The Contractor may subcontract with the approval of the Project Manager up to a ceiling **specified in PCC**, but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations. 7.2 The Project Manager should satisfy himself before recommending to the Employer whether: a) the circumstances warrant such sub-contracting; and, b) the sub-Contractor so proposed for the Work possesses the experience, qualifications and equipment necessary for the job proposed to be entrusted to him in proportion to the quantum of Works to be sub-contracted. 7.3 If payments are proposed to be made directly to that sub-contractor, this should be subject to specific authorization by the prime contractor so that his arrangement does not alter the contractor's liability or obligations under the contract. 7.4 The Contractor shall not be required to obtain any consent from the Employer for: (a) the sub-contracting of any part of the Works for which the Sub-Contractor is already named in the contract; (b) the provision for labour, or labour component, and, (c) the purchase of materials which are in accordance with the standards specified in the contract. *(Note:* *1. All bidders are expected to indicate clearly in the bid, if they proposed sub-contracting elements of the works amounting to more than 10 percent of the Bid Price. For each such proposal the qualification and the experience of the identified sub-contractor in the relevant field should be furnished alongwith the bid to enable the Employer to satisfy*

	himself about their qualifications before agreeing for such sub-contracting and include it in the contract. In view of the above, normally no additional sub-contracting should arise during execution of the contract. *2. However, [a] sub-contracting for certain specialized elements of the work is not unusual and acceptable for carrying out the works more effectively; but vertical splitting of the works for sub-contracting is not acceptable. [b] in any case, proposal for sub-contracting in addition to what was specified in bid and stated in contract agreement will not be acceptable if the value of such additional sub-contracting exceeds 25% of value of work which was to be executed by Contractor without sub-contracting.* *3. Assignment of the contract may be acceptable only under exceptional circumstances such as insolvencies/liquidation or merger of companies etc.)*
8. Other Contractors	8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors, as **referred to in the PCC**. The Contractor shall also provide facilities and services for them as described in the Schedule. The Employer may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification.
9. Personnel and Equipment	9.1 The Contractor shall employ the key personnel and use the equipment identified in its Bid and **referred to in the PCC**, to carry out the Works or other personnel and equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid. 9.2 The Project Manager may require the Contractor to remove from the Site of Works, a member of the Contractor's staff or his work force, who: (a) persists in any misconduct or lack of care, (b) carries out duties incompetently or negligently, (c) fails to conform with any provisions of the Contract, or (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment. 9.3 If the Employer, Project Manager or Contractor determines, that any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the Works, then that employee shall be removed in accordance with Clause 9.2 above

Compliance with Labour Regulations	9.4 In all the above cases, the contractor shall ensure that the person leaves the site within seven days and has no further connection with the work in the contract. The Contractor shall appoint a suitable replacement within 28 days or earlier as may be agreed to between the Project manager and the Contractor. 9.5 The Contractor shall not employ any retired Gazetted officer who has either not completed two years after the date of retirement or has not obtained permission from the Government authorities for employment with the Contractor[27]. 9.6 The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport. The Contractor shall, if required by the Project Manager, deliver to the Project Manager a return in detail, in such form and at such intervals as the Project Manager may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Project Manager may require. 9.7 During continuance of the Contract, the Contractor and his Sub-Contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour laws (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law prevailing on the Base Date either by the State or the Central Government or the local authority. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contraventions including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, the Project Manager/ Employer shall have the right to deduct any money due to the Contractor including his amount of performance security and if applicable, the Environmental, Social, Health and Safety (ESHS) Performance Security. The Employer/ Project Manager shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

27Based on Government Directives.

	9.8 The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time. 9.9 The Contractor shall duly comply with the provisions of the Apprentices Act 1961 (III of 1961) and the rules made there under, and comply, failure or neglect to shall be subject to all liabilities and penalties provided in the said Act and Rules.
10. Employer's and Contractor's Risks	10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.
11.Employer's Risks	11.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Employer's risks: a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to (i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works or (ii) negligence, breach of statutory duty, or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor. b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in the Employer's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed. 11.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is an Employer's risk except loss or damage due to (a) a Defect which existed on the Completion Date, (b) an event occurring before the Completion Date, which was not itself an Employer's risk, or (c)the activities of the Contractor on the Site after the Completion Date.
12. Contractor's Risks	12.1 From the Starting Date until the Defects Liability Certificate has been issued, the risks of personal injury, death, and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer's risks are Contractor's risks.

13. Insurance	13.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles **stated in the PCC** for the following events which are due to the Contractor's risks: a) loss of or damage to the Works, Plant, and Materials [which are incorporated in works]; b) loss of or damage to Construction Equipment; c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and d) personal injury or death. 13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred. 13.3 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.
	13.4 Alterations to the terms of insurance shall not be made without the approval of the Project Manager. 13.5 Both parties shall comply with any conditions of the insurance policies.
14.Site Data	14.1 The Contractor shall be deemed to have examined any Site Data **referred to in the PCC**, supplemented by any information available to the Contractor.
15. Contractor to Construct the Works including protection of environment, and assurance of public health and safety	15.1The Contractor shall construct and install the Works in accordance with the Specifications and Drawings and as per instructions of Project Manager. 15.2.1 The Contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other cause arising as a consequence of his methods of operation. 15.2.2 During continuance of the contract, the contractor and his sub-contractors shall abide at all times by all existing enactments on environmental protection and rules made thereunder, regulations, notifications and by-laws of the Sate or Central Government, or local authorities and other law, bye-

	law, regulations that may be passed or notification that may be issued in this respect in future by the State or Central Government or the local authority. Salient features of the major laws are given in Appendix 1 to the General Conditions of Contract.
16. The Works to Be Completed by the Intended Completion Date	16.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.
17. Approval by the Project Manager	17.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, for his approval. 17.2 The Contractor shall be responsible for design of Temporary Works. 17.3 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works. 17.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required. 17.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before this use.
18. Safety	18.1 The Contractor shall be responsible for the safety of all activities on the Site.
19.Discoveries	19.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Project Manager of such discoveries and carry out the Project Manager's instructions for dealing with them.
20. Possession of the Site	20.1 The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date **stated in the PCC**, the Employer shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.
21.Access to the Site	21.1 The Contractor shall allow the Project Manager and any person authorized by the Project Manager access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

22. Instructions, Inspections and Audits	22.1 The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the Site is located. 22.2 The Contractor shall keep, and shall make all reasonable efforts to cause its Subcontractors and sub-consultants to keep, accurate and systematic accounts and records in respect of the Works in such form and details as will clearly identify relevant time changes and costs. 22.3 The Contractor shall permit and shall cause its Subcontractors and sub-consultants to permit, the Bank and/or persons appointed by the Bank to inspect the Site and/or the accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the Bank if requested by the Bank. The Contractor's and its Subcontractors' and sub-consultants' attention is drawn to Sub-Clause 25.1 which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under Sub-Clause 22.2 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures).
23. Appointment of the Adjudicator	23.1 The Adjudicator named in PCC shall be appointed jointly by the Employer and the Contractor, at the time of the Employer's issuance of the Letter of Acceptance. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority **designated in the PCC**, to appoint the Adjudicator within 14 days of receipt of such request. 23.1.1 The Adjudicator should be in position before "notice to proceed with work" is issued to the Contractor and an agreement should be signed with the Adjudicator jointly by the Employer and the Contractor in the form attached – Appendix 3. 23.2 Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract; a new Adjudicator shall be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority **designated in the PCC** at the request of either party, within 14 days of receipt of such request.

24.Procedure for Disputes	24.1 If the Contractor believes that a decision taken by the Project Manager was either outside the authority given to the Project Manager by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 14 days of the notification of the Project Manager's decision. 24.2 The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute. 24.3 The Adjudicator shall be paid daily at the rate **specified in the PCC**, together with reimbursable expenses of the types **specified in the PCC**, and the cost shall be divided equally between the Employer and the Contractor. Whatever decision is reached by the Adjudicator, either party may refer that decision to an Arbitrator within 28 days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above 28 days, the Adjudicator's decision shall be final and binding. 24.4 The arbitration shall be conducted in accordance with the arbitration procedures published by the institution named and in the place **specified in the PCC**. The Arbitrator(s) shall give a decision in writing within 120 days of start of the proceedings unless otherwise agreed to by the Parties. The Arbitrators shall entertain only those issues which have been earlier referred to the Adjudicator and either party is dissatisfied with the decision given by the Adjudicator.
25. Corrupt and Fraudulent Practices	25.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Appendix A to the GCC. 25.2 The Employer requires the Contractor to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information shall be disclosed as and when such payments are made or agreed to, and compliance with the disclosure requirement shall be furnished, while submitting each monthly statement for payments; such disclosure must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

B. Time Control

26. Program	26.1 Within the time **stated in the PCC**, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a revised Program showing the general methods,

	arrangements, order, and timing for all the activities in the Works alongwith monthly cash flow forecasts. 26.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities. 26.3 The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period **stated in the PCC**. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount **stated in the PCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. 26.4 The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.
27. Extension of the Intended Completion Date	27.1 The Project Manager shall extend the Intended Completion Date including milestones if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date as per agreed milestones without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost. 27.2 The Project Manager shall decide whether and by how much to extend the Intended Completion Date/milestones within 21 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date/milestones.
28. Acceleration	28.1 When the Employer wants the Contractor to finish before the Intended Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Employer accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both the Employer and the Contractor.

	28.2 If the Contractor's priced proposals for acceleration are accepted by the Employer, they are incorporated in the Contract Price and treated as a Variation.
29. Delays Ordered by the Project Manager	29.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.
30. Management Meetings	30.1 Either the Project Manager or the Contractor may require the other to attend a management meeting. (Which will be held at the place indicated in PCC. The periodicity to be fixed by Project Manager / Contractor jointly). The business of a management meeting shall be to review the progress of construction with reference to the construction program given in accordance with GCC 26.1, the plans for remaining work and to deal with matters raised in accordance with the early warning procedure. 30.2 The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.
31. Early Warning	31.1 The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible. 31.2 The Contractor shall cooperate with the Project Manager in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Project Manager.

C. Quality Control

32. Quality Assurance	32.1 The Contractor shall institute Quality Assurance (QA) and Quality Control (QC) systems in accordance with Quality Assurance Plan to demonstrate compliance with the requirements of the Contract as approved by the Project Manager.

	32.2 Compliance with the QA/QC systems shall not relieve the Contractor of any of his duties obligations or responsibilities under the Contract.
33. Tests	33.1 The Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labour, materials, and suitably qualified and experienced staff, as are necessary to carry out the specified tests efficiently. 33.2 If the Project Manager instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event.
34. Identifying and Correction of Defects	34.1. The Project Manager shall check the Contractor's work and notify the Contractor of any defects that are found specifying a time by which it should be corrected. Such checking shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect. 34.2 The contractor shall permit the Employer's Technical auditor to check the contractor's work and notify the Project Manager and Contractor of any defects that are found. Such a check shall not affect the Contractor's or the Project Manager's responsibility as defined in the Contract Agreement 34.3 The Project Manager shall give notice to the Contractor of any Defects [specifying a time limit by which it should be corrected] before the end of the Defects Liability Period, which begins at Completion, and is **defined in the PCC**. The Defects Liability Period shall be extended for as long as Defects remain to be corrected. 34.4 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice.
35. Uncorrected Defects	35.1 If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected and the Contractor shall pay this amount. ***Note: 1. Where in certain cases, the technical specifications provide for acceptance of works within specified tolerance limits***

	at reduced rates, Project Manager will certify payments to Contractor accordingly. ***2. Where the failure to correct a particular defect within the specified time is considered as a fundamental breach of contract a notice should be given to the contractor as stated in GCC 57.2(e).***

D. Cost Control

36. Contract Price	36.1 The Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.
37. Changes in the Contract Price	37.1 If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1 percent of the Initial Contract Price, the Project Manager shall adjust the rate to allow for the change. (a) If the quantity of work executed exceeds the quantity of the item in BOQ beyond the higher specified limit the Project Manager shall fix the rate to be applied for the additional quantity of the work executed. (b) If the quantity of work executed less than the quantity of the item in BOQ lesser than the lower specified limit, the Project Manager shall fix the rate to be applied for whole of the quantity of the work so executed. 37.2. The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the prior approval of the Employer. 37.3 If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.
38. Variations	38.1 All Variations shall be included in updated Programs, produced by the Contractor. 38.2 The Contractor shall provide the Project Manager with a quotation (with breakdown of unit rates) for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.

	38.3 If the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in Sub-Clause 37.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work. 38.4 If the Contractor's quotation is unreasonable, [*or if contractor fails to provide the Project Manager with a quotation within a reasonable time specified by Project Manager in accordance with GCC 38.2*] the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs 38.5 If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event. 38.6 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.
39. Cash Flow Forecasts	39.1 When the Program, is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast. The cash flow forecast shall be in Indian Rupees.
40. Payment Certificates	40.1 The Contractor shall submit to the Project Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously alongwith details of measurement of the quantity of works executed in a tabular form approved by the Project Manager. 40.2 The Project Manager shall check the details given in the Contractor's monthly statement and within 14 days certify the amounts to be paid to the Contractor after taking into account any credit or debit for the month in question in respect of materials for the works in the relevant amount and under conditions set forth in GCC Sub-Clause 49.4 [*Secured Advance*] 40.3 The value of work executed shall be determined by the Project Manager after due check and measurement of the quantities claimed as executed by the contractor

	40.4 The value of work executed shall comprise of the value of the quantities of work in the Bill of Quantities that have been completed; 40.5 The value of work executed shall include the valuation of Variations and Compensation Events. 40.6 The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.
41. Payments	41.1 Payments shall be adjusted for deductions for advance payments, retention, other recoveries in terms of contract & taxes to be deducted at source [TDS] as per applicable law. The Employer shall pay the Contractor the amounts certified by the Project Manager within 28 days of the date of each certificate. If the Employer makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at the rate **stated in the PCC**. 41.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated at the rate stated in GCC 41.1 above, from the date upon which the increased amount would have been certified in the absence of dispute. 41.3 Items of the Works for which no rate or price has been entered in shall not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.
42. Compensation Events	42.1 The following shall be Compensation Events: a) The Employer does not give access to a part of the Site by the Site Possession Date pursuant to GCC Sub-Clause 20.1. b) The Employer modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract. c) The Project Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time. d) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects. e) The Project Manager unreasonably does not approve a subcontract to be let.

	f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site. g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons. h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor. i) The advance payment is delayed. j) The effects on the Contractor of any of the Employer's Risks. k) The Project Manager unreasonably delays issuing a Certificate of Completion. 42.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Project Manager shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended. 42.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager's own forecast. The Project Manager shall assume that the Contractor shall react competently and promptly to the event. 42.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor's not having given early warning or not having cooperated with the Project Manager.
43. Tax	43.1 The rates quoted by the Contractor shall be deemed to be inclusive of the VAT, Sales and other taxes that the Contractor will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at source [TDS] as per applicable law. 43.2 The Project Manager shall adjust the Contract Price if taxes, duties, and other levies are changed between the deadline for the submission of bids for the Contract and the date of the last Completion certificate. The adjustment shall be the change in the

	amount of tax payable by the Contractor, provided such changes are not already reflected in the Contract Price.
44. Currencies	44.1 All payments shall be made in Indian Rupees.
45. Price Adjustment	45.1 Contract price shall be adjusted for increase or decrease in rates and price of labour, materials, fuels and lubricants and other inputs to the works in accordance with the principles and procedures outlined below. A table of adjustment data is **included in the PCC** which indicates the coefficients of various inputs and the sources of indices for various schedules of BOQ. If the PCC does not include a table of adjustment data this sub clause shall not apply and there shall be no price adjustment. (a) The price adjustment according to sub para (d) below, shall apply for the work done from the start date given in the PCC up to the end of the Intended Completion Date. If there is delay in completion beyond such date for reasons attributable to the contractor, the Price Adjustment for the work carried out during such period, for reasons attributable to the Contractor, shall be regulated by sub-para (g) below. (b) The Contract Price shall be adjusted to take account of any increase or decrease in cost after the base date, which affect the Contractor in performance of obligations under the Contract. (c) The total value (R) of the work done during the specified period [GCC 40.1] shall be as under: R= SUM (RS1 + RS2 + RS3 + …….RSn), Where, 'Rsn' is the value of work done during the specified period to which the price adjustment shall be applied for the relevant schedule of Bill of Quantities (BOQ) specified in P.C.C during the specified period, and represented as under: Rsn = (Vsn + Ssn) minus (amount of secured advance recovered in the same period + value of works executed under variations for which price adjustments will be worked separately based on terms mutually agreed between the Project Manager and the Contractor). where, Vsn is the total value of work done during the specified period for the respective schedule of BOQ, and Ssn is the secured advance paid during the specified period for the respective schedule of BOQ,

(d) The adjustment to be applied to the amount otherwise payable to the Contractor, as valued in accordance with the appropriate schedule of BOQ and certified in Payment Certificates, shall be determined from formulae which shall be of the following general type:

Pn = a + b Ln/Lo +c En/Eo + d Mn/Mo+ …….

where,

"Pn" is the adjustment multiplier to be applied to the value of the work done during the period "n", this period being a month unless otherwise stated in the PCC.

"a" is a fixed coefficient, stated in the relevant table of adjustment data, representing the non-adjustable portion in contractual payments;

"b", "c", "d",… are coefficients representing the estimated proportion of each cost element related to the execution of the Works, as stated in the relevant table of adjustment data; such tabulated cost elements may be indicative of resources such as labour, equipment and materials;

"Ln"[Labour], "En"[Equipment], "Mn"[Material], …. are the current cost indices or reference prices for period "n", each of which is applicable to the relevant tabulated cost element [Labour, Equipment, Steel, Cement, Fuel/Lubricants, Bitumen, others] on the date, specified in the Table-2 of Adjustment Data, prior to the last day of the period (to which the particular Payment Certificate relates); and

"Lo", "Eo", "Mo", ….are the base cost indices or reference prices, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the Base Date.

(e) The cost indices or reference prices stated in the tables of adjustment data given in PCC shall be used. The base date shall be the deadline for the submission of bids.

(f) If the Contractor fails to complete the Works within the Intended Completion date, adjustment of prices thereafter shall be made using either:

(i) index or price applicable for each cost element tabulated in the tables of adjustment data on the specified date prior to the expiry of the Intended Completion Date, or

(ii) the current index or price applicable for the period in question whichever is more favourable to the Employer.

(g) The weightings (coefficients) for each of the factors of cost stated in the table(s) of adjustment data shall only be varied by the Project

	Manager if they have been rendered unreasonable, unbalanced or inapplicable, as a result of Variations. (h) Unless otherwise stated in the P.C.C., the Price adjustment shall be done in each monthly Interim Payment Certificate [IPC]. The coefficients and indices are given in the Tables of Adjustment Data in Contract data. 45.2 To the extent that full compensation for any rise or fall in costs to the contractor is not covered by the provisions of this or other clauses in the contract, the unit rates and prices included in the contract shall be deemed to include amounts to cover the contingency of such other rise or fall in costs
46. Retention	46.1 The Employer shall retain from each payment due to the Contractor the proportion **stated in the PCC** until Completion of the whole of the Works 46.2 Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with GCC 53.1, half the total amount retained shall be repaid to the Contractor and half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected. On completion of the whole works the Contractor may substitute the balance retention money with an "on demand" Bank guarantee.
47. Liquidated Damages	47.1 The Contractor shall pay liquidated damages to the Employer at the rate per day **stated in the PCC** for each day that the Completion Date is later than the Intended Completion Date (for the whole of the works or the milestones as **stated in the PCC**). The total amount of liquidated damages shall not exceed the amount defined in the PCC. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities. Time is the essence of the contract and payment or deduction of liquidated damages shall not relieve the contractor from his obligation to complete the work as per agreed construction program and milestones, or from any of the Contractor's other obligations and liabilities under the contract. 47.2 If the Intended Completion Date including milestones is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC Sub-Clause 41.1.

48. Bonus	48.1	The Contractor shall be paid a Bonus calculated at the rate per calendar day stated in the PCC for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete.
49. Advance Payment Secured Advances	49.1	The Employer shall make advance payment to the Contractor of the amounts **stated in the PCC** by the date **stated in the PCC**, against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a bank acceptable to the Employer in amounts in Indian Rupees equal to the advance payment. The Guarantee shall remain effective until the advance payment has been repaid, but the amount of the Guarantee shall be progressively (each instalment not less than Rs. 500,000) reduced by the amounts repaid by the Contractor. Interest shall not be charged on the advance payment.
	49.2	The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager.
	49.3	The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, Liquidated Damages.
	49.4	The Project Manager shall make advance payment in respect of materials intended for but not yet incorporated in the Works in accordance with conditions **stipulated in the PCC**.
50. Securities	50.1	The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount **specified in the PCC**, by a Nationalized or Schedule bank in India. The Bank Guarantee for Performance Security including additional security for unbalanced bids shall be valid until a date 28 days from the date of issue of the Certificate of Completion.
51. Dayworks	51.1	Not used.
52. Cost of Repairs	52.1	Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. Finishing the Contract

53. Completion	53.1 The Contractor shall request the Project Manager to issue a Certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the whole of the Works is completed.
54. Taking Over	54.1 The Employer shall take over the Site and the Works within seven days of the Project Manager's issuing a certificate of Completion.
55. Final Account	55.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract at the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate within 56 days of receiving the contractor's revised account.
56. Operating and Maintenance Manuals	56.1 If "as built" Drawings [including a compact disk containing digitized drawings] and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated **in the PCC**. 56.2 If the Contractor does not supply the Drawings [including a compact disk containing digitized drawings] and/or manuals by the dates **stated in the PCC** pursuant to GCC Sub-Clause 56.1, or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount **stated in the PCC** from payments due to the Contractor.
57. Termination	57.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract after giving fourteen (14) days written notice. 57.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following: a) the Contractor stops work for 28 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Project Manager; b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 28 days; c) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation; d) a payment certified by the Project Manager is not paid by the Employer to the Contractor within 84 days of the date of the Project Manager's certificate; e) the Project Manager gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to

	correct it within a reasonable period of time determined by the Project Manager; f) the Contractor does not maintain a Security, which is required; g) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in the PCC; or h) if the Contractor, in the judgment of the Employer, has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for or in executing the Contract, then the Client may, after giving fourteen (14) days written notice to the Contractor, terminate the Contract and expel him from the Site. i) The contractor has contravened Clauses 7 and 9 of GCC. j) The contractor does not adhere to the agreed construction program, agreed ESHS-MSIP [Clause 26 of GCC] and also fails to take satisfactory remedial action as per agreements reached in the management meetings [Clause 30 of GCC] for a period of 60 days. k) The contractor fails to carry out of the instructions of the Project Manager within a reasonable time determined by the Project Manager in accordance with GCC Clause 15.1 and 22. l) The contractor (in case of Joint Venture) has modified the composition of the joint venture and/or the responsibility of each member of the joint venture from what is stated in joint venture agreement without the prior approval of the Employer. 57.3 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under GCC Sub-Clause 57.2 above, the Project Manager shall decide whether the breach is fundamental or not. 57.4 Notwithstanding the above, the Employer may terminate the Contract for convenience. 57.5 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.
58. Payment upon Termination	58.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate less other recoveries due in terms of contract, less taxes to be deducted at source [TDS] as per applicable law, and less the percentage to apply to the value of the work not completed, as **indicated in the PCC**. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer. 58.2 If the Contract is terminated for the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works,

		and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate less other recoveries due in terms of the contract and less taxes due to be deducted at source [TDS] as per applicable law.
59. Property	59.1	All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Employer if the Contract is terminated because of the Contractor's default.
60. Release from Performance	60.1	If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.
61. Suspension of Bank Loan or Credit	61.1	In the event that the Bank suspends the Loan or Credit to the Employer, from which part of the payments to the Contractor are being made: a) The Employer is obligated to notify the Contractor of such suspension within 7 days of having received the Bank's suspension notice. b) If the Contractor has not received sums due it within the 28 days for payment provided for in Sub-Clause 40.1, the Contractor may immediately issue a 14-day termination notice.

APPENDIX A TO GENERAL CONDITIONS
Bank's Policy- Corrupt and Fraudulent Practices

Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011 Revised July 2014:

"**Fraud and Corruption:**

1.16 It is the Bank's policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.[28] In pursuance of this policy, the Bank:

(a) defines, for the purposes of this provision, the terms set forth below as follows:

(i) "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;[29];

(ii) "fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;[30]

(i) "Collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;[31]

(ii) "Coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;[32]

(v) "obstructive practice" is

(aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent

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[28] In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

[29] For the purpose of this sub-paragraph, "*another party*" refers to a public official acting in relation to the procurement process or contract execution. In this context, "*public official*" includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

[30] For the purpose of this sub-paragraph, "party" refers to a public official; the terms "benefit" and "obligation" relate to the procurement process or contract execution; and the "act or omission" is intended to influence the procurement process or contract execution.

[31] For the purpose of this sub-paragraph, "parties" refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other's bid prices or other conditions.

[32] For the purpose of this sub-paragraph, "party" refers to a participant in the procurement process or contract execution.

it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or

(bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 1.16(e) below.

(b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

(c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;

(d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,[33] including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated[34];

(e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank."

[33] A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

[34] A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

APPENDIX B
Environmental, Social, Health and Safety (ESHS) Metrics for Progress Reports

[Note to Employer: the following metrics may be amended to reflect the Employer's environmental, social, health and safety policies and/or the ESHS requirements of the project. The metrics that are required should be determined by the ESHS risks of the Works and not necessarily by the scale of the Works]

Metrics for regular reporting:

a. **environmental incidents or non-compliances with contract requirements, including contamination, pollution or damage to ground or water supplies;**
b. **health and safety incidents, accidents, injuries and all fatalities that require treatment;**
c. **interactions with regulators: identify agency, dates, subjects, outcomes (report the negative if none);**
d. **status of all permits and agreements:**
    1) work permits: number required, number received,
    2) actions taken for those not received;
    3) status of permits and consents:
    - *list areas/facilities with permits required (quarries, asphalt & batch plants), dates of application, dates issued (actions to follow up if not issued), dates submitted to resident engineer (or equivalent), status of area (waiting for permits, working, abandoned without reclamation, decommissioning plan being implemented, etc.);*
    - *list areas with landowner agreements required (borrow and spoil areas, camp sites), dates of agreements, dates submitted to resident engineer (or equivalent);*
    - *identify major activities undertaken in each area in the reporting period and highlights of environmental and social protection (land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation);*
    - *for quarries: status of relocation and compensation (completed, or details of activities and current status in the reporting period).*
e. **health and safety supervision:**
    - safety officer: number days worked, number of full inspections & partial inspections, reports to construction/project management;
    - number of workers, work hours, metric of PPE use (percentage of workers with full personal protection equipment (PPE), partial, etc.), worker violations observed (by type of violation, PPE or otherwise), warnings given, repeat warnings given, follow-up actions taken (if any);
f. **worker accommodations:**
    - number of expats housed in accommodations, number of locals;
    - date of last inspection, and highlights of inspection including status of accommodations'' compliance with national and local law and good practice, including sanitation, space, etc.;
    - actions taken to recommend/require improved conditions, or to improve conditions.

g**. HIV/AIDS: provider** of health services, information and/or training, location of clinic, number of non-safety disease or illness treatments and diagnoses (no names to be provided);

h. gender (for expats and locals separately): number of female workers, percentage of workforce, gender issues raised and dealt with (cross-reference grievances or other sections as needed);

i. training:

- number of new workers, number receiving induction training, dates of induction training;
- number and dates of toolbox talks, number of workers receiving Occupational Health and Safety (OHS), environmental and social training;
- number and dates of HIV/AIDS sensitization and/or training, no. workers receiving training (this reporting period and in the past); same questions for gender sensitization, flag person training.
- number and date of GBV /SEA sensitization and/or training, number of workers receiving training on code of conduct (in the reporting period and in the past), etc.

j. environmental and social supervision:

- environmentalist: days worked, areas inspected and numbers of inspections of each (road section, work camp, accommodations, quarries, borrow areas, spoil areas, swamps, forest crossings, etc.), highlights of activities/findings (including violations of environmental and/or social best practices, actions taken), reports to environmental and/or social specialist/construction/site management;
- sociologist: days worked, number of partial and full site inspections (by area: road section, work camp, accommodations, quarries, borrow areas, spoil areas, clinic, HIV/AIDS center, community centers, etc.), highlights of activities (including violations of environmental and/or social requirements observed, actions taken), reports to environmental and/or social specialist/construction/site management; and
- community liaison person(s): days worked (hours community center open), number of people met, highlights of activities (issues raised, etc.), reports to environmental and/or social specialist /construction/site management.

k. Grievances: list new grievances (e.g., allegations of GBV / SEA) received in the reporting period and unresolved past grievances by date received, complainant, how received, to whom referred to for action, resolution and date (if completed), data resolution reported to complainant, any required follow-up (Cross-reference other sections as needed):

i. Worker grievances; ii. Community grievances

l. Traffic and vehicles/equipment:

- traffic accidents involving project vehicles & equipment: provide date, location, damage, cause, follow-up;
- accidents involving non-project vehicles or property (also reported under immediate metrics): provide date, location, damage, cause, follow-up;
- overall condition of vehicles/equipment (subjective judgment by environmentalist); non-routine repairs and maintenance needed to improve safety and/or environmental performance (to control smoke, etc.).

m. Environmental mitigations and issues (what has been done):

i. dust: number of working bowsers, number of waterings/day, number of complaints, warnings given by environmentalist, actions taken to resolve; highlights of quarry dust control (covers, sprays, operational status); % of rock/spoil lorries with covers, actions taken for uncovered vehicles;

ii. erosion control: controls implemented by location, status of water crossings, environmentalist inspections and results, actions taken to resolve issues, emergency repairs needed to control erosion/sedimentation;

iii. quarries, borrow areas, spoil areas, asphalt plants, batch plants: identify major activities undertaken in the reporting period at each, and highlights of environmental and social protection: land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation;

iv. blasting: number of blasts (and locations), status of implementation of blasting plan (including notices, evacuations, etc.), incidents of off-site damage or complaints (cross-reference other sections as needed);

v. spill clean-ups, if any: material spilled, location, amount, actions taken, material disposal (report all spills that result in water or soil contamination;

vi. waste management: types and quantities generated and managed, including amount taken offsite (and by whom) or reused/recycled/disposed on-site;

vii. details of tree plantings and other mitigations required undertaken in the reporting period;

viii. details of water and swamp protection mitigations required undertaken in the reporting period.

n. compliance:

i. compliance status for conditions of all relevant consents/permits, for the Work, including quarries, etc.): statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance;

ii. compliance status of C-ESMP/ESIP requirements: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance

iii. compliance status of GBV/SEA prevention and response action plan: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance

iv. compliance status of Health and Safety Management Plan re: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance

v. other unresolved issues from previous reporting periods related to environmental and social: continued violations, continued failure of equipment, continued lack of vehicle covers, spills not dealt with, continued compensation or blasting issues, etc. Cross-reference other sections as needed.

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Appendix – C

Following Environmental Safety Measures to be implemented by Contractor:

28. Sl. No.	**Environmental Safety measures to be implemented**	**Responsibility**
i.	'Consent to Establish' and 'Consent to Operate' shall be obtained from State Pollution Control Board under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.	Contractor
ii	The Project authority shall ensure that no rivers or tributaries are blocked due to any activities at the project site and free flow of water is maintained.	Contractor should ensure the same
iii	Shoreline shall not be disturbed due to dumping. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary.	Contractor should ensure the same.
iv	Dredging shall not be carried out during the fish/turtle breeding seasons.	Contractor
v	All vessels used in the river will be fitted with noise control and animal exclusion devices so that aquatic life is not unduly disturbed.	Contractor should ensure.
vi	Spillage of fuel / engine oil and lubricants from the construction site are a source of organic pollution which impacts aquatic life, particularly benthos. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.	Contractor
vii	Construction waste including debris shall be disposed safely in the designated areas and in no case shall be disposed in the aquatic environment.	Contractor
viii	Vessels shall not discharge oil or oily water such as oily bilge water containing more than 15ppm of oil.	Contractor shall ensure and maintain record
ix	The project authority shall ensure that water traffic does not impact the aquatic wildlife sanctuaries that fall along the stretch of the river.	Contractor should ensure compliance of provisions for movement of vessel in the Wildlife Sanctuary as per statutory clearances
x	All Vessels will also have to comply with 'Zero discharge' standards to prevent solid or liquid waste from flowing into the river and affecting its biodiversity.	Contractor
xi	The Dredging shall be carried by integrated and systematic planning by selective grid method by allowing migratory movement of Benthic fauna.	Contractor
xii	All required noise and vibration control measures are to be adopted in Dredgers. Cutter suction Dredgers should be avoided as much as possible which produces more noise and vibration. No Drilling and Blasting is to be carried out.	Contractor
xiii	Pre geo-tectonic studies has to be completed and the strata to be dredged is predetermined with complete data pertaining to hardness, compressive and tensile strengths.	Contractor
xiv	Dredger type and other strata loosening methods shall be preconceived.	Contractor
xv	Staggered dredging shall be carried based on turbidity monitoring to minimize the impact of turbidity.	Contractor should comply and maintain record
xvi	Threshold level of turbidity, which has a minimal effect on fauna, has to be predetermined and Dredging planned accordingly.	Contractor

Appendix – C

Following Environmental Safety Measures to be implemented by Contractor:

28. Sl. No.	Environmental Safety measures to be implemented	Responsibility
xvii	Further silt screens needs to be used for minimizing the spread of Turbidity.	Contractor
xviii	Disposal places of Dredged sediments needs to be predetermined, along the shore by assessment of suitability, which will not affect the shoreline (erosion) and also causing impacts during monsoon and flooding.	Contractor
xix	As much as possible, it shall not be disposed off in the river itself, and the site should be such that the dispersion is quicker by undertaking modelling studied.	Contractor
xx	Ballast water control and management measures shall be implemented.	Contractor
xxi	Waste and waste water reception facilities in Jetty shall be implemented.	Contractor should dispose the waste and wastewater at designated disposal place authorized by SPCB
xxii	The Risk and Disaster Management Plan has been prepared in consonance with the manual of terminals and harbours issued by the Ministry of Environmental and Forests dated 5th May 2010.	Contractor should follow the risk and disaster management plan for the purpose of dredging in river accordance with the Statutory/regulatory guidelines.
xxiii	Standard Operating Procedures (SOP) and Emergency Response Plan (ERP) for onsite and offsite emergencies shall be prepared and implemented based on Hazard Identification and Risk Assessment to handle, process, store and transport of hazardous substances.	Contractor should prepare and follow the Standard Operating Procedures (SOP) and Emergency Response Plan (ERP) for onsite and offsite emergencies for dredging in river accordance with Statutory/regulatory guidelines and IWAI consent
xxiv	Oil spill contingency plan shall be prepared and part of DMP to tackle emergencies. The equipment and recovery of oil from a spill shall be assessed. Guidelines given in MARPOL and shipping Acts for oil spill management shall be followed.	Contractor should implement the Oil Spill Contingency Plan for dredging in river accordance with Statutory/regulatory guidelines.
xxv	No diversion of the natural course of the river shall be made without prior permission from the Ministry of Water resources.	Contractor should ensure the same.
xxvi	All the erosion control measures shall be taken at water front facilities.	Contractor should ensure the same.
xxvii	Necessary Air Pollution Control measures shall be taken during loading, unloading, handling, transport of the material at the Berthing and water front facilities.	Contractor
xxviii	The Vessels shall comply the emission norms prescribed from time to time.	Contractor
xxiv	All safety measures are to be implemented in coordination with the respective state government departments such as State Forest Department, Public Works Department, State Pollution Control Board etc.	Contractor

Section IX. Particular Conditions of Contract

Except where otherwise indicated, all PCC should be filled in by the Employer prior to issuance of the Bidding Documents. Schedules and reports to be provided by the Employer should be annexed.

A. General

GCC 1.1 (d)	The financing institution is: IBRD by The World Bank Loan agreement number is 8752-IN
GCC 1.1 (r)	The Employer is **Vice Chairman & Project Director** **Inland Waterways Authority of India,** **Ministry of Ports, Shipping & Waterways** **Government of India** **A-13, Sector-1, Noida – 201301**
GCC 1.1 (v)	The Intended Completion Date is ***3 years from the Date of Commencement of Services.***
GCC 1.1 (y)	The Project Manager / Engineer-In-Charge for this contract is Director, IWAI, Kolkata. The Authorized Representatives are: **For the Employer:** Engineer in Charge & Director, IWAI, Kolkata Inland Waterways Authority of India **For the Contractor:** **(From successful Bidder)**
GCC 1.1 (aa)	Site is stretch between Tribeni - Katwa (152 km) stretch of National Waterway-1.
GCC 1.1 (dd)	**Date of commencement of services / work:** (i) Within 28 days from the date of signing of the Contract, the Employer shall issue a Notice to the Contractor for commencing operations to meet the requirements of Works and Services stipulated in Section – VII (Description of the Works / Work's requirement). (ii) The Contractor shall commence its activities immediately on receipt of the said Notice and notify the Employer within a period not exceeding

30 days from the date of receipt of said Notice that the Assured Least Available depth (LAD) of 3.0 m and channel bottom width of 45 m have been fully complied along with other related activities including provision of navigational aids.

(iii) The date on which the Engineer-in-charge or his representative, after receiving notification of readiness of Navigation Channel from the Contractor and after joint inspection of the channel with the Contractor, confirms that the entire stretch of the channel **Tribeni - Katwa satisfies** the requirement of LAD of 3.0 m and channel bottom width of 45 m shall be referred to as the **"Date of Commencement of Services".**

(iv) Engineer-in-charge shall inspect jointly with Contractor within a week of the said notification to confirm that the entire stretch of the channel **Tribeni - Katwa** satisfies the requirement of LAD of 3.0 m and Channel bottom width of 45 m.

(v) If the outcome of joint inspection is not satisfactory, Contractor will commence the required further activities immediately on receipt of Engineer-in-charge's intimation to this effect to meet the specified requirements. Within a period not exceeding 30 days from the date of receipt of said intimation from the Engineer- in-charge, or 60 days from the date of Employer's Notice to the Contractor for commencing operations, whichever is later,

The Contractor shall complete the required activities for making the Navigation Channel ready as specified. The Contractor shall then issue a revised Notification of readiness of Navigation Channel with LAD of 3.0 m and Channel bottom width of 45 m to the Engineer-in-charge.

(vi) The date of revised Notification referred to above will count as the **"Date of Commencement of Services"** (in supersession of the date arrived at earlier) provided joint inspection by the Engineer-in-charge with the Contractor confirms that the entire stretch of the channel **Tribeni - Katwa** satisfies the requirement of LAD of 3.0 m and Channel bottom width of 45 m.

(vii) Contractor's failure to achieve LAD of 3.0 m and Channel bottom width of 45 m within the time limit prescribed in the paragraph (v) above shall be treated as breach of the contract, requiring re-determining of the Date of Commencement of Services based on the third round of Joint Survey.

(viii) In such an event, the Contractor shall submit a proposal to the Employer with justification seeking additional time for carrying out

	further activities to achieve the specified LAD of 3.0 m and Channel width of 45 m. Based on Engineer-in-charge's recommendation, the Employer will consider the proposal and if extension of time is considered justified (ix) The Employer may allow Contractor further time as may be considered reasonable under the circumstances, provided, however, that no further extension shall be considered. If the Joint Survey done on Contractor's Notification of readiness of the Navigation Channel, establishes that that the entire stretch of the channel **Tribeni - Katwa** satisfies the requirement of LAD of 3.0 m and Channel bottom width of 45 m, the date of Notification referred to herein shall be counted as the **Date of Commencement of Services.** (x) If the Joint Survey referred to in (vii) above reveals that the contractor has failed to achieve the specified LAD of 3.0 m and channel bottom width of 45m then in such case, the employer may consider LAD of 2.7 m depth and width has been of 45 m and the day when such LAD and width has been achieved shall be considered as **"Date of Commencement of Services".** (xi) It is clarified that LAD of 2.7 m may be considered only after 3rd joint survey for the purpose of defining "date of commencement of services", the overall LAD to be maintained by the contractor as per contract still remains 3.0 m during the contract period of 3 years.
GCC 1.1 (hh)	The Works consist of ***Fairway Maintenance of Tribeni - Katwa (152 km) stretch of National Waterway -1 (River Ganga)*** **The identification number of the Contract is *IN-IWAI-400749-CW-RFB*** **Obligation of the contractor: -** The Contractor shall carry out the following Dredging /Bandalling Works, which are detailed in the Section VII – Description of services: - • To Provide and maintain assured LAD of 3.0 m and Channel bottom width of 45 m with naturally side slopes during the entire Contract period of 3 years from the date of commencement of services. • To install and maintain the Day Channel Marking (Navigational Aids) throughout the Contract Period. • Assistance to Normal barge and vessels / crafts movement in the channel during dredging operation.
GCC 1.1 (ii)	The following is added as GCC 1.1. (ii)

	"ESHS" means environmental, social (including sexual exploitation and abuse (SEA) and gender-based violence (GBV)), health and safety.
GCC 1.1 (jj)	The following is added as GCC 1.1. (jj) "Sexual Exploitation and Assault" "(SEA)" stands for the following: Sexual exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. In Bank financed operations/projects, sexual exploitation occurs when access to or benefit from a Bank financed Goods, Works, Non-consulting Services or Consulting Services is used to extract sexual gain. Sexual assault is defined as sexual activity with another person who does not consent. It is a violation of bodily integrity and sexual autonomy and is broader than narrower conceptions of "rape", especially because (a) it may be committed by other means than force or violence, and (b) it does not necessarily entail penetration.
GCC 2.2	Sectional Completions are: **NOT Applicable / Not Allowed**
GCC 2.3 (i)	The following documents also form part of the contract:

S. No.	Document	Description of the Document
1.	Dredging Methodology	Dredging methodology given in bid and amended as per comments of Employer given in letter of acceptance.
2.	Quality Control	Quality control procedures and assurance plans given in the bid and amended as per comments of Employer given in letter of acceptance.
3.	ESHS Management Strategies	ESHS Management Strategies and Implementation Plans and EMP (Environment Management Plan)
4.	Environmental and Social	Appendix B - Environmental and Social (ES) Metrics for Progress Reports
5.	Work Requirement	Description of Services
6.	Post Bid Correspondence	Correspondence post-bid between Employer & Successful Bidder
7.	Worker's Camp Management Plan	Labour Influx and Worker's Camp Management Plan including the process for mitigating construction related impacts on local community.

	8. Code of Conduct (ESHS) — Code of Conduct of Successful Bidder's personnel on site with respect to ESHS aspects of work
GCC 3.1	The language of the contract is ***English***. The law that applies to the Contract is the laws of Union of India.
GCC 5.1	The EIC / Project Manager **may** delegate any of his duties and responsibilities to other suitably qualified and experienced personnel, after notifying the Contractor, and may cancel any delegation after notifying the Contractor.
GCC 7.1	The ceiling for sub-contracting is 25%. Hiding information about any sub-contracting not authorized by the Employer shall be treated as violation of Appendix A to General Conditions (Fraud and Corruption). The Contractor is specifically allowed to subcontract the following activities: (a) 20% of all dredging work; (b) Bandalling & Channel Marking works (c) Environmental and Social monitoring
GCC 8.1	Schedule of other contractors: - The Contractor shall not subcontract more than 10% under his own responsibility and without prior approval of the Employer the following Works and Services defined at GCC 7.1 For the Subcontracts beyond 10 %, the prior approval of the Employer shall be obtained.
GCC 9.1	GCC 9.1 is replaced with the following: Key Personnel are the Contractor's personnel named in this GCC 9.1 of the Particular Conditions of Contract. The Contractor shall employ the Key Personnel identified in its Bid, to carry out the Works. The contractor shall not change Key personnel indicated in their bid. If, for any reason beyond the reasonable control of the contractor, it becomes necessary to replace any of the key personnel, the contractor shall provide a replacement a person of equivalent or better qualification and experience with the approval of EIC / Project Manager. The Contractor shall have a Code of Conduct for the Contractor's Personnel, and shall ensure that each Contractor's Personnel is provided a copy of this Code of Conduct, written in a language comprehensible to that person, and shall seek to obtain that person's signature acknowledging receipt of the same.

	The Contractor shall also ensure that the Code of Conduct is visibly displayed in multiple locations on the Site and any other place where the Works will be carried out, as well as in areas outside the Site accessible to the local community and project affected people. The posted Code of Conduct shall be provided in languages comprehensible to Contractor's Personnel, Employer's Personnel and the local community. [insert the name/s of each Key Personnel agreed by the Employer prior to Contract signature, Schedule of Key Personnel and equipment as indicated in accepted bid & construction methodology].
GCC 9.2	The following is inserted as GCC 9.2 (e), (f), and (g): "(e) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Works; (f) has been recruited from the Employer's Personnel without due clearance; (g) breaches the Code of Conduct for the Contractor's Personnel (ES)."
GCC 9.10	The following is inserted as GCC 9.10: "The Contractor shall provide the Contractor's Personnel information and documentation that are clear and understandable regarding their terms and conditions of employment. The information and documentation shall set out their rights under relevant labour Laws applicable to the Contractor's Personnel (which will include any applicable collective agreements), including their rights related to hours of work, wages, overtime, compensation and benefits, as well as those arising from any requirements in the Specification; and shall also include the Code of Conduct for Contractor's Personnel. The Contractor's Personnel shall be informed when any material changes to their terms or conditions of employment occur."
GCC 9.11	The following is inserted as GCC 9.11: "The Contractor shall provide appropriate training to relevant Contractor's Personnel on ES aspects of the Contract, including appropriate sensitization on prohibition of SEA, and health and safety training. As stated in the Specification or as instructed by the Project Manager, the Contractor shall also allow appropriate opportunities for the relevant Contractor's Personnel to be trained on ES aspects of the Contract by the Employer's Personnel. The Contractor shall provide training on SEA, including its prevention, to any of its personnel who has a role to supervise other Contractor's Personnel.
GCC 13.1	The Contractor shall take out and maintain in effect the following insurances in the sums and deductibles shown below:

	(i) Third Party motor vehicle: As per MV Act (ii) Third Party liability: as per Inland Vessel Act 2021 (iii) Group Insurance Cover for the persons on Vessel / Board. (iii) Employer's liability and workers' compensation: Nil (iv) Professional liability: Twice the value of contract for the entire period of the contract (v) Loss or damage to equipment and property: Minimum INR 10,000,000/- for each accident for the currency of the contract
GCC 13.6	**Following is inserted after GCC 13.5** **1. Insurance of Works** Contractor is required to take Contractor's All Risk Policy or erection all risk policy (as the case may be) from an approved insurance company in the joint name with the Employer and bear all costs towards the same for the full period of execution of works including the defect liability period for the full amount of contract against all loss of damage from whatever cause arising other than excepted risks for which he is responsible under the terms of the contract and in such manner that the Employer and the contractor are covered during the period of construction of works and/or also covered during the period of defect liability for loss or damage A. The work and the temporary works to the full value of such works. B. All materials, plants and other things brought to the site for their full value Whenever required by the Employer, the contractor shall produce the policy or the policies of insurance and the receipts for payment of the current premium. **2. Insurance under Workmen Compensation Act** Contractor is required to take insurance cover under the Workman Compensation Act, 1923 as amended from time to time from an approved insurance company and pay premium charges thereof. Wherever required by the Employer the contractor shall produce the policy or the policies of Insurance and the receipt of payment of the current premiums. **3. Third Party Insurance** Contractor is required to take third party insurance cover for an amount of 5% (five percent) of contract value from an approved insurance company for insurance against any damage, injury or loss which may occur to any person or property including that of the Employer, arising out of the execution of the works or temporary works. Wherever required by the Employer the contractor

shall produce the policy or the policies of Insurance and the receipt of payment of the current premiums. In case of failure of the contractor to obtain contractors all risk policy, insurance under workman compensation act and third-party insurance as described above within one month from the date of commencement of work, running account payments of the contractor shall be withheld till such time the aforesaid insurance covers are obtained by the contractor. If the Contractor could not effect a comprehensive insurance cover against risks which he may be required to effect under the terms of the contract, then he shall give his attention to get the best insurance cover available and even in case of effecting a wider insurance cover than the one which the subsidiary of the General Insurance Company could offer, such an insurance is ought to be done after the Employers approval, by or through the subsidiary of the General Insurance Company.

4. Indemnify the Employer

The Contractor shall at all times indemnify the Employer against all claims, damages or compensation under the provision of Payment of Wages Act-1936, Minimum Wages Act-1948, Employer's liability Act-1938, the Workmen's Compensation Act-1947, Industrial Disputes Act-1947 and Maternity Benefit Act-1961 or any modifications thereof or any other law in force or as consequence of any accident or injury to any workman or other persons in or about the works, whether in the employment of the contractor or not, against all costs, charges and expenses of any suit, action or proceedings arising out of such incident or injury and against all sum or sums which may with the consent of the contractor be paid to compromise or compound any such claim. Without limiting his obligations and liabilities as above provided, the contractor shall insure against all claims, damages or compensation payable under the Workmen's Compensation Act 1923 or any modification thereof or any other law relating thereto."

5. Damage to Persons and Property

The Contractor shall, except if and so far as the Contract provides otherwise, indemnify the Employer against all losses and claims in respect of:
(a) death of or injury to any person, or
(b) loss of or damage to any property (other than the Works), which may arise out of or in consequence of the execution and completion of the Works and the remedying of any defects therein, and against all claims, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto, subject to the exceptions defined in Sub-Clause 6.

6. Exceptions

The "exceptions" referred to in Sub-Clause 5 are:

(a) the permanent use or occupation of land by the Works, or any part thereof,
(b) the right of the Employer to execute the Works, or any part thereof, on, over, under, in or through any land,
(c) damage to property which is the unavoidable result of the execution and completion of the Works, or the remedying of any defects therein, in accordance with the Contract, and
(d) death of or injury to persons or loss of or damage to property resulting from any act or neglect of the Employer, his agents, servants or other contractors, not being employed by the Contractor, or in respect of any claims, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto or, where the injury or damage was contributed to by the Contractor, his servants or agents, such part of the said injury or damage as may be just and equitable having regard to the extent of the responsibility of the Employer, his servants or agents or other contractors for the injury or damage.

7. Indemnity by Employer

The Employer shall indemnify the Contractor against all claims, proceedings, damages, costs, charges and expenses in respect of the matters referred to in the exceptions defined in Sub-Clause.6.

8. Cross Liabilities

The insurance policy shall include a cross liability clause such that the insurance shall apply to the Contractor and to the Employer as separate insured.

9. Accident or Injury to Workmen

The Employer shall not be liable for in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or any Subcontractor, other than death or injury resulting from any act or default of the Employer, his agents or servants. The Contractor shall indemnify and keep indemnified the Employer against all such damages and compensation, other than those for which the Employer is liable as aforesaid, and against all claims, proceedings, damages, costs, charges, and expenses whatsoever in respect thereof or in relation thereto.

10. Evidence and Terms of Insurances

The Contractor shall provide evidence to the Employer as soon as practicable after the respective insurances have been taken out but, in any case, prior to the start of work at the Site that the insurances required under the Contract have been effected and shall, within 84 days of the Commencement Date,

	provide the insurance policies to the Employer. When providing such evidence and such policies to the Employer, the Contractor shall notify the Engineer of so doing. Such insurance policies shall be consistent with the general terms agreed prior to the issue of the Letter of Award. The Contractor shall effect all insurances for which he is responsible with insurers and in terms approved by the Employer. **11. Adequacy of Insurances** The Contractor shall notify the insurers of changes in the nature, extent or programme for the execution of the Works and ensure the adequacy of the insurances at all times in accordance with the terms of the Contract and shall, when required, produce to the Employer the insurance policies in force and the receipts for payment of the current premiums. **12. Remedy on Contractor's Failure to Insure** If the Contractor fails to effect and keep in force any of the insurances required under the Contract, or fails to provide the policies to the Employer within the period required by Sub-Clause 13.2, then and in any such case the Employer may effect and keep in force any such insurances and pay any premium as may be necessary for that purpose and from time to time deduct the amount so paid from any monies due or to become due to the Contractor, or recover the same as a debt due from the Contractor. **13. Compliance with Policy Conditions** In the event that the Contractor or the Employer fails to comply with conditions imposed by the insurance policies effected pursuant to the Contract, each shall indemnify the other against all losses and claims arising from such failure. **14. Source of Insurance** The Contractor shall place all insurance relating to the Contract (including, but not limited to, the insurance referred to 13.2 with insurers from India.
GCC 14.1	Site Data are: The relevant drawings and data of Tribeni - Katwa stretch with chainages are provided in the bid document.
GCC 15.2	The following is added as sub-clause 15.2: "If so, instructed by Project Manager, the Contractor shall submit to the Project Manager for review, a health and safety manual, specifically prepared for the Works, the Site and other places (if any) where the Contractor intends

	to execute the Works. The manual shall be in addition to any other similar document required under applicable health and safety regulations and Laws. The health and safety manual and its updates shall be reviewed along with the Contractor's Environmental and Social Management Plan (C-ESMP) described in sub-clause 16.2."
GCC 16.2	The following is inserted as a new sub-clause 16.2: **ES Management Strategies and Implementation Plans** "The Contractor shall not carry out mobilization to Site (e.g. limited clearance for haul roads, site accesses and work site establishment, geotechnical investigations or investigations to select ancillary features such as quarries and borrow pits) unless the Project manager gives consent, a consent that shall not be unreasonably delayed, that appropriate measures are in place to address environmental and social risks and impacts, which at a minimum shall include applying the Management Strategies and Implementation Plans (MSIPs) and Code of Conduct for Contractor's Personnel submitted as part of the Bid and agreed as part of the Contract. The Contractor shall submit, to the Project manager for Review any additional MSIPs as are necessary to manage the ES risks and impacts of ongoing Works (e.g., excavation, earth works, bridge and structure works, stream and road diversions, quarrying or extraction of materials, concrete batching and asphalt manufacture). These MSIPs collectively comprise the Contractor's Environmental and Social Management Plan (C-ESMP). The Contractor shall review the C-ESMP, periodically (but not less than every six (6) months), and update it as required to ensure that it contains measures appropriate to the Works. The updated C-ESMP shall be submitted to the Project manager for Review."
GCC 20.1	**The Site Possession Date / Mobilization** shall not be later than 45 days after the issuance of the Letter of Award / Acceptance by the Employer. The Site Possession Date(s) shall be: Date on which Contractor mobilizes at site.
GCC 22.4	The following is inserted as new Sub-clause 22.4: The LADs shall be measured on weekly basis by conducting the joint weekly surveys. The employer has engaged a third-party Supervision agency (TSSC-III) who shall be participating in the Joint Surveys along with the Employer's personnel. The LADs, Channel width and Day channel marks shall be certified by TSSC-III for further submission to EIC & Employer.
GCC 23.1	Name of the agreed Adjudicator ..... *(insert name before signing contract)*.

GCC 23.2	Appointing Authority for the Adjudicator: **Indian Council of Arbitration**
GCC 24.3	Daily rate and types of reimbursable expenses to be paid to the Adjudicator: Rs. 10,000 per day and reimbursable expenses – boarding/lodging/travel etc.
GCC 24.4	**The procedure for ad hoc arbitration will be as under:** a) In case of Dispute or difference arising between the Employer and a Contractor relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996. The arbitral tribunal shall consist of 3 Arbitrators one each to be appointed by the Employer and the Contractor. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties and shall act as Presiding Arbitrator. In case of failure of the two Arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the Arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the Indian Council of Arbitration b) If one of the parties fails to appoint its Arbitrator in pursuance of sub-clause (a) above within 30 days after receipt of the notice of the appointment of its Arbitrator by the other party, then the Indian Council of Arbitration, shall appoint the Arbitrator. A certified copy of the order of the Indian Council of Arbitration, making such an appointment shall be furnished to each of the parties. c) Arbitration may be commenced prior to or after completion of the Works, provided that the obligations of the Employer, the Project Manager, the Contractor and the Adjudicator shall not be altered by reason of the arbitration being conducted during the progress of the Works. d) Arbitration proceedings shall be held at New Delhi and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English. e) The decision of the majority of Arbitrators shall be final and binding upon both parties. The cost and expenses of Arbitration proceedings will be paid as determined by the arbitral tribunal. However, the expenses incurred by each party in connection with the preparation, presentation, etc. of its proceedings as also the fees and expenses paid to the Arbitrator appointed by such party or on its behalf shall be borne by each party itself. f) Deleted.

	g) The Arbitrator should give final award within 180 days of starting of the proceedings h) Performance under the contract shall continue during the arbitration proceedings and payments due to the contractor by the Employer shall not be withheld, unless they are the subject matter of the arbitration proceedings.
B. Time Control	
GCC 26.1	The Contractor shall submit a Program for the Works within 14 days of delivery of the Letter of Acceptance.
GCC 26.2	Inserted at the end of GCC 26.2: **ES Reporting** "In addition to the progress report, the Contractor shall also provide a report on the Environmental and Social (ES) metrics set out in Appendix B. In addition to Appendix B reports, the Contractor shall inform the Project Manager immediately of any allegation, incident or accident in the Site, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel or Contractor's Personnel. This includes, but is not limited to, any incident or accident-causing fatality or serious injury; significant adverse effects or damage to private property; or any allegation of SEA. In case of SEA, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, or sexual assault), gender and age of the person who experienced the alleged incident should be included in the information. The Contractor, upon becoming aware of the allegation, incident or accident, shall also immediately inform the Project Manager of any such incident or accident on the Subcontractors' or suppliers' premises relating to the Works which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel or Contractor's, its Subcontractors' and suppliers' personnel. The notification shall provide sufficient detail regarding such incidents or accidents. The Contractor shall provide full details of such incidents or accidents to the Project Manager within the timeframe agreed with the Project Manager. The Contractor shall require its Subcontractors to immediately notify the Contractor of any incidents or accidents referred to in this Sub-clause."
GCC 26.3	The period between Program updates is *90* days.

	The amount to be withheld for late submission of an updated Program is Rs. 500,000.
GCC 26.4	Add this after the clause GG 26.4: Any revision in Program should only be agreed in writing.
GCC 27.1	Intended Completion Date: The Intended Completion Date is **Three years** from the "Date of Commencement of Services".
GCC 27.2	**Extension of Contract beyond 3 years:** The Contract is extendable for further period of 2 Years based on satisfactory performance of the contractor. For the purpose of rates, the same shall be worked out based on the average of the lump sum quoted amounts for three years in the awarded cost (their bid) with existing Terms and Conditions. Price Adjustment shall be payable as per existing Terms & Conditions for this extended period.
GCC 30.1	Venue of management meeting will be IWAI - NOIDA
C. Quality Control	
GCC 34.3	The Defects Liability Period is: NIL days. i.e., Not Applicable
D. Cost Control	
GCC 37	The payment will be based on assured LAD of 3.0 m and 45 m channel width and sufficient day channel marks ascertained during 4-weekly Joint surveys in a month and as certified by TSSC-III & EIC.
GCC 38.2	In GCC 38.2, add the following after the first sentence: "The Contractor shall also provide a description of the varied work performed or to be performed, including details of the resources and methods adopted or to be adopted by the Contractor, and sufficient ES information to enable an evaluation of ES risks and impacts of the Variation."
GCC 40.1	GCC 40.1 to be read as: **Inspections during weekly Joint Survey** Services provided by the Contractor during contract period of 3 years shall be checked every week through a Joint Survey (4 weekly joint surveys in a month) by Engineer–in-Charge / EIC Representative, TSSC-III and Contractor in the manner tabulated below:

SN	Inspection schedule	Employer's representative	Contractor's Representative
1.	1st Week of every month	JHS / TA / SUPERVISOR	One Hydrographic Surveyor & one supervisor / Engineer
2.	2nd Week of every month	AD / AHS / TA / JHS	One Hydrographic Surveyor & One Engineer
3.	3rd Week of every month	JHS / TA / SUPERVISOR / FA	One Hydrographic Surveyor & One supervisor / Engineer
4.	4th Week of every month	DD / AHS / AD / JHS / One Officer from HQ	One Hydrographic Surveyor & One senior level officer by the Project Manager

TA - Technical Assistant, JHS - Junior Hydrographic Surveyor,
FA - Field Assistant, DD - Deputy Director,
AHS - Assistant Hydrographic Surveyor, AD - Assistant Director

GCC 40.3

GCC 40.3 to be read as:

Measurements during weekly joint surveys: -

Works & Services provided by the Contractor shall be checked every week through a Joint Survey by Engineer–in-Charge / Employer's Representative, Technical Support Services Consultant – III and Contractor in the manner tabulated at 40.1 above.

The scale of surveys should be 1:5000 for all four weekly surveys in the month. Contractor will prepare the survey charts and submit to Employer for approval along with soft copy, Measurement Book etc. related to the measurement. Employer will issue the approved charts to the Contractor.

The measurement of depth in the navigation channel shall be carried out by conducting bathymetric survey every week jointly & its chart should be plotted by the Contractor in presence of Employer's representative. *However, Contractor shall also ensure measurement of width in each survey and shall carry out the surveys in order to define the minimum width of 45 m as specified in Scope.*

In case shortcomings in maintaining the specified LAD and width of channel are observed by the Employer's representative, the cross-sectional survey shall be carried out and the cross-sectional interval shall be 10 m apart and soundings shall be taken continuously and plotted at 4 m interval on the cross section

	The cross-section shall be extended, if necessary, up to 20 m beyond the limits of the channel on each side with a view to determining the remedial measures to be taken by the Contractor. Sounding vessel/ boat, equipment, personal & other logistics required for conducting surveys/ inspection shall be arranged by the Contractor at his cost. Recording type multi-beam echo-sounder with digital output shall be used in all survey work. However, keeping in view the site conditions and practicability/prevailing weather conditions, the Engineer-in-Charge shall after consulting with the Contractor, decide and advise the Contractor as to the method of measurement to be adopted. Joint surveys shall be conducted in Automatic Hydrographic Survey System (HYPACK) and recorded data in soft copy shall be submitted to the Employer.
GCC 40.7	Add new GCC 40.7: "40.7 if the Contractor was, or is, failing to perform any ES obligations or work under the Contract, the value of this work or obligation, as determined by the Project Manager, may be withheld until the work or obligation has been performed, and/or the cost of rectification or replacement, as determined by the Project Manager, may be withheld until rectification or replacement has been completed. Failure to perform includes, but is not limited to the following: (i) failure to comply with any ES obligations or work described in the Works' Requirements which may include: working outside site boundaries, excessive dust, damage to offsite vegetation, pollution of water courses from oils or sedimentation, contamination of land e.g., from oils, human waste, damage to archaeology or cultural heritage features, air pollution as a result of unauthorized and/or inefficient combustion; (ii) failure to regularly review C-ESMP and/or update it in a timely manner to address emerging ES issues, or anticipated risks or impacts; (iii) failure to implement the C-ESMP e.g., failure to provide required training or sensitization; (iv) failing to have appropriate consents/permits prior to undertaking Works or related activities; (v) failure to submit ES report/s (as described in Appendix B), or failure to submit such reports in a timely manner;

	(vi) failure to implement remediation as instructed by the Project Manager within the specified timeframe (e.g., remediation addressing non-compliance/s).
GCC 41.1	Interest Rate for delayed payment is SBI Prime Lending Rate + 2% per annum.
GCC 41.1.1	New Clause added. The amount, exclusive of GST which will be payable by the Employer as legally applicable, in INR. **Payment shall be made monthly to the contractor.** The Contractor shall be eligible to claim payments for services rendered by him during contract period of 3 years as a percentage of the value of the works for the respective month of the year of operation (subject to deductions as per PCC 47.1) in accordance with the details tabulated below:

S. No.	**Month**	**% Applicable for the relevant month of service during contract period**
1.	January	10.0
2.	February	10.0
3.	March	10.0
4.	April	10.0
5.	May	10.0
6.	June	7.50
7.	July	5.0
8.	August	5.0
9.	September	5.0
10.	October	7.5
11.	November	10.0
12.	December	10.0
		100.0

GCC 45.1	**GCC 45.1 to be read as:** The contract is subject to price adjustment in accordance with GCC Clause 45 and following information regarding coefficients. **The Price Adjustment will be done on monthly basis.**

The amounts certified in each Running Account Bill/payment certificate, after deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the amounts due to the Operator.

The Price adjustment factor for the Works & Services rendered in a month shall be determined using the coefficients/weightings of relevant Indices as under:

Index	Index Description	Source of Index	Weightage
L	**Labour –** All India (CPI) Consumer Price Index for Industrial Workers	Labour Bureau, Ministry & Employment, Government of India	**0.278**
F	**High Speed Diesel** -All India Wholesale Price Index	Office of the Economic Advisor to the Govt. of India. Ministry of Commerce & Industry	**0.50**

Price Adjustment Factor Pc = 0.222 + 0.278 X L_m/L_0 + 0.50 X F_m/F_0

Price Adjustment for Works & Services rendered in a month = **R x (Pc – 1)**

where,

L_m = CPI for the month in which the Works & Services have been provided

L_0 = CPI for the month preceding the deadline for bid submission

F_m = WPI for the month in which the Works & Services have been provided

F_0 = WPI for the month preceding the deadline for bid submission

R = Running Account Bill amount for Works & Services rendered in a month after making deductions (a) as stipulated in PC 47.1 for failure to achieve LAD and Channel Bottom Width, and (b) towards repayment of Advance Payment.

GCC 46.1

Retention Money – Not Applicable.

GCC 47.1

GCC 47.1 to be read as:

The Liquidated Damages (LD) / Deductions is applicable.

If in any section of the channel, available depth or width of channel is found to be less than that specified in Section VII, Work Requirements / Description of Services, as determined during the course of weekly joint surveys conducted in accordance with GCC 40.1, deduction shall be made from the Contractor's monthly bills as following:

S No.	Deductions for the Assured Depth Period of services from the Date of Commencement of Service LAD – 3.0 m & Channel Width - 45 m	Deduction to be applied as percentage of monthly bill for each non-compliance found in a joint weekly survey during the month
1.	On achieving the assured depth of 3.0 m & width of 45 m	Nil
2.	On achieving the assured depth of 2.9 m & width of 45 m	20 % for each weekly default
3.	On achieving the assured depth of 2.8 m & width of 45 m	30 % for each weekly default
4.	On achieving the assured depth of 2.7 m & width of 45 m	50 % for each weekly default
5.	For a depth less than 2.7 m & width of 45 m	100% for each weekly default
6.	a) If a weekly joint survey establishes that the Contractor failed to maintain the navigational marks according to stipulations in Section VII, Description of Services to the Contract, deductions shall also be made from the respective monthly bill @ **5 %** of the verified payable amount for each such weekly default.	
	b) If the contractor consistently fails to provide requisite deliverables during contract period, and total amount of payment deduction and liquidated damages applied under this contract reaches ten percent (**10%**) of total contract price, then it will be considered as fundamental breach of contract under GCC 57.2.	
	c) In the event, if the Dredging Contractor does not provide the minimum 2.7 m LAD & 45 m channel bottom width (CBW) in all four weeks in a month then, apart from the above deductions as per PCC 47.1, an additional penalty @ 1% of the maximum bill that would have been claimed in that month (i.e., in no default condition) shall be recovered in next RA bill of the dredging contractor.	
	d) In the event, the above condition persists continuously for three months, then, penalty applicable shall be @ 2% of the maximum bill that would have been claimed in that month (i.e., in no default condition) shall be recovered in next RA bill of the dredging contractor and this shall be continued to be deducted until the default condition persists. The penalty effected & deduction made on account of Lack of Performance shall not be refundable.	

	The operation of the above Table shall be as under: Monthly payment in No-default condition (Mp) = Per Month Amount Quoted by the contractor. Weekly Amount Payable in No-default condition (Wp) = MP/4 Weekly Default Deductions (Wd)1,2,3,4 = [Mp/4) * % age] where % age of default as per table mentioned above Monthly Amount to be paid to contractor (Map) = Mp - [Wd1+Wd2+Wd3+Wd4] **Example: ...** Suppose, a. Per Month Amount quoted by the contractor is 1 crore (Mp) and b. LADs given by contractor in four weekly surveys of December is 2.7 m, 2.9 m, 2.6 m and 3.2 m respectively Then, Week 1 deduction amount (Wd1) = Mp/4 X 50% = 12.5 Lakhs Week 2 deduction amount (Wd2) = Mp/4 X 20% =-5 Lakhs Week 3 deduction amount (Wd3) = Mp/4 X 100% = 25 Lakhs Week 4 deduction amount (Wd4) = Mp/4 X 0% = 0 Actual Monthly Amount Payable to contractor, Map = Mp - [Wd1 + Wd2 + Wd3 + Wd4] =100 Lakhs – [12.5 Lakhs + 5 Lakhs + 25 Lakhs + 0] = **57.5 Lakhs** **Deduction for not providing sufficient day channel marks-** In case of no default in providing day channel marks (min 220 nos. Day channel marks provided in December) Monthly Due to Contractor (Md) = Map = **57.5 Lakhs** In case of default in providing day channel marks (Less than 220 nos. Day channel marks provided in any week of December) Monthly Due to Contractor: (Md) = [Map – 5% of Map] = [57.5 Lakh – 5% of 57.5 Lakhs] = **54.625 Lakhs**
GCC 48.1	Deleted

GCC 49.1	GC 49.1 to be read as: The amount of the Advance Payment is ten (10) percent of the Contract Price. The Advance payment will be made after successful verification of the submitted unconditional Advance Bank Guarantee. **Repayment of Advance Payment**: The advance shall be recovered in 24 months (in equal tranches) from the monthly Running Account bills submitted from the 6th RA Bill from the Date of Commencement of Works irrespective of the RA bill amount. In case, the monthly RA bill for any month is less than the advance amount to be recovered, then the balance amount recoverable for this month shall be recovered from the subsequent RA bill along with the recovery of advance for that month. If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination of the Contract, the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Employer. The advance payment security (demand guarantee) shall be issued by a reputable bank or financial institution selected by the Contractor and shall be in the Advance Payment Security Form included in Contract Forms, or in another form approved by the Employer. The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been fully repaid. The amount of the security shall be reduced in proportion to the value of the Works and Services executed by and paid to the Contractor yearly, and shall automatically become null and void when the full amount of the advance payment has been recovered by the Employer. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid. The security shall be returned to the Contractor immediately after full amount of Advance Payment has been repaid.
GCC 50.1	GCC 50.1 is replaced with the following: Environmental, Social, Safety and Health (ESHS) Performance Security The contractor shall within twenty-eight (28) days of the notification of contract award, provide a Performance Security and an Environmental, Social, Safety and Health (ESHS) Performance Security for the due performance of the Contract.

- The Performance Security will be in the form of a 'demand guarantee' in the amount of 5% of the contract amount in the types and proportions of the currencies in which the Contract Price is payable, or in a freely convertible currency acceptable to the Employer

- The ESHS Performance Security will be in the form of a "demand guarantee" in the amount(s) of 1.5% of the Contract Amount and in the same currency(ies) of the Accepted Contract Amount.

- Plus, additional security for unbalanced bids (if any) to be decided during evaluation of bids and informed to Bidders at the time of Pre-award discussions

The Bank Guarantee issued in paper shall become operative only when the Bank Guarantee advice transmitted through SFMS is advised to the Beneficiary by the Advising Bank.

Bank details are as given below:

Advising Bank: CANARA BANK
Bank Account no.: 87781010014534
IFSC Code: CNRB0018778
Name of beneficiary: IWAI FUND Jal Marg Vikas
Branch name: Morna - Sector 18, NOIDA
Address: B 16 /17, Ground Floor,
Sector-18, NOIDA – 201301

The standard forms of Performance Security, and ESHS performance security, acceptable to the Employer shall be unconditional Bank Guarantees from Scheduled or Nationalized banks in India of the types as presented in Section X of the Bidding Documents.

Throughout this bidding document the term 'performance security', unless the context clearly indicates otherwise, means and includes both 'the performance security and the ESHS performance security' to be submitted by the successful bidder in the amounts specified above.

The Performance Security shall be issued by a reputable bank or financial institution selected by the Contractor, and shall be in the Performance Security Form included in Section IX, Annex to the Particular Conditions – Contract Forms, or in another form approved by the Employer. The ESHS Performance Security shall be issued by a reputable bank selected by the Contractor, and shall be in the ESHS Performance Security Form included in Section IX, Annex to the Particular Conditions – Contract Forms, or in another form approved by the Employer. A foreign institution providing a Performance Security or ESHS

	Performance Security shall have a correspondent financial institution located in the Employer's Country. The performance security and the ESHS performance security, of a Joint Venture shall be in the name of the Joint Venture specifying the names of all the members. The Contractor shall ensure that the Performance Security and the ESHS Performance Security are valid and enforceable until the Contractor has executed and completed the Works and Services and other obligations (including defect liability and satisfactory performance of the ESHS obligations) under the Contract. If the terms of the Performance Security and ESHS Performance Security specify expiry dates, and the Contractor has not yet executed and completed the Works and Services and other obligations under the Contract, by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security and the ESHS Performance Security until the Works and Services and all other obligations under the Contract have been completed. In case of any dispute with State Govts. (Forest / Mining / Revenue etc.) regarding selling of dredged material, IWAI may forfeit the Performance Security of the contractor.
GCC 54.1	Taking over - Not Applicable Partial completion shall not be accepted, and no partial completion certificate shall be issued.
GCC 56.1	Not Applicable
GCC 56.2	Not Applicable
GCC 57.2 (g)	Not Applicable
GCC 57.2 (l)	Hiding any information regarding changes in roles and responsibilities of JV members, which is not authorized by the Employer, shall also be treated as violation of Appendix A to General Conditions (Fraud and Corruption).
GCC 57.2 (m)	New Clause added: The contractor consistently fails to execute the contract and the total amount of payment deductions and liquidated damages applied under this contract as per PC 47.1 reaches Ten percent (**10%**) of total contract amount.
GCC 57.6	**Foreclosure of Contract – New Clause Added** If at any time after acceptance of the tender the Authority decides to abandon or reduce the scope of the works for reasons whatsoever and hence does not require the whole or any part of the works to be carried out, the Engineer-in-

	Charge (with the prior approval of competent authority) shall give notice in writing to that effect to the contractor. However, pro-rata payment shall be made for the completed works, as agreed mutually
GCC 58.1	The percentage to apply to the value of the work not completed, representing the Employer's additional cost for completing the Works, is 20% if the work is terminated on account of default of the contractor.
GCC 59.1	Not Applicable.
In addition to be above, the following shall also form part of GCC / SCC	
GCC 62.0 Force Majeure (New Clause added)	New Clause added. 62.1 "**Force Majeure**" shall mean any event beyond the reasonable control of the Employer or of the Contractor, as the case may be, insofar as they directly affect the execution of the Services and Works included in this Contract and which is unavoidable notwithstanding the reasonable care of the party affected, and shall include, without limitation, the following: (a) war, hostilities or warlike operations (whether a state of war be declared or not), invasion, act of foreign enemy and civil war; (b) rebellion, revolution, insurrection, mutiny, usurpation of civil or military government, conspiracy, riot, civil commotion and terrorist acts; (c) confiscation, nationalization, mobilization, commandeering, requisition by or under the order of any government or de jure or de facto authority or ruler or any other act or failure to act of any local state or national government authority; (d) strike, sabotage, lockout, embargo, import restriction, port congestion, lack of usual means of public transportation and communication, industrial dispute, shipwreck, shortage or restriction of power supply, epidemics, quarantine and plague; (e) earthquake, landslide, volcanic activity, fire, flood or inundation, tidal wave, typhoon or cyclone, hurricane, storm, lightning, or other inclement weather condition, nuclear and pressure waves or other natural or physical disaster; (f) Shortage of labor, materials or utilities were caused by circumstances that are themselves Force Majeure. (g) It is clarified that during the water sharing period (March-May), in the event water level falling below 17.75 m recoded at CWC gauge station at Farakka down-stream, then in that particular week default will not be considered and payment will be based on the achieved LAD during previous week joint survey. Further during water sharing period, the LAD at Baghmari syphon shall not be considered as default

	62.2 If either party is prevented, hindered or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances thereof within fourteen (14) days after the occurrence of such event. 62.3 The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or delayed. The Time for Completion shall be extended in accordance with GC Clause 64. 62.4 The party or parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect thereof upon its or their performance of the Contract and to fulfil its or their obligations under the Contract, but without prejudice to either party's right to terminate the Contract under GC Sub-Clause 38.6. 62.5 No delay or non-performance by either party hereto caused by the occurrence of any event of Force Majeure shall (a) constitute a default or breach of the Contract; (b) give rise to any claim for damages or additional cost or expense occasioned thereby; if and to the extent that such delay or non-performance is caused by the occurrence of an event of Force Majeure. 62.6 If the performance of the Contract is substantially prevented, hindered or delayed for a single period of more than sixty (60) days or an aggregate period of more than one hundred and twenty (120) days on account of one or more events of Force Majeure during the currency of the Contract, the parties will attempt to develop a mutually satisfactory solution, failing which either party may terminate the Contract by giving a notice to the other, but without prejudice to either party's right to terminate the Contract under GC Clause 59. 62.7 In the event of termination pursuant to GC Sub-Clause 38.6, the rights and obligations of the Employer and the Contractor shall be as specified in GC Sub-Clauses 59.1.2 and 59.1.3. 62.8 Notwithstanding GC Sub-Clause 38.5, Force Majeure shall not apply to any obligation of the Employer to make payments to the Contractor herein.
GCC 63 Surveys and Levels	**Surveys and Levels** Before the works of any part thereof begin, the Contractor shall survey and take levels of the site of the works both above and below water level and agree all

	particulars on which the measurements of the works are to be based. Such particulars shall be recorded and after agreement; the drawings shall be signed by the Employer / Engineer-In-Charge and the Contractor. Similar procedure is to be followed in post dredging survey. Failing such surveys and agreements being prepared and/or signed by the Contractor, the survey carried out by the Engineer shall be final and binding on the Contractor.
GCC 64 Setting out the works (New clause added)	**Setting out the Works (New Clause added):** The Employer shall furnish the relevant existing grid points with bench Mark with reference to permanent bench marks. It shall be Contractor's responsibility to the set out the necessary central points on land and to set out alignment. The Contractor shall have in his employees, an efficient survey team for this purpose and the accuracy of such setting out works shall be Contractor's sole responsibility. Before beginning the work, the Contractor shall work out the control points on ground which, are pre requisite for carrying out hydrographic surveys, accurately, with suitable markers as approved by Employer. All these points and markings shall be checked and approved by Employer's Representative before starting the work. The Contractor shall also provide necessary equipment, labour and other facilities for proper checking of triangulation / bench mark stations and inspection of the points during the survey and dredging operations at no cost to the Employer. The Contractor shall give Engineer-in Charge not less than 24 hours' notice in writing of his intention to set out or give levels for any part of the works so that arrangements may be made for checking the work. Work shall be suspended for such times as necessary for checking lines and levels on any part of the works. The Contractor shall at his own expense provide all assistance which Engineer-in Charge may require for checking the setting out.
GCC 65 Conditions for Dredging Operations (New clause added)	**Conditions for Dredging Operations (New Clause added):** 1) No shifting charges will be paid to the contractor for shifting the dredger and its accessories from one shoal to another shoal or from one area / canal to another area / canal specified above.

2) Normal barge and vessels / crafts movement in the channel shall not be interrupted by the dredging operation.

3) The decision of EIC to accept the work done with or without the Liquidated damages shall be final and binding.

4) The measurement of depth in the navigation channel shall be carried out by conducting bathymetric surveys every week, jointly by the Contractor and the representative of IWAI under the supervision of Engineer-in-charge or his nominee & its chart should be plotted by the contractor in presence of Engineer representatives. In case of shortcomings observed by the Engineer-in-charge or his nominee, the cross-sectional survey is to be carried out and the cross-sectional interval shall be 10 m apart and soundings shall be taken continuously and plotted at 4 m interval on the cross-section. The cross-section shall be extended up to 20 m beyond the limits of the channel on either side.

5) No idle time charges will be paid to the contractor on any account. Local issues / hindrances, if any, would be addressed by the Contractor. IWAI would facilitate with local/govt. agencies.

6) The Contractor shall arrange the transits, buoys, lights, mooring etc. at their own cost as required for dredging and also for cautioning other vessels in the waterway.

7) The Employer / Engineer-in-charge or his representative will inspect, co-ordinate, measure and certify the dredging work. He has the right to inspect at any time during the contract period for which contractor's authorized agent shall be available at site during such inspection.

8) The Contractor shall provide the boat from shore to dredger and back to shore during inspection & supervision by the Employer / Engineer-in-Charge or his representative.

9) The Contractor may execute the work round the clock and on all days including Sundays and Public Holidays except National Holidays subject to such restriction as may be imposed by State Govt./local body.

10) If the Contractor's personnel or any outside labour employed to work during execution of Contract, breaks or damages / destroys any vessel, craft, net, fishing stakes etc. building, road, kerb, water pipe, fence, bund, wires, trees, crop, fruit or cultivated ground during the period of agreement, the same shall be made good by the Contractor at his own expenses or in default the IWAI may cause the same to be made good

by other sources and deduct the expenses from any sums that may be then or at any time thereafter may become due to the contractor.

11) The Contractor is fully responsible for solving the disputes with the local fishermen w.r.t. removal of fishing nets, stakes, from the dredged channel. Similarly, all disputes with regard to the dumping of dredge spoil, any prior permission or arrangement on deemed fit for avoiding bank erosion or damage to any property or agriculture would be handled by contractor. The Authority shall not be responsible for solving the disputes related to execution of the dredging. However, on request IWAI may extend the assistance for solving the issues only through the concerned official/dept. of the state or local bodies.

12) The Contractor shall be responsible for dumping of the dredged materials. Any arrangement with respect to the bund around the identified dumping area is to be made by the Contractor at his cost. Any dispute with local, land owner on the dumping of dredging spoil to be sorted out by the Contractor.

13) The Employer may engage the agency on behalf of the Contractor as per the state/central Govt organization on pollution or coastal management authority to carry out the test of the dredged material at regular interval for the regulating the dumping activities. In case of any adverse report, the Contractor shall comply the instruction of EIC.

14) During execution of the work, if any environmental degradation occurs, consequent on dumping of dredged material, re-conveyance of the material shall be done by the Contractor at his cost, without claiming additional payment from IWAI.

15) If the dredging is stopped continuously for more than 3 days due to law and order, the Contractor has to report to EIC the same and take actions mutually in accordance with prevailing local laws for removal of such problem and proceeding further with the work to mutual benefit.

16) Any charge incurred on testing of the dredged material, testing / analysing the quality of water for adopting environmental safe guards, minimizing detrimental impacts, enhancing the beneficial aspects of the project and for effective management of the environmental resources affected by the project shall be met by the Contractor. No additional charges on any account shall be payable by IWAI.

17) In case of any anomaly with reference to interfacing chainage and interfacing of the issues relating to execution amongst the adjacent

	contractors, decision of EIC would be final and binding on both the adjacent contractors executing the project. 18) The Contractor will also be required to deploy its own pilots for assisting cargo and passenger / tourist vessels for their movement based on written request by the end users. For this, the Contractors can charge the fee from the users as per IWAI's regulation. 19) In case any cargo vessel is grounded due to inadequacy of depths or channel marking, the Contractor shall make arrangement for rescue of the vessels by providing rescue tugs at his own cost.
Appendix -1	**Salient features of Labour & Environment Protection Laws.**
Appendix -2	**Salient features of some of the Major Laws that are Applicable for Protection of Environment.**
Appendix -3	**Appointment of Adjudicator.**

Appendix 1
Salient Features of Labour & Environment Protection Laws[35]

SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK

(a) Employees Compensation Act 1923: The Act provides for compensation in case of injury, disease or death arising out of and during the course of employment.

(b) Payment of Gratuity Act 1972: gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years' service or more or on death at the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.

(c) Employees P.F. and Miscellaneous Provision Act 1952 (*since amended*): The Act provides for monthly contribution by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are:

(i) Pension or family pension on retirement or death, as the case may be.
(ii) Deposit linked insurance on the death in harness of the worker.
(iii) Payment of P.F. accumulation on retirement/death etc.

(d) Maternity Benefit Act 1961: The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.

(e) Sexual Harassment of Women at the Workplace (Prevention, Prohibition and Redressal) Act, 2013: This Act defines sexual harassment in the workplace, provides for an enquiry procedure in case of complaints and mandates the setting up of an Internal Complaints Committee or a Local Complaints Committee

(f) Contract Labour (Regulation & Abolition) Act 1970: The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labour.

(g) Minimum Wages Act 1948: The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employments.

(h) Payment of Wages Act 1936: It lays down the mode, manner and by what date the wages are to be paid, what deductions can be made from the wages of the workers.

[35] This list is only illustrative and not exhaustive. Bidders and Contractors are responsible for checking the correctness and completeness of the list. The law as current on the date of bid opening will apply.

(i) Equal Remuneration Act 1976: The Act provides for payment of equal wages for work of equal nature to male and female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.

(j) Payment of Bonus Act 1965: The Act is applicable to all establishments employing 20 or more employees. Some of the State Governments have reduced this requirement from 20 to 10. The Act provides for payments of annual bonus subject to a minimum of 8.33% of the wages drawn in the relevant year. It applies to skilled or unskilled manual, supervisory, managerial, administrative, technical or clerical work for hire or reward to employees who draw a salary of Rs. 10,000/- per month or less. To be eligible for bonus, the employee should have worked in the establishment for not less than 30 working days in the relevant year. The Act does not apply to certain establishments.

(k) Industrial Disputes Act 1947: the Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations, a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.

(l) Trade Unions Act 1926: The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.

(m) Child Labour (Prohibition & Regulation) Act 1986: The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in the Building and Construction Industry.

(n) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979: The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home up to the establishment and back, etc.

(o) The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and the Building and Other Construction Workers Welfare Cess Act, 1996 (BOCWW Cess Act): All the establishments who carry on any building or other construction work and employ 10 or more workers are covered under these Acts. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be notified by the Government. The Employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as Canteens, First – Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

(p) Factories Act 1948: the Act lays down the procedure for approval of plans before setting up a factory engaged in manufacturing processes, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated

authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power.

(q) Weekly Holidays Act -1942

(r) Bonded Labour System (Abolition) Act, 1976: The Act provides for the abolition of bonded labour system with a view to preventing the economic and physical exploitation of weaker sections of society. Bonded labour covers all forms of forced labour, including that arising out of a loan, debt or advance.

(s) Employer's Liability Act, 1938: This Act protects workmen who bring suits for damages against employers in case of injuries endured in the course of employment. Such injuries could be on account of negligence on the part of the employer or persons employed by them in maintenance of all machinery, equipment etc. in healthy and sound condition.

(t) Employees State Insurance Act 1948: The Act provides for certain benefits to insured employees and their families in case of sickness, maternity and disablement arising out of an employment injury. The Act applies to all employees in factories (as defined) or establishments which may be so notified by the appropriate Government. The Act provides for the setting up of an Employees' State Insurance Fund, which is to be administered by the Employees State Insurance Corporation. Contributions to the Fund are paid by the employer and the employee at rates as prescribed by the Central Government. The Act also provides for benefits to dependents of insured persons in case of death as a result of an employment injury.

(u) The Personal Injuries (Compensation Insurance) Act, 1963: This Act provides for the employer's liability and responsibility to pay compensation to employees where workmen sustain personal injuries in the course of employment.

(v) Industrial Employment (Standing Order) Act 1946: It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.

Appendix -2
Major Laws that are applicable for Protection of Environment

SALIENT FEATURES OF SOME OF THE MAJOR LAWS THAT ARE APPLICABLE FOR PROTECTION OF ENVIRONMENT.

1. The Environment (Protection) Act, 1986 and as amended: This provides for the protection and improvement of environment and for matters connected therewith, and the prevention of hazards to human beings, other living creatures, plants and property. 'Environment' includes water, air and land and the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property.

2. The Forest Conservation Act, 1980, as amended, and Forest (Conservation) Rules, 1981 as amended: These provides for protection of forests by restricting conversion of forested areas into non- forested areas and prevention of deforestation, and stipulates the procedures for cutting any trees that might be required by the applicable rules. Permissions under the Act also stipulates the norms and compliance requirements of the employer and any contractor on behalf of the employer.

3. State Tree Preservation Acts as may be in force: These provide for protection of trees of important species. Contractors will be required to obtain prior permission for full or partial cutting, uprooting, or pruning of any such trees.

4. The Wildlife (Protection) Act, 1972, and as amended: This provides for protection of wildlife through notifying National Parks and Sanctuaries and buffer areas around these zones; and to protect individuals of nationally important species listed in the Annex of the Act.

5. The Biological Diversity Act, 2002: This provides for conservation of biological diversity, sustainable use of components of biological diversity, and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and for matters connected therewith or incidental thereto.

6. The Public Liability Insurance Act, 1991 as amended and The Public Liability Insurance Rules, 1991 as amended: These provide for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for mattes connected herewith or incidental thereto. Hazardous substance means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act 1986, and exceeding such quantity as may be specified by notification by the Central Government.

7. The Ancient Monuments and Archaeological Sites and Remains Act, 1958 and the Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, 2010, the Ancient Monuments and Archaeological Sites and Remains Rules, 1959 amended 2011, the National Monuments Authority Rules, 2011 and the similar State Acts: These provide for conservation of cultural and historical remains found in India. Accordingly, area within the radii of 100m and 300m from the "protected property" are

designated as “protected area” and “controlled area” respectively. No development activity (including building, mining, excavating, blasting) is permitted in the “protected area” and development activities likely to damage the protected property is not permitted in the “controlled area” without prior permission of the Archaeological Survey of India (ASI) or the State Departments of Art and Culture or Archaeology as applicable.

8. The Environmental Impact Assessment Notification, 2006 and as amended: This provides for prior environmental clearance for new, modernization and expansion projects listed in Schedule 1 of the Notification. Contractors will be required to ensure that no work starts until applicable clearances under the Notification is not available. Contractors will be responsible for implementation of any environmental management plan stipulated as per the permission under this Notification; and will be required to prepare and submit to the employer and compliance report stipulated in the permission under the Notification.

9. The Water (Prevention and Control of Pollution) Act, 1974 as amended, and the Water (Prevention and Control of Pollution) Rules, 1975 as amended: These provide for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of water. ‘Pollution’ means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water(whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms. Contractors will need to obtain consent for establishment and consent for operation of any item of work or installation of equipment that generates waste water, and observe the required standards of establishment and operation of these items of work or installations; as well as install and operate all required waste water treatment facilities.

10. The Water (Prevention and Control of Pollution) Cess Act, 1977 and The Water (Prevention and Control of Pollution) Cess Rules, 1978: These provide for the levy and collection of a cess on water consumed by persons carrying on certain industries and by local authorities, with a view to augment the resources of the Central Board and the State Boards for the prevention and control of water pollution under the Water (Prevention and Control of Pollution) Act, 1974.

11. The Air (Prevention and Control of Pollution) Act, 1981 as amended, and the Air (Prevention and Control of Pollution) Rules, 1982: These provides for prevention, control and abatement of air pollution. ‘Air Pollution’ means the presence in the atmosphere of any ‘air pollutant’, which means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment. Contractors will need to obtain consent for establishment and consent for operation of any item of work or installation of equipment that generates air pollution such as batching plants, hot mix plants, power generators, backup power generation, material handling processes, and observe the required standards of establishment and operation of these items of work or installations.

12. Noise Pollution (Control and Regulation) Rules, 2000, and as amended: This provides for standards for noise for day and night for various land uses and specifies special standards in and around sensitive receptors of noise such as schools and hospitals. Contractors will need to ensure compliance to the applicable standards, and install and operate all required noise control devices as may be required for all plants and work processes.
13. Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996: This provides for Requirement of preparation of on-site and off-site Disaster Management Plans for accident-prone areas.
14. The Explosives Act 1884 and the Explosives Rules, 2008: These provide for safe manufacture, possession, sale, use, transportation and import of explosive materials such as diesel, Oil and lubricants etc.; and also for regulating the use of any explosives used in blasting and/or demolition. All applicable provisions will need compliance by the contractors.
15. The Petroleum Rules, 2002: This provides for safe use and storage of petroleum products, and will need to be complied by the contractors.
16. The Gas Cylinder Rules 2004 and amendments: This provides for regulations related to storage of gas, and possession of gas cylinder more than the exempted quantity. Contractors should comply with all the requirements of this Rule.
17. Manufacture, Storage and Import of Hazardous Chemical Rules of 1989 and as amended: These provide for use and storage of hazardous material such as highly inflammable liquids like HSD/LPG. Contractors will need to ensure compliance to the Rules; and in the event where the storage quantity exceeds the regulated threshold limit, the contractors will be responsible for regular safety audits and other reporting requirements as prescribed in the Rules.
18. Hazardous & Other Wastes (Management and Transboundary Movement) Rules, 2016: These provide for protection of general public from improper handling storage and disposal of hazardous waste. The rules prescribe the management requirement of hazardous wastes from its generation to final disposal. Contractors will need to obtain permission from the State Pollution Control Boards and other designated authorities for storage and handling of any hazardous material; and will to ensure full compliance to these rules and any conditions imposed in the permit.
19. The Bio Medical Waste Management Rules, 2016: This provides for control, storage, transportation and disposal of bio-medical wastes. As and where the contractor has any first aid facility and dispensaries, established in either temporary or permanent manner, compliance to these Rules are mandatory.
20. Construction and Demolition Waste Management Rules, 2016: This provides for management of construction and demolition waste (such as building materials possible to be reused, rubble and debris or the like); and applies to all those waste resulting from construction, re-modelling, repair or demolition of any civil structure. Contractor will need to prepare a waste disposal plan and obtain required approval from local authorities, if waste generation is more than 20 tons in any day or 300 tons in any month during the

contract period; and ensure full compliance to these rules and any conditions imposed in the regulatory approval.

21. The E-Waste (Management) Rules, 2016: This provides for management of E-wastes (but not covering lead acid batteries and radio-active wastes) aiming to enable the recovery and/or reuse of useful material from e-waste, thereby reducing the hazardous wastes destined for disposal and to ensure the environmentally sound management of all types of waste of electrical and electronic equipment. This Rule applies to every manufacturer, producer, consumer, bulk consumer, collection centers, dealers, e-retailer, refurbisher, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment listed in Schedule I, including their components, consumables, parts and spares which make the product operational.

22. Plastic waste Management Rules, 2016: This provides for control and management of the plastic waste generated from any activity. Contractors will ensure compliance to this Rule.

23. The Batteries (Management and Handling) Rules 2001: This provides for ensuring safe disposal and recycling of discarded lead acid batteries likely to be used in any equipment during construction and operation stage. Rules require proper control and record keeping on the sale or import of lead acid batteries and recollection of the used batteries by registered recyclers to ensure environmentally sound recycling of used batteries. Contractors will ensure compliance to this Rule.

24. The Ozone Depleting Substances (Regulation and Control) Rules, 2000 and as amended: This provides for regulation of production and consumption of ozone depleting substances in the country, and specifically prohibits export to or import from countries not specified in the Rules, and prohibits unless specifically permitted, any use of ozone depleting substance.

25. The Coastal Regulation Zone Notifications, 1991 and as amended: This provides for regulation of development activities within the 500m of high tide line in coastal zone and 100m of stretches of rivers and estuaries influenced by tides. Contractors will be required to ensure that no work starts until applicable clearances under the Notification is not available. Contractors will be responsible for implementation of any plan stipulated as per the permission under this Notification; and will be required to prepare and submit to the employer and compliance report stipulated in the permission under the Notification.

26. The Motor Vehicle Act 1988 as amended (and State Motor Vehicle Acts as may be in force) and the Motor Vehicle Rules, 1989, and as amended (and State Motor Vehicle Rules as may be in force): To minimize the road accidents, penalizing the guilty, provision of compensation to victim and family and check vehicular air and noise pollution. Contractors will be required to ensure full compliance to these rules.

27. Easement Act, 1882: This provides for the rights of landowners on groundwater. Contractors will need to ensure that other landowners' rights under the Act is not affected by any groundwater abstraction by the contractors.

28. State Groundwater Acts and Rules as may be in force and the Guidelines for Groundwater Abstraction for drinking and domestic purposes in Notified Areas and Industry/Infrastructure project proposals in non-Notified areas, 2012: These provide for regulating extraction of ground water for construction/industrial and drinking and domestic purposes. Contractors will need to obtain permission from Central/State Groundwater Boards prior to groundwater abstraction through digging any bore well or through any other means; and will to ensure full compliance to these rules and any conditions imposed in the permit.

29. The Mines Act, 1952 as amended; the Minor Mineral and concession Rules as amended; and the State Mineral (Rights and Taxation) Acts as may be in force: These provide for for safe and sound mining activity. The contractors will procure aggregates and other building materials from quarries and borrow areas approved under such Acts. In the event the contractors open any new quarry and/or borrow areas, appropriate prior permission from the State Departments of Minerals and Geology will need to be obtained. Contractors will also need to ensure full compliance to these rules and any conditions imposed in the permit.

30. The Insecticides Act, 1968 and Insecticides Rules, 1971 and as amended: These provide for regulates the manufacture, sale, transport, distribution, export, import and use of pesticides to prevent risk to human beings or animals, and for matters connected therewith. No one should import or manufacture; sell, stock or exhibit foe sale; distribute, transport, use: (i) any misbranded insecticides, (ii) any insecticide the sale, distribution or use of which is for the time being prohibited under the Act; and (iii) any insecticide except in accordance with the condition on which it was registered under the Act.

31. National Building Codes of India, 2005 and as amended: This provides guidelines for regulating the building construction activities in India. The code mainly contains administrative regulations, development control rules and general building requirements; stipulations regarding materials, structural design and construction; and building and plumbing services. Contractors will be required to comply with all Bureau of Indian Standards Codes dealing with: (i) use and disposal of asbestos containing materials in construction; (ii) paints containing lead; (iii) permanent and temporary ventilations in workplace; (iv) safety, and hygiene at the workplace; (v) prevention of fire; (vi) prevention of accidents from faulty electrical gadgets, equipment and accessories; and all other such codes incidental to the Contract.

Appendix -3[36]

Appointment of Adjudicator

Suggested Draft of **Letter of Appointment of Adjudicators** in civil works contracts

Sub:_____(Name of the Contract)

To
Name and address of the Adjudicator

We hereby confirm your appointment as Adjudicator for the above contract to carry out the assignment specified in this Letter of Appointment.

For administrative purpose_____(*name of the officer representing the Employer*) has been assigned to administer the assignment and to provide the Adjudicator with all relevant information needed to carry out the assignment on behalf of both the Employer and the contractor. The services will be required during the period of contract for the work of (Name of the Contract) _____.

The Adjudicator shall visit the worksite once in 3 (three) months till the completion of the work indicated above or as specifically requested by Employer/ Contractor for the period up to the end of defects liability period with prior intimation to the Employer and the contractor. The duration of each visit shall ordinarily be for one day only. These durations are approximate and (*Name of the Employer and Name of the Contractor*) may find it necessary to postpone or cancel the assignment and/or shorten or extend the duration.

The appointment will become effective upon confirmation of letter by you. The appointment of Adjudicator shall be liable for termination under 30 (thirty) days written notice from the date of issue of the notice, if both Employer and the Contractor so desire. Also, the appointment shall automatically stand terminated 14 days after the defect notice / correction period as stated in Clauses 23 and 24 of the Conditions of Contract is over.

The Adjudicator will be paid a fee of Rs. _____ (Rupees _____only) per each day of visit at the worksite. The actual expenses for boarding and traveling in connection with the assignment will be reimbursed to the Adjudicator. The Adjudicator will submit a pre-receipted bill in triplicate to the Employer indicating the date of the visit, fees for the visit and a proof in support of the actual expenditure [only for items valued above Rs. 200 each] incurred by him against boarding, lodging and traveling expenses after performing the visit on each occasion. The Employer will make the admissible payment (both the Employer's and the Contractor's share) to the Adjudicator within 30 days of the receipt of the bill. The Contractor's share on this account (half the paid amount) will be recovered by the Employer from the Contractor's bills against the work.

[36] If ITB 46 makes provision of an Adjudicator from list provided by an institution, kindly modify Appendix 3 to state that the fee and reimbursable payable to the adjudicator shall be as per the rules of the Institution.

In accepting this assignment, the Adjudicator should understand and agree that he is responsible for any liabilities and costs arising out of risks associated with travel to and from the place of emergency repatriation, loss or damage to personal/professional effects and property. The Adjudicator is advised to effect personal insurance cover in respect of such risks if he does not already have such cover in place. In this regard, the Adjudicator shall maintain appropriate medical, travel, accident and third-party liability insurance. The obligation under this paragraph will survive till termination of this appointment.

Procedures for resolution of disputes by the Adjudicator is described in the contract of _____ (name of the contract) between the Employer and the contractor vide clause no.24 of the General Conditions of Contract. Your recommendation should be given in the format attached, within 28 days of receipt of a notification of dispute.

The Adjudicator will carry out the assignment in accordance with the highest standard of professional and ethical competence and integrity, having due regard to the nature and purpose of the assignment, and will conduct himself in a manner consistent herewith. After visiting the worksite, the Adjudicator will discuss the matter with the Employer and if necessary, with the Contractor before arriving at any decision.

The Adjudicator will agree that all knowledge and information not within the public domain, which may be acquired while carrying out this service shall be all time and for all purpose, regarded as strictly confidential and held in confidence, and shall not be directly or indirectly disclosed to any party whatsoever, except with the permission of the Employer and the contractor. The Adjudicator's decision should be communicated in the form of a speaking order specifying the reasons.

The Adjudicator will agree that any manufacturing or construction firm with which he might be associated with, will not be eligible to participate in bidding for any goods or works resulting from or associated with the project of which this consulting assignment forms a part

Read and Agreed

Name of Adjudicator
Signature

Place:
Date:

Name of Employer
Signature of authorized representative of Employer

Name of the Contractor

Signature of authorized representative of Contractor

Attachment: Copy of contract document between the Employer and contractor and format for recommendation.

SUMMARY OF AJUDICATIOR'S RESPONSIBILITIES

The Adjudicator has the following principal responsibilities:

1. Visit the site periodically.
2. Keep abreast of job activities and developments.
3. Encourage the resolution of disputes by the parties.
4. When a dispute is referred to it, conduct a hearing (no legal presentation), complete its deliberations, and prepare a recommendation in a professional and timely manner (as per sample format)

Sample Format of Adjudicator's Recommendation

[Project Name]
Recommendation of Adjudicator

Dispute No. XX [*NAME OF DISPUTE*]

Hearing Date: _____

Dispute
Description of dispute. A one or two sentence summation of the dispute.

Contractor's Position
A short summation of the contractor's position as understood by the Adjudicator.

Employer's Position
A short summation of the Employer's position as understood by the Adjudicator.

Recommendation
The Adjudicator's specific recommendation for settlement of the dispute. (*The recommended course is consistent with the explanation*).

Explanation
(*This section could also be called Considerations, Rationale, Findings, Discussion, and so on.*)

The Adjudicator's description of how each recommendation was reached.

Respectfully submitted,

Date: _____ _____
Date: _____ _____

Section X - Contract Forms

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security, ES performance security if applicable, and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

Letter of Acceptance

[letterhead paper of the Employer]

[The Letter of Acceptance shall be the basis for formation of the Contract as described in ITB Clause 43. This Standard Form of Letter of Acceptance shall be filled in and sent to the successful Bidder only after evaluation of bids has been completed, subject to any review by the World Bank required under the Loan Agreement.]

[insert date]

Identification No and Title of Contract: *[insert identification number and title of the Contract]*

To: *[insert name and address of the Contractor]*

This is to notify you that your Bid dated *[insert date]* for execution of the *[insert name of the Contract and identification number, as given in the PCC]* for the Contract Price ……. *[insert amount in numbers and words]* as corrected and modified[37] in accordance with the Instructions to Bidders is hereby accepted by our Agency.

[insert one of the following (a) or (b) options]

(a) We accept that *[insert name proposed by bidder]* be appointed as the Adjudicator.[38]

(b) We do not accept that *[insert name proposed by bidder]* be appointed as Adjudicator, and by sending a copy of this Letter of Acceptance to *[insert name of the Appointing Authority]*, we are hereby requesting *[insert name]*, the Appointing Authority, to appoint the Adjudicator in accordance with GCC 23.[39]

We note that as per your bid, you do not intend to subcontract any component of work.

[OR]

We note that as per your bid, you propose to employ M/s. ……. as sub-contractor for executing ……..

[*Delete whatever is inapplicable*]

You are hereby requested to furnish Performance Security, plus additional security for unbalanced bids in terms of ITB clause 40, and ESHS Performance Security ***[Delete ESHS Performance Security if it is not required under the contract]*** in the form detailed

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[37] *Delete "corrected and" or "and modified" if not applicable. See Notes on Standard Form of Agreement, next page.*

[38] *To be used only if the Contractor disagrees in the Bid with the Adjudicator proposed by the Employer in the Instructions to Bidders, and has accordingly offered another candidate.*

[39] *To be used only if the Contractor disagrees in the Bid with the Adjudicator proposed by the Employer in the ITB, has accordingly offered another candidate, and the Employer does not accept the counterproposal.*

in ITB Clause 45 for amounts[40] of Rs. ____ and Rs. _____ within 21 days of the receipt of this letter of acceptance, and visit this office to sign the contract, failing which action as stated in ITB Clause 45.2 will be taken. The securities shall be valid upto 28 days from the date of completion i.e. upto ……. and shall be as per the Performance Security Form and the ESHS Performance Security Form ***[Delete reference to the ESHS Performance Security Form if it is not required under the contract]***, included in Section X - Contract Forms, of the bidding document.

We have reviewed the construction methodology submitted by you alongwith the bid in response to ITB Clause 16 and our comments are given in the attachment. You are requested to submit a revised Program including ESHS requirements as per Clause 26 of General Conditions of Contract within 14 days of receipt of this letter of acceptance.

Yours faithfully,

Authorized Signature……..

Name and Title of Signatory……

Name of Agency……..

[40] *Insert amounts for (i) Performance Security, plus additional security for unbalanced bids; and (ii) ESHS Performance Security respectively.*

Issue of Notice to proceed with the work

(Letterhead of the Employer)

_____ (*date*)

To

_____ (*name and address of the Contractor)*

_____

_____

Dear Sirs:

Pursuant to your furnishing the requisite securities as stipulated in ITB clause 45.1, insurance policy as per GCC 13, construction methodology as stated in letter of acceptance and signing of the contract agreement for the construction of_____@ a Bid Price of Rs._____, you are hereby instructed to proceed with the execution of the said works in accordance with the contract documents.

Yours faithfully,

(Signature, name and title of signatory authorized to sign on behalf of Employer)

Attachment: Contract Agreement

Contract Agreement

THIS AGREEMENT made the . . . . . day of . . . . . ., ..., between . . . . . ***[name of the*** Employer***]***. . . . . (hereinafter "the Employer"), of the one part, and . . . . . ***[name of the Contractor]***. . . . .(hereinafter "the Contractor"), of the other part:

WHEREAS the Employer desires that the Works known as . . . . . ***[name of the Contract]***. . . . .should be executed by the Contractor, and has accepted a Bid by the Contractor for the execution and completion of these Works and the remedying of any defects therein,

The Employer and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.

(a) this Agreement
(b) the Letter of Acceptance
(c) the Contractor's Bid including completed schedules and priced bill of quantities,
(d) the Addenda No's . . . . . ***[insert addenda numbers if any]***. . . . .
(e) the Particular Conditions of contract
(f) the General Conditions of contract;
(g) the Specifications
(h) the Drawings; and
(i) Construction Program, Methodology, Quality Assurance Program, ESHS Management Strategies and Implementation Plans, and Code of Conduct (ESHS)
(j) Joint Venture Agreement [for JVs only]
(k) Post bid correspondences and any other document listed in the contract data as forming part of the contract
(l) Any other document listed in PCC as forming part of the Contract

3. In consideration of the payments to be made by the Employer to the Contractor as indicated in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of India on the day, month and year indicated above.

Signed by:
for and on behalf of the Employer
in the presence of:
Witness, Name, Signature, Address, Date

Signed by:
for and on behalf the Contractor
in the presence of:
Witness, Name, Signature, Address, Date

Performance Security - Bank Guarantee
[including Additional Performance Security for unbalanced bids]

[Guarantor letterhead or SWIFT identifier code]

Performance Guarantee No……*[insert guarantee reference number]*
Date……*[insert date of issue of the guarantee]*

To: _____ *[name of Employer]*
_____ *[address of Employer]*

WHEREAS _____ *[name and address of Contractor[41]]* (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. _____ dated _____ to execute _____ *[name of Contract and brief description of Works]* (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, upto a total of _____ *[amount of guarantee[42]]* _____ *[in words]*, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ *[amount of guarantee]* as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until …… [43], and any demand for payment under it must be received by us at this office on or before that date.

Signature and seal of the guarantor _____
Name of Bank _____
Address _____Date …….

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

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[41] *In the case of a JV, insert the name of the Joint Venture*

[42] *An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract less provisional sum if any, plus additional performance security for unbalanced bids if any, and denominated in Indian Rupees.*

[43] *Insert the date twenty-eight days after the expected completion date as described in GC Clause 53.1. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee*

Environmental, Social, Health and Safety (ESHS) Performance Security - Bank Guarantee

[Guarantor letterhead or SWIFT identifier code]

ESHS Performance Guarantee No……*[insert guarantee reference number]*
Date……*[insert date of issue of the guarantee]*
To: _____ *[name of Employer]*
_____ *[address of Employer]*

WHEREAS _____ *[name and address of Contractor[44]]* (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. _____ dated _____ to execute _____ *[name of Contract and brief description of Works]* (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with Environmental, Social, Health and/or Safety (ESHS) obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, upto a total of _____ *[amount of guarantee[45]]* _____ *[in words]*, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ *[amount of guarantee]* as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until …… [46], and any demand for payment under it must be received by us at this office on or before that date.

Signature and seal of the guarantor _____
Name of Bank _____
Address _____Date ……

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[44] *In the case of a JV, insert the name of the Joint Venture*

[45] *An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract less provisional sum if any, and denominated in Indian Rupees.*

[46] *Insert the date twenty-eight days after the expected completion date as described in GC Clause 53.1. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee*

Advance Payment Security -- Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

Advance Payment Guarantee No……*[insert guarantee reference number]*
Date……*[insert date of issue of the guarantee]*

To: _____ *[name of Employer]*
_____ *[address of Employer]*
_____*[name of Contract]*

Gentlemen:

In accordance with the provisions of the Conditions of Contract, Sub-clause 49.1 ("Advance Payment") of the above-mentioned Contract, _____ *[name and address of Contractor[47]]* (hereinafter called "the Contractor") shall deposit with _____ *[name of Employer]* a bank guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of _____ *[amount of guarantee[48]]* _____ *[in words]*.

We, the _____ *[bank or financial institution]*, as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to _____ *[name of Employer]* on his first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding _____ [amount of guarantee] _____ *[in words]*.

We further agree that no change or addition to or other modification of the terms of the Contract or of Works to be performed thereunder or of any of the Contract documents which may be made between _____ *[name of Employer]* and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until _____ *[name of Employer]* receives full repayment of the same amount from the Contractor. Consequently any demand for payment under this guarantee must be received by us at this office on or before that date.

Yours truly,
Signature and seal: _____
Name of Bank: _____
Address: _____
Date: _____

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[47] In the case of a JV, insert the name of the Joint Venture
[48] An amount shall be inserted by the bank representing the amount of the Advance Payment, and denominated in Indian Rupees.

Retention Money Security – NOT APPLICABLE

Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

_____ *[Ba*
cnk's name and address of issuing branch or office]
Beneficiary: _____ *[Name and Address of Employer]*
Date: _____

RETENTION MONEY GUARANTEE NO.: _____

We have been informed that _____ *[name of contractor[49]]* (hereinafter called "the Contractor") has entered into Contract No. _____ *[reference number of the contract]* dated _____ with you, for the execution of _____ *[name of contract and brief description of Works]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, when the Taking-Over Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment, payment of _____ *[insert* the second half of the Retention Money*]* is to be made against a Retention Money guarantee.

At the request of the contractor, we _____*[name of Bank]* hereby irrevocably undertake to pay you the sum or sums not exceeding in total an amount of _____ *[amount in Rupees]* (_____) *[amount in words[50]]* upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract without cavil or argument.
It is a condition for any claim and payment under this guarantee to be made that the payment of the second half of the Retention Money referred to above must have been received by the Contractor on its account number _____ at _____ *[name and address of Bank].*
This guarantee shall expire, at the latest, 21 days after the date when the Employer has received a copy of the Defects Liability Certificate issued by the Project Manager. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

_____
[Signature(s) and seal of the guarantor]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[49] *In the case of a JV, insert the name of the Joint Venture*
[50] *The Guarantor shall insert an amount representing the amount of the second half of the Retention Money or if the amount guaranteed under the Performance Guarantee when the Taking-Over Certificate is issued is less than half of the Retention Money, the difference between half of the Retention Money and the amount guaranteed under the Performance Security.*

Annexure 'B'

Fairway Maintenance of Farakka – Katwa (199 km) stretch of National Waterway -1 (River Ganga)

Contract Package no: IN-IWAI-400747-CW-RFB

January, 2024

Project Management Unit (PMU)
Capacity Augmentation of the National Waterway – 1 project (Jal Marg Vikas)
INLAND WATERWAYS AUTHORITY OF INDIA
(Ministry of Ports, Shipping and Waterways, Government of India)
Head Office: A-13, Sector–1, Noida - 201301

Phone: 0120-2544004, Fax: 0120-2543976; Website: www.iwai.nic.in;
E-mail: vc.iwai@nic.in

INLAND WATERWAYS AUTHORITY OF INDIA

(Ministry of Ports, Shipping and Waterways, Government of India)

PROJECT: Capacity Augmentation of National Waterway–1

.

NATIONAL COMPETITIVE BIDDING

(Two-Envelope Bidding Process with e-Procurement)

File No.: IWAI / WB / NW-1 /14 /1/ 2024

Bid no: IN-IWAI-400747-CW-RFB

NAME OF WORK: **Fairway Maintenance of Farakka - Katwa (199 km) stretch of National Waterway -1 (River Ganga)**

PERIOD OF SALE OF BIDDING DOCUMENT	FROM T onwards
TIME AND DATE OF PRE-BID MEETING	DATE: 11.01.2024; TIME 1500 HOURS
LAST DATE AND TIME FOR RECEIPT OF BIDS	DATE: 25.01.2024; TIME 1500 HOURS
TIME AND DATE OF OPENING	DATE: 25.01.2024; TIME 1530 HOURS OF BID – Technical Part
The firms that qualify technically shall be notified subsequently for opening of the financial part of their bids.	
PLACE OF OPENING OF BIDS	IWAI, A-13 Sector-1; Noida
OFFICER INVITING BIDS: - Vice Chairman & Project Director (JMVP) Inland Waterways Authority of India, A – 13, Sector – 1, Noida – 201301, Uttar Pradesh – INDIA Telephone No.: (91) 0120-2424544 Email.: vc.iwai@nic.in;	

INLAND WATERWAYS AUTHORITY OF INDIA

(Ministry of Ports, Shipping and Waterways, Government of India)

PROJECT: *Capacity Augmentation of National Waterway – 1*

INVITATIONS FOR BIDS (IFB)
E-Procurement Notice
(Two-Envelope Bidding Process with e-Procurement)

NATIONAL COMPETITIVE BIDDING

Name of Project: Capacity Augmentation of National Waterway – 1

Contract Title: Fairway Maintenance of **Farakka - Katwa (199 km)** stretch of National Waterway -1 (River Ganga)

Loan No: 8752 – IN

Bid No.: IN-IWAI-400747-CW-RFB **Date**: 03.01.2024

File no: - IWAI /WB / NW-1 / 14 / 19/ 2023

Estimated Cost: Rs. 65,39,16,960/- excluding taxes

1. The Government of India has received a loan from the World Bank towards the cost of Capacity Augmentation of National Waterway – 1 Project and intends to apply a part of the funds to cover eligible payments under the contract for construction of works as detailed below.

   Fairway Maintenance of Farakka - Katwa (199 km) stretch of National Waterway -1 (River Ganga)

2. Bidding will be conducted through National Competitive Bidding procedures agreed with the World Bank. Bidding is open to all eligible bidders as defined in the World Bank's Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, January 2011_Revised July 2014.

3. Bidders from India should, however, be registered with the Government of India or other State Governments / Government of India, or State / Central Government Undertakings. Bidders from India, who are not registered as above, on the date of bidding, can also participate provided they get themselves registered by the time of contract signing, if they become successful bidders. Bidders are advised to note the clauses on eligibility (Section I Clause 4) and minimum qualification criteria (Section III – Evaluation and Qualification Criteria), to qualify for the award of the contract. In addition, please refer to paragraphs 1.6 and 1.7 of the World Bank's Guidelines setting forth the World Bank's policy on conflict of interest.

   1) *Average annual financial turnover during last five years ending 31st March of the previous financial year (2022-23), should be* ***INR 19.62 crores*** *(INR Nineteen crores & Sixty Two lakhs only)*

   2) *Similar works such as those pertaining to General Dredging Experience in Ports / River / Lakes/ Canals/ Water Bodies / Wet excavation in dams / Management of Vessels and Manning of Vessels or Vessel related Marine Works or River Dredging and management of Dredged materials or*

Dredged material used in reclamation of port / harbours during last 7 years ending last day of month previous to the one in which this tender is invited should be either of following:

Three similar works each costing not less than INR 8.72 crores or Dredged Quantity of 1.2864 Lakh cum ***OR***
Two similar works each costing not less than INR 10.90 crores or Dredged Quantity of 1.7152 Lakh cum ***OR***
One similar work costing not less than INR 17.44 Crores or Dredged Quantity of 3.4304 Lakh cum

3) Meets Cash Flow of ***INR 5.45 crores*** *required for minimum 3 months*

3) The Inland Waterways Authority of India, Ministry of Ports, Shipping and Waterways, Government of India (Implementing Agency) invites online bids for the works detailed below in the table. The bidders may submit bids for any or all of the works indicated therein. Interested bidders may obtain further information and inspect the bidding documents at the address given below during office hours.

4) Bidding Documents are available online on CPP Portal **https://eprocure.gov.in/eprocure/app** from 03.01.2024. A non-refundable fee as indicated in the table below, in the form of Demand Draft (DD) of any Scheduled/Nationalized bank payable at Noida or through RTGS in favour of **IWAI Fund Jal Marg Vikas** (Payment documents are to be submitted as per the procedure described in paragraph 9 below) shall be submitted along with the bid. Bidders will be required to register on the website. The bidders would be responsible for ensuring that any addenda available on the website is also downloaded and incorporated.

5) For submission of the bid, the bidder is required to have Digital Signature Certificate (DSC) from one of the Certifying Authorities authorised by Government of India for issuing DSC. Aspiring bidders who have not obtained the user ID and password for participating in e-procurement in this Project, may obtain the same from the website: https://eprocure.gov.in/cppp/download/disp.

6) All Bids must be accompanied by a bid security of the amount specified for the work in the table below, drawn in favour of **IWAI Fund Jal Marg Vikas**. Bid security will have to be in any one of the forms as specified in the bidding document and shall have to be valid for 45 days beyond the validity of the bid. Procedure for submission of bid security is described in Para 9.

7) Bids comprise two Parts, namely the Technical Part and the Financial Part, and both parts must be submitted simultaneously online on CPP Portal at ***https://eprocure.gov.in/eprocure/app (website) on or before 15.00 hours on 25.01.2024 and the 'Technical Part' of the bids will be publicly opened online on the same day at 15.30 hours***, in the presence of the bidder's designated representatives who wish to attend. The "Financial Part" shall remain unopened in the e-procurement system until the second public Bid opening for the financial part. Any bid or modifications to bid (including discount) received outside e-procurement system will not be considered. If the office happens to be closed on the date of opening of the bids as specified, the bids will be opened on the next working day at

the same time and venue. The electronic bidding system would not allow any late submission of bids.

8) The bidders are required to submit (a) Original payment documents towards the cost of bid document; (b) Original bid security in approved form and (c) Original affidavit regarding correctness of information furnished with bidding document with Vice Chairman & Project Director (JMVP), A-13, Sector-1, NOIDA, Gautam Buddha Nagar – 201301, UP before the bid submission deadline, either by registered post/speed post/courier or by hand, failing which the bids will be declared non-responsive and will not be opened.

9) ***A pre-bid meeting in hybrid mode will be held on 11.01.2024*** at 1500 hours at the office of Inland Waterways Authority of India, NOIDA to clarify the issues and to answer questions on any matter that may be raised at that stage as stated in ITB Clause 7.4 of 'Instructions to Bidders' of the bidding document. Bidders are advised to download the bidding document prior to the pre-bid meeting in order for bidders to have a good understanding of the scope of work under this contract for discussion and clarification at the pre-bid meeting.

10) Other details can be seen in the bidding documents. The Employer shall not be held liable for any delays due to system failure beyond its control. Even though the system will attempt to notify the bidders of any bid updates, the Employer shall not be liable for any information not received by the bidder. It is the bidders' responsibility to verify the website for the latest information related to this bid.

11) The address for communication is as under:

Vice Chairman & Project Director, Jal Marg Vikas Project (JMVP)
Inland Waterways Authority of India
A-13, Sector-1, Noida, Gautam Buddha Nagar, UP - 201301
+91 120 2424544
Email: vc.iwai@nic.in

TABLE

Package No	Name of Work	Bid Security * Rs.	Cost of Document Rs	Period of Completion
1	2	3	4	5
IN - IWAI-400747-CW- RFB	Fairway Maintenance of Farakka - Katwa (199 km) stretch of National Waterway - 1 (River Ganga)	INR 1,30,80,000.00	INR 6,000/- incl. of GST @ 18%	3 years

Seal of office

Part I – Bidding Procedures

TABLE OF CONTENTS	
VOLUME–1: BIDDING DOCUMENT	
Descriptions	**Page No.**
Part 1 – Bidding Procedures	**3**
Section I. Instructions to Bidders	**5**
Section II. Bid Data Sheet	**33**
Section III. Evaluation and Qualification Criteria	**45**
Section IV. Bidding Forms & Bill of Quantity	**97**
Section V. Eligible Countries	**104**
Section VI. Bank Policy - Corrupt and Fraudulent Practices	**114**
Part 2 - Section-VII Works Requirements	
Part -I – Scope of work	**116**
Part -II - TECHNICAL SPECIFICATION	**130**
Section-VIII General Conditions of Contract together with Schedules	**175**
Section-IX Particular Conditions of Contract Appendixes	**205** **238**
Section-X Contract Forms	**170**
Salient Features of Labour & Environment Protection Laws	**171**

Part I – Bidding Procedures

Section I. Instructions to Bidders
Table of Clauses

A. General 11
1. Scope of Bid 11
2. Source of Funds 11
3. Corrupt and Fraudulent Practices 12
4. Eligible Bidders 12
5. Eligible Materials, Equipment and Services 15

B. Contents of Bidding Document 15
6. Sections of Bidding Document 15
7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting 16
8. Amendment of Bidding Document 17

C. Preparation of Bids 18
9. Cost of Bidding 18
10. Language of Bid 18
11. Documents Comprising the Bid 18
12. Process of Bid Submission 19
13. Alternative Bids 20
14. Bid Prices and Discounts 20
15. Currencies of Bid and Payment 22
16. Documents Comprising the Technical Proposal 22
17. Documents Establishing the Qualifications of the Bidder 22
18. Period of Validity of Bids 22
19. Bid Security 23
20. Format and Signing of Bid 25

D. Online Submission and Opening of Bids 25
21. Preparation of Bids 25
22. Deadline for Submission of Bids 26
23. Late Bids 26
24. Withdrawal, Substitution, and Modification of Bids 26
25. Public Opening of Technical Parts of Bids 27

F. Evaluation of Bids – General Provisions 27
26. Confidentiality 27
27. Clarification of Bids 28
28. Deviations, Reservations, and Omissions 28
29. Nonconformities, Errors, and Omissions 28
30. Evaluation of Technical Parts 29
31. Determination of Responsiveness 29
32. Qualification of the Bidder 30
33. Subcontractors 30

34. Public Opening of Financial Parts....30
35. Evaluation of Financial Parts....32
36. Correction of Arithmetical Errors....32
37. Conversion to Single Currency....33
38. Margin of Preference....33
39. Comparison of Financial Parts....33
40. Unbalanced or Front Loaded Bids....33
41. Employer's Right to Accept Any Bid, and to Reject Any or All Bids....33

J. Award of Contract....33
42. Award Criteria....33
43. Notification of Award....34
44. Signing of Contract, Publication of award and Recourse to unsuccessful Bidders....34
45. Performance Security....34
46. Adjudicator....35

ABBREVETIONS		
	GOI	Government of India
	MOSPW	Ministry of Ports, Shipping and Waterways
	IWA1	Inland Waterways Authority of India
	WB	World Bank
	JMVP	Jal Marg Vikas Project
	PMU / PMC	Project Management Unit. / Project Management Consultant
	NW-1	National Waterways-1 (River Ganga)
	CPPP	Central Public Procurement Portal
	INR	Indian National Rupee
	NCB	National Competitive Bid.
	ICB	International Competitive Bid
	IFB	Invitation for Bid
	QC /QR	Qualifying Criteria / Qualifying Requirements
	ATO	Annual Turn Over
	NIT	Notice Inviting Tender
	LAD	Least Available Depth
	RFB	Request for Bid
	ITB	Instruction to Bidder
	BDS	Bid Data Sheet
	EMD	Earnest Money Deposit / Bid Security
	GCC	General Condition of Contract.
	PCC	Particular Condition of Contact.
	ESHS	Environment, Social, Health & Safety
	ESIA	Environment & Social Impact Assessment.
	MSIP	Management Strategies & Implementation Plan
	C-ESMP	Contractor's Environment & Social Management Plan.
	CPG	Contract Performance Guarantee
	JV	Joint Venture
	GBV	Gender Based Violence
	SEA	Sexual Exploitation and Abuse.
	DMP	Dredging Management Plan
	IHO	International Hydrographic Organization
	OHSAS	Occupational Health & Safety Assessment Series
	EMS	Environmental Management System
	IADC	International Association of Dredging Companies
	SMC	Safety Management Certificate
	DOC	Document of Compliance
	GST	Goods & Service Tax
	BOCW	Building & Other Construction Worker
	CPI	Consumer Price Index
	WPI	Wholesale Price Index
	EIC	Engineer in charges
	TSSC	Technical Support & Supervisory Consultant.
	CSD	Cutter Suction Dredger

Section I - Instructions to Bidders

A. General	
1. Scope of Bid	1.1 The Employer, as **indicated in the BDS**, issues this Bidding Document for the procurement of the Works as specified in Section VII (Works' Requirements) & Invitation for Bids (IFB). The name, identification, and number of lots (contracts) of this bidding are **specified in the BDS**.
	1.2 Throughout this Bidding Document: (a) the term "in writing" means communicated in written form and delivered against receipt; (b) except where the context requires otherwise, words indicating the singular also include the plural and words indicating the plural also include the singular; (c) "day" means calendar day; (d) "ES" is an acronym for environmental and social (including Sexual Exploitation, and Assault (SEA)); (e) "Sexual Exploitation and Assault" "(SEA)" stands for the following: (i) Sexual exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. In Bank financed operations/projects, sexual exploitation occurs when access to or benefit from a Bank financed Goods, Works, Non-consulting Services or Consulting Services is used to extract sexual gain. (ii) Sexual assault is further defined as sexual activity with another person who does not consent. It is a violation of bodily integrity and sexual autonomy and is broader than narrower conceptions of "rape", especially because (a) it may be committed by other means than force or violence, and (b) it does not necessarily entail penetration; and (f) "Contractor's Personnel" is as defined in Sub-Clause 9.1 of the General Conditions of Contract.
2. Source of Funds	2.1 The Borrower or the Recipient (hereinafter called "Borrower") **specified in the BDS** has received/applied for financing (hereinafter called "funds") from the International Bank for

	Reconstruction and Development or the International Development Association (hereinafter called "the Bank") in an amount **specified in the BDS**, towards the cost of the project **specified in the BDS**. The Borrower intends to apply a portion of the funds to eligible payments under the contract(s) for which this Bidding Document is issued. 2.2 Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank, and will be subject, in all respects, to the terms and conditions of the Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the Loan (or other financing) account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Bank, is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the proceeds of the Loan (or other financing).
3. Corrupt and Fraudulent Practices	3.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Section VI. 3.2 In further pursuance of this policy, Bidders shall permit and shall cause their agents (whether declared or not), sub-contractors, sub-consultants, service providers, or suppliers and any personnel thereof, to permit the Bank to inspect all accounts, records and other documents relating to any prequalification process, bid submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.
4. Eligible Bidders	4.1 A Bidder may be a firm that is a private entity, a state-owned entity or institution subject to ITB 4.5, or any combination of such entities in the form of a Joint Venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent, unless otherwise **specified in the BDS**. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the Bidding process and, in the event the JV is awarded the Contract, during contract execution. This authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all members. Unless **specified in the BDS**, there is no limit on the number of members in a JV. The joint venture agreement shall be

	registered in the place **specified in BDS** so as to be legally valid and binding on members.
	4.2 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder: (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or (b) receives or has received any direct or indirect subsidy from another Bidder; or (c) has the same legal representative as another Bidder; or (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or (e) participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which such Bidder is involved. However, this does not limit the inclusion of the same subcontractor in more than one bid; or (f) any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the bid; or (g) any of its affiliates has been hired (or is proposed to be hired) by the Employer or Borrower as Project Manager (Engineer) for the Contract implementation; or (h) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or (i) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and/or the bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such

	relationship has been resolved in a manner acceptable to the Bank throughout the procurement process and execution of the contract.
	4.3 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.7. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed sub-contractors or sub-consultants for any part of the Contract including related Services.
	4.4 A Bidder that has been sanctioned by the Bank in accordance with the above ITB 3.1, including in accordance with the Bank's Guidelines on Preventing and Combating Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants ("Anti-Corruption Guidelines"), shall be ineligible to be prequalified for, bid for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available at the electronic address **specified in the BDS**.
	4.5 Bidders that are Government-owned enterprises or institutions in the Employer's Country may participate only if they can establish that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not dependent agencies of the Employer. To be eligible, a government-owned enterprise or institution shall establish to the Bank's satisfaction, through all relevant documents, including its Charter and other information the Bank may request, that it: (i) is a legal entity separate from the government (ii) does not currently receive substantial subsidies or budget support; (iii) operates like any commercial enterprise, and, inter alia, is not obliged to pass on its surplus to the government, can acquire rights and liabilities, borrow funds and be liable for repayment of its debts, and can be declared bankrupt; and (iv) is not bidding for a contract to be awarded by the department or agency of the government which under their applicable laws or regulations is the reporting or supervisory authority of the enterprise or has the ability to exercise influence or control over the enterprise or institution.
	4.6 A Bidder shall not be under suspension from bidding by the Employer as the result of the operation of a Bid–Securing Declaration.

	4.7	Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of goods or the contracting of works or services required; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country.
	4.8	Bidder shall provide such evidence of eligibility satisfactory to the Employer, as the Employer shall reasonably request.
5. Eligible Materials, Equipment and Services	5.1	The materials, equipment and services to be supplied under the Contract and financed by the Bank may have their origin in any country subject to the restrictions specified in Section V, Eligible Countries, and all expenditures under the Contract will not contravene such restrictions. At the Employer's request, Bidders may be required to provide evidence of the origin of materials, equipment and services.
B. Contents of Bidding Document		
6. Sections of Bidding Document	6.1	The Bidding Document consist of Parts *1, 2,* and *3,* which include all the Sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 8. **PART 1 Bidding Procedures** Section I - Instructions to Bidders (ITB) Section II - Bid Data Sheet (BDS) Section III - Evaluation and Qualification Criteria Section IV - Bidding Forms Section V - Eligible Countries Section VI - Bank Policy-Corrupt and Fraudulent Practices **PART 2 Works' Requirements** Section VII – Works' Requirements **PART 3 Conditions of Contract and Contract Forms** Section VIII - General Conditions of Contract (GCC) Section IX - Particular Conditions of Contract (PCC) Section X - Contract Forms

	6.2 The Invitation for Bids issued by the *Employer* is not part of the Bidding Document.
	6.3 Unless obtained directly from the Employer or downloaded from the official website specified in the 'E-Procurement Notice', the Employer is not responsible for the completeness of the Bidding Documents, responses to requests for clarification, the minutes of the pre-Bid meeting (if any), or Addenda to the Bidding Documents in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Employer or downloaded from the official website specified in the 'E-Procurement Notice' shall prevail.
	6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents and to furnish with its bid all information and documentation as required by the Bidding Documents.
7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting	7.1 The electronic bidding system **specified in the BDS** provides for online clarifications. A prospective Bidder requiring any clarification on the Bidding Document may notify the *Employer* online or raise his inquiries during the pre-bid meeting if provided for in accordance with ITB 7.4. Clarifications requested through any other mode shall not be considered by the Employer. The *Employer* will respond to any request for clarification, provided that such request is received prior to the deadline for submission of bids, within a period **specified in the BDS**. Description of clarification sought and the response of the *Employer* shall be uploaded for information of all Bidders without identifying the source of request for clarification. Should the clarification result in changes to the essential elements of the Bidding Documents, the *Employer* shall amend the Bidding Documents following the procedure under ITB 8 and ITB 22.2. It is the bidder's responsibility to check on the e-procurement system, for any addendum/ amendment/ corrigendum to the bidding document.
	7.2 The Bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself, on its own risk and responsibility, all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense.
	7.3 The Bidder and any of its personnel or agents will be granted permission by the *Employer* to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the *Employer* and its personnel and agents from and against all liability in respect thereof, and will be

		responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.
	7.4	If so, **specified in the BDS**, the Bidder's designated representative is invited to attend a pre-bid meeting and/or a Site of Works visit. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
	7.5	The Bidder is requested, to submit any questions only through the e-procurement portal, not later than one week before the meeting. Clarifications requested through any other mode shall not be considered by the Employer.
	7.6	Minutes of the pre-bid meeting, if applicable, including the text of the questions raised, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be uploaded online on e-procurement system. Any modification to the Bidding Documents that may become necessary as a result of the pre-bid meeting shall be made by the *Employer* exclusively through the issue of an addendum pursuant to ITB 8 and not through the minutes of the pre-bid meeting. It is the bidder's responsibility to check on the e- procurement system, for any addendum/ amendment/ corrigendum to the bidding documents.
	7.7	Nonattendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.
8. Amendment of Bidding Document	8.1	At any time prior to the deadline for submission of bids, the *Employer* may amend the Bidding Documents by issuing addenda.
	8.2	Any addendum thus issued shall be part of the Bidding Document and shall be deemed to have been communicated to all bidders. The addenda will appear on the e-procurement system under "Latest Corrigendum", and Email notification is also automatically sent to those bidders who have started working on the tender, unless otherwise **specified in the BDS**. The Employer shall not be liable for any information not received by the bidder. It is the bidders' responsibility to verify the website for the latest information related to this bid.
	8.3	To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the *Employer* may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB 22.2

C. Preparation of Bids

9. Cost of Bidding	9.1	The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the *Employer* shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
10. Language of Bid	10.1	The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the *Employer*, shall be written in English. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in English, in which case, for purposes of interpretation of the Bid, such translation shall govern.
11. Documents Comprising the Bid	11.1	The Bid shall comprise two Parts, namely the Technical Part and the Financial Part. These two Parts shall be submitted simultaneously.
	11.2	The Technical Part shall contain the following: (a) Letter of Bid – Technical Part in accordance with ITB 12; (b) documentary evidence in accordance with ITB 17.1 establishing the Bidder's eligibility to Bid; (c) Bid Security or Bid-Securing Declaration, in accordance with ITB 19; (d) alternative bids – technical part, if permissible, in accordance with ITB 13, the Technical Part of any Alternative Bid; (e) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.2, and in accordance with ITB 20.3 in case of a JV; (f) documentary evidence in accordance with ITB 17 establishing the Bidder's qualifications to perform the contract, if its Bid is accepted; (g) Technical Proposal in accordance with ITB 16; (h) Construction methodology proposed as detailed in Para 1.1 of Section III Evaluation Criteria; (i) Contractor Registration certificate (as per IFB); and (j) Any other document **required in the BDS**.

	11.3 The **Financial Part** shall contain the following: (a) **Letter of Bid – Financial Part:** prepared in accordance with ITB 12 and ITB 14; (b) **Completed Schedules** including priced bill of quantities in accordance with ITB 12 and ITB 14, as **specified in BDS;** (c) **Alternative Bid - Financial Part:** if permissible in accordance with ITB 13; and (d) any other document **required in the BDS.** 11.4 The Technical Part shall not include any information related to the Bid price. Where material financial information related to the Bid price is contained in the Technical Part the Bid shall be declared non-responsive. 11.5 In addition to the requirements under ITB 11.2, Bids submitted by a JV (where permitted) shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Bid shall be signed by all members and submitted with the Bid, together with a copy of the proposed Agreement. 11.6 The Bidder shall furnish in the Letter of Bid – Financial Part information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.
12. Process of Bid Submission	12.1 The Letter of Bid – Technical Part, Letter of Bid – Financial Part, Schedules including the Bill of Quantities, and all documents listed under Clause 11, shall be prepared using the relevant forms in Section *IV* (Bidding Forms), if so provided. The forms must be completed without any alterations to the text, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested. 12.2 Entire Bid including the Letters of Bid and filled-up Bill of Quantity shall be submitted online on e-procurement system specified in ITB 7.1. Details and process of online submission of the tender and relevant documents are given in the website mentioned above. Scanned copies of documents listed in ITB clauses 11 and 12.3 should also be uploaded on this website. 12.3 **Submission of Original Documents:** The bidders are required to separately submit (i) original payment documents towards the cost of bidding document; and registration on e-procurement website (if applicable); (ii) original bid security

		or Bid-Securing Declaration in approved form; and (iii) original affidavit regarding correctness of information furnished with bidding document, with the office **specified in the BDS**, before the deadline for Bid submission, either by registered/speed post/courier or by hand, failing which the bids will be declared non-responsive and will not be opened. Hard copy of rest of the bid or any other document are not to be submitted.
13. Alternative Bids	13.1	Bidders shall submit offers that comply with the requirements of the bidding documents, including the basic technical design as indicated in the drawing and specifications. Alternatives will not be considered.
14. Bid Prices and Discounts	14.1	The prices and discounts (including any price reduction) quoted by the Bidder in the Letter of Bid - Financial Part, and in the Schedules shall conform to the requirements specified below.
	14.2	The Bidder shall submit a bid for the whole of the works described in ITB 1.1 by filling in prices for all items of the Works (both in figures and words), as identified in Section IV, Bidding Forms along with the total bid price (both in figures and words). The Bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. **Items against which no rate or price is entered by the Bidder will not be paid for by the *Employer* when executed and shall be deemed covered by the rates for other items and prices in the Bill of Quantities.** Corrections if any in the bid can be carried out by editing the information before electronic submission on e-procurement portal.
	14.3	The price to be quoted in the Letter of Bid - Financial Part in accordance with ITB 12.1, shall be the total price of the Bid, excluding any discounts offered.
	14.4	Discounts, if any, and the methodology for their application shall be quoted in the Letter of Bid - Financial Part, in accordance with ITB 12.1.
	14.5	Unless otherwise **specified in the BDS** and the Conditions of Contract, the rates and prices quoted by the Bidder shall be fixed
	14.6	If so indicated in ITB 1.1, bids are invited for individual lots (contracts) or for any combination of lots/contracts (packages). Bidders wishing to offer any price reduction for the award of more than one Contract shall specify in their bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Price reductions or

	discounts shall be submitted in accordance with ITB 14.4, provided the bids for all lots/contracts are opened at the same time.
	14.7 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as applicable on the deadline for submission of Bids, shall be included in the rates and prices and the total bid price submitted by the Bidder.
	14.8 Bidders may like to ascertain availability of tax/duty exemption benefits available in India. They are solely responsible for obtaining such benefits which they have considered in their bid and in case of failure to receive such benefits for reasons whatsoever, the Employer will not compensate the bidder (Contractor). The bidder shall furnish along with his bid a declaration to this effect in the Declaration Format provided in Section IV of the bidding documents. Where the bidder has quoted taking into account such benefits, it must give all information required for issue of certificates in terms of the Government of India's relevant Notifications as per the declaration format. In case the bidder has not provided the required information or has indicated to be furnished later on in the Declaration Format, the same shall be construed that the goods/construction equipment for which certificate is required is Nil. To the extent the Employer determines the quantities indicated therein are reasonable keeping in view the quantities in bill of quantities, construction program and methodology, the certificates will be issued within 60 days of signing of the contract and no subsequent changes will be permitted. In case of materials pertaining to Variation items and quantities, the certificate shall be issued only on request from the Contractor when in need and duly certified by the Project Manager. No certificate will be issued for items where no quantity/capacity of equipment is indicated in the statement. If the bidder has considered the tax/duty exemption for materials/construction equipment to be bought for the work, the bidder shall confirm and certify that the Employer will not be required to undertake any responsibilities of the Government of India Scheme or the said exemptions being available during the contract execution, except issuing the required certificate. The bids which do not conform to the above provisions or any condition by the bidder which makes the bid subject to availability of tax/duty exemption for materials/construction equipment or compensation on

	withdrawal of any variations to the said exemptions will be treated as non-responsive and rejected. Any delay in procurement of the construction equipment/machinery/goods as a result of the above shall not be a cause for granting any extension of time.
15. Currencies of Bid and Payment	15.1 The unit rates and prices shall be quoted by the Bidder and shall be paid for, entirely in Indian Rupees.
16. Documents Comprising the Technical Proposal	16.1 The Bidder shall furnish a Technical Proposal in the Technical Part of the Bid, including a statement of work methods, equipment, personnel, schedule and any other information as per details stipulated in Section *IV* (Bidding Forms), in sufficient detail to demonstrate the adequacy of the Bidders' proposal to meet the work requirements and the completion time.
17. Documents Establishing the Qualifications of the Bidder	17.1 To establish Bidder's eligibility in accordance with ITB 4, Bidders shall complete the Letter of Bid – Technical Part, included in Section IV, Bidding Forms. 17.2 To establish its qualifications to perform the Contract in accordance with Section *III,* Evaluation and Qualification Criteria, the Bidder shall provide the complete information as requested in the corresponding information sheets included in Section *IV* (Bidding Forms).
18. Period of Validity of Bids	18.1 Bids shall remain valid for 90 days or for a period **specified in the BDS** after the bid submission deadline date prescribed by the *Employer in accordance with ITB 22.1*. A bid valid for a shorter period shall be rejected by the *Employer* as nonresponsive.
	18.2 In exceptional circumstances, prior to the expiration of the bid validity period, the *Employer* may request Bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. If a bid security is requested in accordance with ITB 19, it shall also be extended for forty-five (45) days beyond the deadline of the extended validity period. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request shall not be required or permitted to modify its bid, except as provided in ITB 18.3.
	18.3 If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial bid validity, the Contract price shall be determined as follows*:*

		(a) In the case of fixed price contracts, the Contract price shall be the bid price adjusted by the factor **specified in the BDS**. (b) In the case of adjustable price contracts, no adjustment shall be made. (c) In any case, bid evaluation shall be based on the bid price without taking into consideration the applicable correction from those indicated above.
19. Bid Security	19.1	Unless otherwise **specified in the BDS**, the Bidder shall furnish as part of the Technical Part of its bid, in original form, either a Bid-Securing Declaration or a bid security, and in the case of a Bid security, in the amount **shown in BDS,** for this particular work.
	19.2	A Bid Securing Declaration shall use the form included in Section IV, Bidding Forms.
	19.3	If a bid security is specified pursuant to ITB 19.1, the bid security shall be a demand guarantee, at the Bidder's option, in any of the following forms: (a) an unconditional bank guarantee, issued by a Nationalized/ Scheduled bank located in India; (b) an irrevocable letter of credit issued by a Nationalized or Scheduled bank located in India; (c) a cashier's or certified check; or demand draft from a Nationalized or Scheduled Bank located in India; (d) another security **indicated in the BDS.** *In case of a bank guarantee, the bid security shall be submitted using the Bid Security form included in the Section IV (Bidding Forms).* The form must include the complete name of the Bidder. The bid security shall be valid for forty-five (45) days beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 18.2.
	19.4	If a Bid Security or Bid Securing Declaration is specified pursuant to ITB 19.1, any bid not accompanied by a substantially responsive Bid Security or Bid Securing Declaration shall be rejected by the Employer as non-responsive.
	19.5	If a bid security is specified pursuant to ITB 19.1, the bid security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing

		the contract and furnishing the performance security and if required in the BDS, the Environmental and Social (ES) Performance Security pursuant to ITB 45.
	19.6	If a bid security is specified pursuant to ITB 19.1, the bid security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required performance security and if required in the BDS, the Environmental and Social (ES) Performance Security.
	19.7	The bid security may be forfeited or the Bid-Securing Declaration executed: (a) if a Bidder withdraws/modifies/substitutes its bid during the period of bid validity specified by the Bidder on the Letter of Bid - Technical Part and repeated in the Letter of Bid - Financial Part, or any extension thereto provided by the Bidder; or (b) if the Bidder does not accept the correction of its Bid Price pursuant to ITB 36; or (c) if the successful Bidder fails to: (i) sign the Contract in accordance with ITB 44; or (ii) furnish a performance security and if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with ITB 45.
	19.8	The Bid Security or the Bid-Securing Declaration of a *JV* shall be in the name of the *JV* that submits the bid. If the *JV* has not been legally constituted into a legally-enforceable *JV,* at the time of bidding, the Bid Security or the Bid-Securing Declaration shall be in the names of all future members as named in the letter of intent mentioned in ITB 4.1 and ITB 11.2.
	19.9	If a bid security is not required in the BDS pursuant to ITB 19.1, and (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid, or (b) if the successful Bidder fails to: sign the Contract in accordance with ITB 44; or furnish a performance security and if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with ITB 45;

	the Borrower may**, if provided for in the BDS,** declare the Bidder ineligible to be awarded a contract by the Employer for a period of time **as stated in the BDS**.
20. Format and Signing of Bid	20.1 The Bidder shall prepare the Bid as per details given in ITB 21. 20.2 The bid shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as **specified in the BDS,** and shall be uploaded along with the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature. 20.3 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives. 20.4 Documents establishing authority to sign the bid on behalf of the JV shall be uploaded along with the bid. 20.5 Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialled by the person signing the Bid.
D. Online Submission and Opening of Bids	
21. Preparation of Bids	21.1 Bids, both Technical and Financial Parts, shall be submitted online on the e-procurement system specified in BDS 7.1. Detailed guidelines for viewing bids and submission of online bids are given on the website. The Invitation for Bids under this Project is published on this website. Any citizen or prospective bidder can logon to this website and view the Invitation for Bids and can view the details of works for which bids are invited. A prospective bidder can submit its bid online; however, the bidder is required to have enrolment/registration in the website, and should have valid Digital Signature Certificate (DSC) in the form of smart card/e-token obtained from any certifying agency authorised by the Government of India (for class of DSC **specified in BDS**). The bidder should register in the website using the relevant option available. Then the Digital Signature registration has to be done with the e-token, after logging into the website. The bidder can then login the website through the secured login by entering the password of the e-token & the user id/ password chosen during registration. After getting the bid schedules, the Bidder should go through

	them carefully and submit the specified documents, along with the bid, otherwise the bid will be rejected.
	21.2 The completed bid comprising of documents indicated in ITB 12, should be uploaded on the e-procurement portal along with scanned copies of requisite certificates as are mentioned in different sections in the bidding document and scanned copy of the bid security.
	21.3 All the documents are required to be signed digitally by the bidder. After electronic on-line bid submission, the system generates a unique bid identification number which is time stamped as per server time. This shall be treated as acknowledgement of bid submission.
	21.4 Physical, E-mail, Telex, Cable or Facsimile bids will be rejected as non-responsive.
22. Deadline for Submission of Bids	22.1 Bids, both Technical and Financial Parts, must be uploaded online no later than the date and time **indicated in the BDS**.
	22.2 The *Employer* may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Document in accordance with ITB 8, in which case all rights and obligations of the *Employer* and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.
23. Late Bids	23.1 The electronic bidding system would not allow any late submission of bids after due date & time as per server time.
24. Withdrawal, Substitution, and Modification of Bids	24.1 Bidders may modify their bids by using the appropriate option for bid modification on e-procurement portal, before the deadline for submission of bids. For this the bidder need not make any additional payment towards the cost of bidding document. For bid modification and consequential re-submission, the bidder is not required to withdraw his bid submitted earlier. The last modified bid submitted by the bidder within the bid submission time shall be considered as the bid. For this purpose, modification/withdrawal by other means will not be accepted. In online system of bid submission, the modification and consequential re-submission of bids is allowed any number of times. A bidder may withdraw his bid by using the appropriate option for bid withdrawal, before the deadline for submission of bids, however, if the bid is withdrawn, re-submission of the bid is not allowed (or allowed **if specified in BDS).**

	24.2	Bids requested to be withdrawn in accordance with ITB 24.1 shall not be opened.
	24.3	No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Letter of Bid or any extension thereof. This will result in the forfeiture of the Bid Security pursuant to ITB 19.7.
E. Public Opening of Technical Parts of Bids		
25. Public Opening of Technical Parts of Bids	25.1	The Employer shall publicly open Technical Parts of all bids received by the deadline, at the date, time and place **specified in the BDS** in the presence of Bidders' designated representatives and anyone who chooses to attend, and this could also be viewed by the bidders online. The Financial Parts of the bids shall remain unopened in the e-procurement system, until the subsequent public opening, following the evaluation of the Technical Parts of the Bids. In all cases, original documents submitted as specified in ITB 12.3 shall be first scrutinized, and Bids that do not comply with the provisions of ITB 12.3 will be declared non-responsive and will not be opened. Thereafter bidder's names, the presence or absence of a Bid Security or Bid-Securing Declaration, if one was required, alternative bids – technical parts, if any, and such other details as the Employer may consider appropriate will be notified online by the Employer at the time of bid opening. In the event of the specified date of bid opening being declared a holiday for the Employer, the bids will be opened at the appointed time and location on the next working day.
	25.2	The electronic summary of the bid opening will be generated and uploaded online. The Employer will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. Only Technical Parts of Bids, and technical parts of Alternative Bids if any, that are opened at technical Bid opening shall be considered further for evaluation.
F. Evaluation of Bids – General Provisions		
26. Confidentiality	26.1	Information relating to the examination, evaluation, comparison, and post-qualification of bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process until information on Contract award is communicated to all Bidders in accordance with ITB 44.

	26.2	Any attempt by a Bidder to influence the Employer in the evaluation of the bids or Contract award decisions may result in the rejection of its bid.
	26.3	Notwithstanding ITB 26.2, from the time of bid opening to the time of Contract award, if any Bidder wishes to contact the *Employer* on any matter related to the bidding process, it shall do so in writing.
27. Clarification of Bids	27.1	To assist in the examination, evaluation, and comparison of the bids, and qualification of the Bidders, the *Employer* may, at its discretion, ask any Bidder for a clarification of its bid, giving a reasonable time for response. Any clarification submitted by a Bidder that is not in response to a request by the *Employer* shall not be considered. The *Employer*'s request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease in the prices or substance of the bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the *Employer* in the evaluation of the bids, in accordance with ITB 36.
	27.2	If a Bidder does not provide clarifications of its bid by the date and time set in the *Employer*'s request for clarification, its bid may be rejected.
28. Deviations, Reservations, and Omissions	28.1	During the evaluation of bids, the following definitions apply: (a) "Deviation" is a departure from the requirements specified in the Bidding Document; (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document; and (c) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Document.
29. Nonconformities, Errors, and Omissions	29.1	Provided that a bid is substantially responsive, the *Employer* may waive any non-conformities in the bid which do not constitute a material deviation, reservation or omission.
	29.2	Provided that a bid is substantially responsive, the *Employer* may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of

		the price or substance of the bid. Failure of the Bidder to comply with the request may result in the rejection of its bid.
	29.3	Provided that a bid is substantially responsive, the *Employer* shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner **specified in the BDS**.
G. Evaluation of Technical Parts of Bids		
30. Evaluation of Technical Parts	30.1	In evaluating the Technical Parts of each Bid, the Employer shall use the criteria and methodologies listed in this ITB and Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted.
31. Determination of Responsiveness	31.1	The Employer's determination of a Bid's responsiveness is to be based on the contents of the Bid itself, as defined in ITB 11.
	31.2	A substantially responsive Bid is one that meets the requirements of the bidding document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that: (a) if accepted, would: (i) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or (ii) limit in any substantial way, inconsistent with the bidding document, the Employer's rights or the Bidder's obligations under the proposed Contract; or (b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids.
	31.3	The Employer shall examine the technical aspects of the Bid submitted in accordance with ITB 16, Technical Proposal, in particular, to confirm that all requirements of Section VII (Works' Requirements) have been met without any material deviation, reservation or omission.
	31.4	If a Bid is not substantially responsive to the requirements of the bidding document, it shall be rejected by the Employer and may not subsequently be made responsive

		by correction of the material deviation, reservation, or omission.
32. Qualification of the Bidder	32.1	The Employer shall determine to its satisfaction whether the eligible Bidders that have submitted substantially responsive Bid - Technical Parts meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.
	32.2	The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17. The determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Subcontractors if permitted in the bidding document), or any other firm(s) different from the Bidder.
	32.3	If a Bidder does not meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria, its Bid shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.
	32.4	Only Bids that are both substantially responsive to the bidding document, and meet all Qualification Criteria shall have the Financial Parts of their Bids opened at the second public opening.
33. Subcontractors	33.1	Unless otherwise **stated in the BDS**, the Employer does not intend to execute any specific elements of the Works by subcontractors selected in advance by the Employer.
	33.2	The Employer may permit subcontracting for certain specialized works as indicated in Section III. When subcontracting is permitted by the Employer, the specialized sub-contractor's experience shall be considered for evaluation. Section III describes the qualification criteria for sub-contractors.
	33.3	Bidders may propose subcontracting up to the percentage of total value of contracts or the volume of works as **specified in the BDS**. Subcontractors proposed by the Bidder shall be fully qualified for their parts of the Works.
H. Public Opening of Financial Parts of Bids		
34. Public Opening of Financial Parts	34.1	Following the completion of the evaluation of the Technical Parts of the Bids, and the Bank has issued its no objection (if applicable), the Employer shall notify in writing those Bidders whose Bids were considered non-responsive to

	the bidding document or failed to meet the Qualification Criteria, advising them of the following information: (a) the grounds on which their Technical Part of Bid failed to meet the requirements of the bidding document; (b) their Financial Part of Bid shall not be opened; and (c) notify them of the date, time, and place for public opening of Financial Parts of the Bids.
	34.2 The Employer shall, simultaneously, notify in writing those Bidders whose Technical Part have been evaluated as substantially responsive to the bidding document and met all Qualifying Criteria, advising them of the following information: (a) their Bid has been evaluated as substantially responsive to the bidding document and met the Qualification Criteria; (b) their Financial Part of Bid will be opened at the public opening of the Financial Parts; and (c) notify them of the date, time, and place for public opening of Financial Parts of the Bids, **as specified in the BDS.**
	34.3 The opening date should allow Bidders sufficient time to make arrangements for attending the opening. The Financial Part of the Bids shall be opened publicly in the presence of Bidders' designated representatives and anyone who choose to attend, and this could also be viewed by the bidders online. The bidder's names, the Bid prices, per lot (contract) if applicable, including any discounts and Alternative Bid - Financial Part if any, and such other details as the Employer may consider appropriate, will be notified online by the Employer at the time of bid opening. In the event of the specified date of bid opening being declared a holiday for the Employer, the bids will be opened at the appointed time and location on the next working day.
	34.4 The electronic summary of the bid opening will be generated and uploaded online. The Employer will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. Only Financial Parts of Bids, Financial Parts of Alternative Bids, and discounts that are opened at Bid opening shall be considered further for evaluation.

I. Evaluation of Financial Parts of Bids	
35. Evaluation of Financial Parts	35.1 To evaluate the Financial Part, the Employer shall consider the following:
	(a) the Bid price, excluding Provisional Sums and the provision, if any, for contingencies in the Summary Bill of Quantities but including Daywork items, where priced competitively;
	(b) price adjustment for correction of arithmetic errors in accordance with ITB 36.1;
	(c) price adjustment due to discounts offered in accordance with ITB 14.4;
	(d) Not used;
	(e) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 29.3; and
	(f) the additional evaluation factors as specified in Section III, Evaluation and Qualification Criteria.
	35.2 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in Bid evaluation.
	35.3 If this bidding document allows Bidders to quote separate prices for different lots (contracts), and to award multiple contracts to a single Bidder, the methodology to determine the lowest evaluated price of the contract combinations, including any discounts offered in the Letter of Bid – Financial Part, is specified in Section III, Evaluation and Qualification Criteria
36. Correction of Arithmetical Errors	36.1 In evaluating the Financial Part of each Bid, the Employer shall correct arithmetical errors on the following basis: (a) only for unit price contracts, if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected; (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in

	which case the amount in figures shall prevail subject to (a) and (b) above.
	36.2 Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITB 36.1, shall result in the rejection of the Bid and the Bid Security may be forfeited in accordance with ITB Sub-Clause 19.7.
37. Conversion to Single Currency	37.1 Not used.
38. Margin of Preference	38.1 Not used.
39. Comparison of Financial Parts	39.1 The Employer shall compare the evaluated prices of all responsive and qualified bids to determine the lowest evaluated bid.
40. Unbalanced or Front-Loaded Bids	40.1 If the bid, which results in the lowest Evaluated Bid Price, is seriously unbalanced, front-loaded or substantially below updated estimates in the opinion of the Employer, the Employer may require the Bidder to produce detailed price analyses (with breakdown of unit rates) for any or all items of the Bill of Quantities, to demonstrate the internal consistency and justification of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, taking into consideration the schedule of estimated contract payments, the Employer may require that the amount of the performance security be increased at the expense of the Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.
41. Employer's Right to Accept Any Bid, and to Reject Any or All Bids	41.1 The *Employer* reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all documents submitted and specifically, bid securities, shall be promptly returned to the Bidders.
J. Award of Contract	
42. Award Criteria	42.1 Subject to ITB 41*, the* Employer shall award the Contract to the Bidder whose offer has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Document, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

43. Notification of Award	43.1 Prior to the expiration of the period of bid validity, the *Employer* shall notify the successful Bidder, in writing, via the Letter of Acceptance included in the Contract Forms, that its bid has been accepted. The Letter of Acceptance shall specify the sum that the Employer will pay the Contractor in consideration of the execution and completion of the Works (hereinafter and in the Conditions of Contract and Contract Forms called "the Contract Price").
	43.2 Until a formal contract is prepared and executed, the notification of award shall constitute a binding Contract.
44. Signing of Contract, Publication of award and Recourse to unsuccessful Bidders	44.1 The Contract Agreement shall incorporate all agreements between the Employer and the successful Bidder. It shall be kept ready in the office of the Employer for the signature of the Employer and the successful Bidder, within 21 days following the date of Letter of acceptance. Within 21 days of receipt of Letter of acceptance, the successful Bidder shall sign the Agreement and furnish the performance security and if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with ITB Clause 45 and revised construction methodology. If the successful bidder is a JV, it shall also furnish the JV agreement duly signed by all the members, if it had submitted only a letter of intent to execute the JV agreement along with the bid.
	44.2 The Employer within 3 weeks of issue of notification of award shall publish in a national website (http://tenders.gov.in or GoI Central Public Procurement Portal https://eprocure.gov.in/cppp/) or on the Employer's website, and on the e-procurement system, the results identifying the bid and lot numbers and the following information: (i) name of each bidder who submitted the bid; (ii) bid prices as read out at bid opening; (iii) name and evaluated prices of each bid that was evaluated; (iv) name of bidders whose bids were rejected and the reasons for their rejection; and (v) name of the winning bidder, and the price it offered, as well as the duration and summary scope of the contract awarded. 44.3 The Employer shall promptly respond in writing to any unsuccessful Bidder who, after publication of contract award, requests the Employer in writing to explain on which grounds its bid was not selected.
45. Performance Security	45.1 Within twenty-one (21) days of the receipt of notification of award from the *Employer*, the successful Bidder shall furnish the performance security and if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with the conditions of contract, subject to ITB

	40.1, using for that purpose the Performance Security and ES Performance Security Forms included in Section X (Contract Forms). The performance security and if required in the BDS, the Environmental and Social (ES) Performance Security of a Joint Venture shall be in the name of the Joint Venture specifying the names of all members.
	45.2 Failure of the successful Bidder to submit the above-mentioned Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security, or to sign the Contract Agreement shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security. In that event the *Employer* may award the Contract to the next lowest evaluated Bidder whose offer is substantially responsive and is determined by the *Employer* to be qualified to perform the Contract satisfactorily.
	45.3 Upon the successful Bidder's signing the Agreement and furnishing of the Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security, pursuant to ITB Clause 45.1, the Employer shall promptly notify the name of the winning bidder to each unsuccessful bidder and shall discharge the Bid Securities of the bidders pursuant to ITB Clause 19.5 and 19.6.
46. Adjudicator	46.1 The Employer proposes the person **named in the BDS** to be appointed as Adjudicator under the Contract, at the daily rate **specified in the BDS**, plus reimbursable expenses (actual boarding, lodging, travel and other incidental expenses). If the Bidder disagrees with this proposal, the Bidder should so state in Letter of Bid. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator proposed by the Bidder, the Employer will request the Appointing Authority designated in the Particular Conditions of Contract (PCC) pursuant to Clause 23.1 of the General Conditions of Contract (GCC), to appoint the Adjudicator.

Section II - Bid Data Sheet (BDS)

The following specific data for the Works to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

A. Introduction

ITB 1.1	The Employer is: ***Vice Chairman & Project Director,*** ***Inland Waterways Authority of India,*** ***Ministry of Ports, Shipping and Waterways, Government of India***
ITB 1.1	The name of the work is: Fairway Maintenance of Farakka - Katwa (199 km) stretch of National Waterway -1 (River Ganga) The identification number of the work is: ***IN-IWAI-400747-CW-RFB*** The number and identification of lots comprising this bidding process is: **NA**
ITB 2.1	The Borrower is Government of India. The Employer is ***Inland Waterways Authority of India, Ministry of Ports, Shipping & Waterways, Government of India*** The name of the Project is: ***Capacity Augmentation of National Waterway – 1*** Loan or Financing Agreement amount: ***$ 317.22 Million***

ITB 4.1	Bids from consortium are acceptable and shall be treated the same way as that of JV mentioned in the bidding documents. (a) Maximum number of members in the Joint Venture (JV) shall be ***Four (4).*** (b) It is not mandatory to get the JV registered. Interested bidders are requested to submit JV Agreement duly notarized in India. However, the successful bidder (in case of JV) shall submit registered JV. (c) A statement to the effect that all members of the joint venture shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms, shall be included in the authorization nominating a Representative or member in charge, as well as in the Bid and in the Agreement [*in case of a successful bid*]. (d) The joint venture agreement should define precisely the division of assignments to each member of JV. All members of JV should have active participation in the execution during the currency of the contract. This should not be varied/ modified subsequently without prior approval of the Employer.
ITB 4.4	A list of debarred firms and individuals is available at the Bank's external website www.worldbank.org/debarr.
ITB 4.6	Deleted.
B. Contents of Bidding Documents	
ITB 7.1	**Electronic –Procurement System** The Employer shall use the following electronic-procurement system to manage this Bidding process: ***https://eprocure.gov.in/eprocure/app*** Requests for clarification should be received by the Employer before pre-bid meeting. ***The clarifications can be sought / sent by e-mail or by hard copy on the following address:*** *Vice Chairman & Project Director (JMVP)* *Inland Waterways Authority of India* *A-13, Sector-1, Noida - 201301,* *Distt. Gautam Buddha Nagar, U.P.* *Phone No.: +91 120 2424544 Email: vc.iwai@nic.in*

ITB 7.4	A Pre-Bid meeting will take place, at the following date, time and place: ***Date: 11.01.2024*** ***Time: 1500 Hrs. IST*** ***Place: IWAI, Noida or Virtual Meeting Link will be shared on CPP Portal.*** ***Pre-Bid Queries should reach the employer at the following address or by e-mail no later than Date of Pre-Bid Meeting:*** *Vice Chairman & Project Director (JMVP)* *Inland Waterways Authority of India* *A-13, Sector-1, Noida - 201301,* *Distt. Gautam Buddha Nagar, U.P.* *+91 120 2424544 Email: vc.iwai@nic.in* A site visit conducted by the Employer ***shall be*** organized on request. For site visit, bidders are advised to contact: Sh. Arvind Kumar, Director (I/c), IWAI, Kolkata Mob: +91 8902159698 E-mail: dirkol@iwai.gov.in; akumar.iwai@nic.in
ITB 8.2	Addendum to Bidding Documents will be hosted on the Employer's e-procurement portal *[GOI Central Public Procurement Portal https://eprocure.gov.in/cppp]*
	C. Preparation of Bids
ITB 11.2 (j)	(i) The Bidder shall submit with its bid the following additional documents: *(a)* Dredging Management Plan – Methodology Detailed methodology to indicate how various activities will be carried out to achieve the performance parameters laid down in **Section VII - Description of the Services.** (b) Detailed Dredger deployment plan with respect to: • Dredging Management Plan – Methodology (including disposal of dredged material) • No. of dredgers / equipment to be deployed at various points of time alongwith dredging capacities • Details of equipment to be deployed to meet the requirements of survey

(c) List of major items of equipment proposed to carry out the contracted services using the format provided in Section IV - Bidding Forms

(d) To establish its qualifications to perform the contract(s) in accordance with Section III, Qualification Criteria and Requirements, the Bidder shall provide the information requested in the corresponding Information Sheets included in Section IV, Bidding Forms.

(e) Bidder to indicate whether they are presenting
Single Entity Bid or
Joint Venture Bid

In the event of Joint Venture Bid or sub-contracting details of the Joint Venture Partner or the sub-contractor likely to be engaged to be identified & proposed in the Bid along with their credentials like (Experience, Financials & Profile) - Each of the JV member will be required to furnish legally enforceable JV Agreement along with its Techno-commercial Bid holding themselves jointly & severally responsible and liable to IWAI to perform all contractual obligations, valid for entire period of Contract.

Further,

i. No change in the composition of the JV without the written consents of the Employer after submission of Bid shall be allowed.
ii. The leader should maintain at least 51% share in the JV at all the time during the period of contract

(ii) Code of Conduct for Contractor's Personnel (ES)

The Bidder shall submit its Code of Conduct that will apply to Contractor's Personnel (as defined in Sub-Clause 9.1 of the General Conditions of Contract), to ensure compliance with the Contractor's Environmental and Social (ES) obligations under the Contract. The Bidder shall use for this purpose the Code of Conduct form provided in Section IV. No substantial modifications shall be made to this form, except that the Bidder may introduce additional requirements, including as necessary to take into account specific Contract issues/risks.

(iii) Management Strategies and Implementation Plans (MSIP) to manage the (ES) risks

The Bidder shall submit Management Strategies and Implementation Plans (MSIPs) to manage the following key Environmental and Social (ES) risks:

- *Traffic Management Plan to ensure safety of local communities from construction traffic*;
- *Water Resource Protection Plan to prevent contamination of drinking water*;

	• *Boundary Marking and Protection Strategy for mobilization and construction to prevent offsite adverse impacts*; • *Strategy for obtaining Consents/Permits prior to the start of relevant works such as opening a quarry or borrow pit;* • *Gender based violence and sexual exploitation and abuse (GBV/SEA) prevention and response action plan.* The Contractor shall be required to submit for approval, and subsequently implement, the Contractor's Environment and Social Management Plan (C-ESMP), in accordance with the Particular Conditions of Contract Sub-Clause 10.1, that includes the agreed Management Strategies and Implementation Plans described here.
ITB 11.3 (b)	The following schedules shall be submitted with the bid: ***Priced Bill of Quantities***
ITB 11.3 (d)	The Bidder shall submit the following documents in its Bid: On-line: Financial part in .xls Scanned copy of Letter of bid – Financial Part
ITB 12	**Added at the end of 12.3** **Note for Bidders:** Bidders have to submit the bids on the e-procurement portal along with the relevant required documents. For this purpose, the bidders shall fill up online, the forms that are available for online filling on the e-portal. The rest of the forms shall be download by the bidders and filled up. The filled-up pages shall then be scanned and uploaded on the e-procurement portal along with the scanned copies of the supporting documents.
ITB 12.3	**For submission of original documents, the Employer's address is:** *Vice Chairman & Project Director (JMVP)* *Inland Waterways Authority of India* *A-13, Sector-1, Noida, Gautam Buddha Nagar, UP – 201301* *Email: vc.iwai@nic.in*
ITB 13.1	Alternative bids ***shall not be*** permitted.
ITB 14.5	The prices quoted by the Bidder "**shall be**" subject to adjustment during the performance of the Contract. The adjustment of contract price, if provided, will be done in accordance with GCC Clause 45 and corresponding provisions under PCC.
ITB 14.8	Add the following as Sub Clause 14.8 – Any delay in procurement of the construction equipment / dredging equipment / machinery / goods as a result of the above shall not be a cause for granting any extension of time.

ITB 18.1	The bid validity period shall be **120 days** from the date of opening of Technical Bids.
ITB 18.3 (a)	**Not Applicable.**
ITB 19.1	The Bidder shall furnish a **Bid security** for an amount of INR 1,30,80,000.00/- **Cost of bidding Document** of Rs. 6,000/- inclusive of GST shall be submitted by Demand Draft or RTGS. *[Note: For the Two-envelope Bidding, the process requires Bid Security to be submitted in the Technical Part and also original hard copy shall be submitted separately as per ITB 12.3.]* In case, the Bid security is submitted in the form of Bank Guarantee, then it shall be as per the format attached. The Bid Security may also be submitted through e-Bank Guarantee or Demand Draft or Online Transfer. The Bank Guarantee issued in paper shall become operative only when the Bank Guarantee advice transmitted through SFMS is advised to the Beneficiary by the Advising Bank. **Bank details are as given below:** Advising Bank: CANARA BANK Bank Account no.: 87781010014534 IFSC Code: CNRB0018778 Name of beneficiary: IWAI FUND Jal Marg Vikas Branch name: Morna - Sector 18, NOIDA Address: B 16 /17, Ground Floor, Sector-18, NOIDA – 201301
ITB 19.3 (d)	Other types of acceptable securities are: NOT Applicable
ITB 19.8	The Bid Security of a JV shall be in the name of the JV that submits the bid or in the name of the Lead member if the same is not constituted.
ITB 19.9	Deleted.
ITB 20.2	The written confirmation of authorization to sign on behalf of the Bidder shall consist of: (a) Legally valid Power of Attorney is required to demonstrate the authority of the signatory to sign the Bid; and (b) In the case of Bids submitted by an existing or intended JV, if permitted as per ITB 4.1, the authorization shall be evidenced by a Power of Attorney signed by legally authorized signatories of all the members.

	Authorization for such authorized signatories shall be submitted for all the JV members.
D. Online Submission and Opening of Bids	
ITB 21.1	Class of DSC required is: **CLASS – II or above**
ITB 22.1	Both Technical and Financial Bids shall be uploaded on-line in separate electronic envelopes, **The deadline for uploading the bids is:** Date: ***25.01.2024*** Time: 1500 hrs. IST or as amended from time to time.
ITB 24.1	Re-submission of the bid is ***not allowed***, if withdrawn.
E. Public Opening of Technical Parts of Bids	
ITB 25.1	**The online Bid Opening of Technical Parts of the Bid shall take place on Date: 25.01.2024 Time: 1530 hours or as amended from time to time** *Place:* *Inland Waterways Authority of India* *A-13, Sector-1, Noida, Gautam Buddha Nagar, UP - 201301* *Email: vc.iwai@nic.in*
F. Evaluation of Bids – General Provisions	
ITB 29.3	Deleted.
G. Evaluation of Technical Parts of Bids	
ITB 30.1	The Bids shall be Technically Evaluated, Bidders have to meet the Qualifying requirements as stipulated in the documents under evaluation criteria.
ITB 33.1	At this time the Employer ***does not intend*** to execute certain specific parts of the Works by sub-contractors selected in advance.
ITB 33.2	Specialised Subcontractors: **Not Applicable**
ITB 33.3	(a) Contractor's proposed subcontracting: Maximum percentage of subcontracting permitted is: ***25% of the total contract amount*** (b) Bidders planning to subcontract more than 10 % of total volume of work shall specify, in the Bid Submission Form, the activity (ies) or parts of the works to be subcontracted along with complete details of the sub-contractors and their qualification and experience. The qualification and experience of the sub-contractors must meet the minimum criteria for the relevant work to be sub-

	contracted failing which such sub-contractors will not be permitted to participate. (c) Sub-contractors' qualification and experience will not be considered for evaluation of the Bidder. The Bidder on its own (without taking into account the qualification and experience of the sub-contractor) should meet the qualification criteria. *[Note: Work should not be split into small parts and sub-contracted].*
H. Public Opening of Financial Parts of Bids	
ITB 34.2 (c)	Following the completion of the evaluation of the Technical Parts of the Bids, the Employer will notify all Bidders of the date, time, and place of the public opening of Financial Parts. The online bid opening of Financial Parts of Bids shall take place at: *Inland Waterways Authority of India* *A-13, Sector-1, Noida, Gautam Buddha Nagar, UP - 201301* *Email: vc.iwai@nic.in* The Employer shall also publish a notice of the public opening of the Financial Parts of the Bid on its website ***www.iwai.nic.in*** In addition to the above the Employer shall publish a notice of the opening of the Financial Parts of the Bid on GoI Central Public Procurement Portal https://eprocure.gov.in/cppp
ITB 35.1 (f)	Determining aggregate of the Net Present Value (NPV) for three years prices for Services quoted in the Priced Activity Schedule, by discounting these prices to the Date of Commencement of Services, *assuming only for purpose of the evaluation* that the prices are payable at the end of the respective years. For the purpose of determining NPV, discount factor of 10 % per annum shall be applied.
J. Award of Contract	
ITB 45.1 and 45.2	The successful Bidder shall also be required to submit an Environmental and Social (ES) Performance Security. Throughout this bidding document the term 'performance security', unless the context clearly indicates otherwise, means and includes both 'the performance security and the ES performance security' to be submitted by the successful bidder in the amounts specified in GCC/ PCC 50.
ITB 46.1	The Adjudicator proposed by the Employer is***:*** Sh. S. C. Misra. The daily fee for this proposed Adjudicator is ***Rs. 10,000/- per day.*** **The CV is attached at the end of this document.**
ITB 47	**Added new ITB 47.1**

	The Tender / Bid related complaints may be submitted / addressed to: *Vice Chairman & Project Director, (JMVP)* *Inland Waterways Authority of India* *A-13, Sector-1, Noida, Gautam Buddha Nagar, UP - 201301* *Email: vc.iwai@nic.in.*

Brief Biodata of Dr Suresh Chandra Misra

1. **Name:** MISRA SURESH CHANDRA
   Date of birth: 12TH SEPTEMBER 1948

2. **Profession:** ACADEMIC and RESEARCH
   Present Position: Retired as Professor from IIT Kharagpur
   Address:

(a) Official NA	(b) Residential Plot no. 1080, Lane no. 7, Aerodrome Area, Bhubaneswar – 751020, Odisha, India
Phone: NA	Phone: +91 9437477180
	Email: misra1948@gmail.com

3. **Degrees Obtained**

Degree	Awards	University	Specialization	Hall of Residence	Year
B. Tech (Hons.)	Silver Medal	IIT Kharagpur	Design	Patel	1965-70
PhD	National Scholarship	University of Newcastle upon	Naval Architecture		1973-76

4. **Professional Achievements**

Period From To	Position Held	Organization/Institution	Role	Remarks
1970 1979	Design Engineer	Hindustan Shipyard Ltd.	Design Engineer	Sponsored for three years to do Ph.D. in UK (1973-
1979 1989 1990 till retirement	Assistant Professor Professor	IIT Kharagpur	Teaching, Research and Industrial Consultancy	On British council fellowship for 6 months in Glasgow, univ in 1984., later lien to IIT Madras and NSDRC/ IMU,
1998 2000	Visiting Professor (lien)	IIT Madras	Teaching, Research and Industrial	
2008 2013	Director (on Lien)	NSDRC and later IMU Visakhapatnam campus	Administration, Teaching, Research and Industrial Consultancy	NSDRC was subsumed to Indian Maritime University in 2009 and he was the first Director of IMU Visakhapatnam campus
2013 till date	Chairman, Naval Research Board, DRDO (an honorary position); Founder and current President, Forum for River and Ocean Scientists and Technologists (FROST), Odisha, registration no. 24010/33 of 2018-19; Visiting faculty at IMU, Visakhapatnam Campus; Advisor to General Consultants for Kochi Water Metro project under KMRL, Kochi.			

5. **Record of Contributions to:**
   (a) Intellectual Property
   (Publications/Design/Developments/Patents etc.)

(e) "Modularised Ship Hull Form", Inventors: Prof S C Misra and Prof O P Sha of IIT Kharagpur, patents rights belong to: IIT Kharagpur, Ministry of Ports, Shipping and Waterways of Govt. of India, Department of Science and Technology of Govt. of India, AAGL(Gujarat), BSL Mumbai, GSL Goa, LRS Mumbai, IRS Mumbai, Original Patent application no. 0561/Cal/2002 dt. 25.9.2002, patent no. 214274 awarded on 07/02/2008.

(f) Books:

- S. C. Misra and P. Misra (Ed.),"2020 Lockdown Effects and Future Trends in Water Body Management", LAP Publishing, Germany, October 2020.
- S. C. Misra,"Design Principles of Ships and Marine Structures", CRC Press of Tylor and Francis Group, USA, December 2015.
- S.C.Misra and O.P.Sha, editors "Computer-Aided Ship design", under assistance from CEP Cell of IIT Kharagpur, 1989(contributed as author also).
- M.R.Pranesh and S.C.Misra, "Environmental Hazards and Safety Requirement in the Port sector", under assistance from Curriculum Dev. Prog., IITMadras, 2000(contributed as author also).

(b) **Leadership** (Entrepreneurship/ Organizational Development)

(i) *Converting a ship design organisation, National Ship Design and Research Centre, to a part of a central university, Indian Maritime University, Visakhapatnam Campus*

(ii) *Academic leadership as stated below:*

- *Started a new multidisciplinary Post Graduate Diploma program in Maritime Operation and Management (PGDMOM) exclusively for professional marine engineers which started at IIT Kharagpur in the academic year 2003-2004.*
- *Started the Naval Architecture and Ocean Engineering degree programs at both UG and PG levels at IMU Visakhapatnam Campus in its first year of creation, 2009.*
- *Started a PG program in Dredging and Harbour Engineering at IMU, Visakhapatnam campus in 2010 for the first time in the country.*

(iii) *Developing strong research base at IITs, IISc and in other engineering institutions and generating multi-institutional research programs and developing strong connection between teaching institutions and research organisations in the context of naval research through NRB.*

(iv) *Setting up and establishing FROST, Odisha*

(c) **Society**

13 Invited mentor and speaker of INSPIRE program for development of science interest in school children sponsored by DST at Port Blair Campus of Pondichery University, at IMU Visakhapatnam Campus and at NIT Rourkela during 2012, 2013 and 2015.

14 Lectures at schools and colleges in Odisha regarding water awareness.

15 Safety of wooden boats moving in rivers and coastal waters for tourism and fishing is a major concern which has been a major concern for me. I have now been involved in modifying an existing wooden boat for higher safety and reduction of pollution. This activity is to continue.

(d) **Any other**: More than 50 technical papers published

6. Peer Recognition (National/International Honours, Awards, Prizes including honorary degree)

Awarded National Scholarship for Higher Study Abroad by Government of India in 1973 till 1976.

Awarded Silver Medal by IIT Kharagpur in 1970 for securing first position in B.Tech (H) course in Naval Architecture.
Awarded Marine Engineering Division Medal, Institution of Engineers (India), 2001.
Awarded Institution Medal (Col. G.N.Bajpai), Institution of Engineers (India), 2001.
H.S.Rao Memorial Award for Best paper, June 04 issue of Marine Engineers Review (India), 2005 given by Institution of Marine Engineers (India).
Rashtriya Gaurav Award presented by India International Friendship Society in 2004.

Best Citizen of India Award and Citation in the book by the same title, published by International Publishing House, New Delhi, 2004.

7. Membership/Fellowship of National/International Professional Bodies

Founder President, Forum for River and Ocean Scientists and Technologists, Odisha

Fellow of Institution of Engineers (India)

Fellow of Institution of Marine Engineers(India)
Life Member of Institution of Marine Technologists, Mumbai

Life Member of Indian Society for Technical Education
Member of Society of Naval Architects and Marine Engineers, USA.

Member, Indian technical Committee of Class NK, Nippon Kaiji Kyokai, Japan, 2012 onwards.
Member, Technical Committee of IRS, Mumbai.
Member of PMCC for acquisition of 2 coastal research vessels by NIOT funded by MoES.

8. **Specific outstanding Accomplishments meriting the award** (within 100 words): (Detailed biography may be provided as an annexure)

Apart from teaching naval Architecture to students, Prof Misra has been involved in design of ships and boats and other water based infrastructure including a 600 TEU container vessel and marine engineering laboratory *Ship in Campus*. His book *Design Principles of Ships and Marine Structures* published by Taylor and Fransis Group has been widely appreciated. After his retirement from active service, apart from being the Chairman of Naval research Board, he has formed a think tank FROST. His current interests include safety and sustainability in boats of inland water transportation, increasing water awareness in Odisha and ancient river and coastal transportation system for building shore based temples.

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	Section III - Evaluation and Qualification Criteria	
1	**Technical Part**	
1.1	**Adequacy of Technical Proposal** **a. Dredging Methodology** **b. Environmental, Social, Health and Safety (ESHS) obligation** **c. Work Program** **d. Site Organization and Communications Plans** **e. Sub-Contracting**	
1.2	**Multiple Contracts**	
1.3	**Specialised Sub- Contract**	
1.4	**Qualification Criteria**	
2	**Qualification**	
2.0	**Nature of Bidder**	
2.1	**Eligibility**	
2.2	**Historical Contract Performance**	
2.3	**Financial Situation and performance**	
2.4	**Experience**	
2.5	**Quality Requirements**	
2.6	**Contractors Representative & Key Personnel**	
2.7	**Equipment**	
3	**Financial Part**	

1. Technical Part

1.1 Adequacy of Technical Proposal

Evaluation of the Bidder's Technical Proposal will include:

i. An assessment of the Bidder's technical capacity to mobilize key equipment and personnel for the contract consistent with its proposal regarding work methods, scheduling, material sourcing and Quality Control / Assurance in sufficient detail and fully in accordance with the requirements stipulated in Section VII (Work's Requirements).

For this purpose, the Bidder should also submit:

A. Dredging Methodology:

(i) **Statement of Work Methods:** This shall demonstrate the Bidders capability to define, optimize and carry out on a timely basis the physical interventions detailed in the scope of requirements specified in Section VII (Work's Requirements).

(ii) The **Work methodology** shall include a mobilization and execution plan that details how the bidder will do the work of

Fairway Maintenance of Farakka - Katwa (199 km) stretch of National Waterway -1 (River Ganga)

B. Environmental, Social, Health and Safety (ESHS) obligation:

A detailed note outlining its proposed methodology and program of dredging including compliance with the Environmental, Social, Health and Safety (ESHS) obligations

(i) An outline proposal on how the contractor shall minimize environmental impacts especially to sensitive and critical areas including but not limited to reed lands, mud flats, mangrove forests and migratory bird habitats taking into account;

(ii) The requirement for dredging sediment volumes in shallow waterways; placing dredged materials in-stream; and, early detection and quantification of hazardous sediment and its removal; and

(iii) The requirement to minimize noise, water and air pollution from its own dredging operations.

(iv) An outline Quality Assurance Plan; and

(v) A Health and Safety Plan specific to the proposed works

C. Work Program:

A Work Program compiled on a project management software (like MS Project, Primavera or similar) which must clearly show the major project works proposed and the corresponding timeline with the following characteristics:

(i) Show work stages (Mobilization, Survey, Dredging, Maintenance services, and Demobilization, etc.) and BOQ Items with the corresponding timeline;

(ii) Show the leading, lagging and critical activities, with linkages to related activities, milestones, key personnel in charge, etc.;

(iii) Resources (equipment, material, personnel, etc.) plan to achieve the Work Program.

D. Site Organization and Communications Plans that clearly provide:

(i) An overall organization chart showing the division between site offices and head office responsibilities;

(ii) A site organization chart clearly showing responsibilities and functions of key personnel. The person in-charge and the second in command for each location and their responsibilities;

(iii) The proposed layout of the Contractor's facilities and equipment, including offices and accommodation units based on the proposed sites and waterways routes;

(iv) Internal Communications Plan within the Contractor's organization and between its home office and the site offices;

(v) External Communication Plan between the Contractor, the Project Manager/Supervision & Performance Monitoring Consultant, Related Stakeholders, Users, and Employer;

(vi) Navigational protocol to assure free passage for ships during dredging or other works.

E. Sub-contracting

An assessment of the details of subcontracting elements of works amounting to more than 10% of the bid price; for each element proposed to be sub contracted furnish details whether the identified Sub-contractor possesses the required qualifications and experiences to execute that element satisfactorily.

[***Work should not be split into small parts and sub-contracted***].

1.2 Multiple Contracts if permitted under ITB 35.3, - Not Applicable

1.3 Specialised Subcontractors - Not Applicable.

1.4. Qualification Criteria

Pursuant to ITB 32.1, the Employer shall assess each Bid against the following Qualification Criteria. Requirements not included in the text below shall not be used in the evaluation of the Bidder's qualifications.

In case a contractor while working / selected for an IWAI contract, applies for another similar contract to be executed by IWAI, then to check whether the contractor meets the qualification criteria for the new contract, IWAI will calculate the bid capacity of the bidder as per the formula mentioned at 2.4.2 (d)

In case a contractor while working / selected for an IWAI contract, applies for another similar contract to be executed by IWAI, then to check whether the contractor is having adequate equipment for the new contract, IWAI will check the adequacy of the equipment as per following priority of ongoing tenders:

1) Ongoing works with IWAI

2) "Access Channel of MMT Haldia"

3) Fairway Maintenance of Farakka – Kahalgaon stretch

4) Fairway Maintenance of Tribeni – Katwa stretch

5) Fairway Maintenance of Katwa - Farakka stretch

6) Fairway Maintenance of Barh – Digha stretch

7) Fairway Maintenance of Digha – Majhaua stretch

8) Fairway Maintenance of Majhaua – Ghazipur stretch

2. Qualification

2.0 **Nature of Bidder**	**Bidder to indicate whether they are presenting a Single Entity bid** **Or Joint Venture Bid** **Or Intend to Sub-Contract**	**In the event of Subcontracting, the details of the Sub-contractor likely to be deployed be identified in the proposal (Max 25% work)** **Details & Profile of Sub-contracting firms to be submitted.**
• Format provided in Section – IV (Bidding Forms)		

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
2.1 Eligibility							
2.1.1	Nationality	Nationality in accordance with ITB Sub-Clause 4.3	Must meet requirement	Existing or intended JV must meet requirement	Must meet requirement	N / A	Forms ELI – 1.1 and ELI - 1.2 with attachments
2.1.2	Conflict of Interest	No conflicts of interest in accordance with ITB Sub - Clause 4.2	Must meet requirement	Existing or intended JV must meet requirement	Must meet requirement	N / A	Letter of Bid
2.1.3	Bank Eligibility	Not having been declared ineligible by the Bank, as described in ITB Sub-Clause 4.4.& 4.7	Must meet requirement	Existing JV must meet requirement	Must meet requirement	N / A	Letter of Bid
2.1.4	Government Owned Entity	Bidder to meet conditions of ITB Sub-Clause 4.5. The entity should not be a	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Forms ELI - 1.1 and 1.2

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
		dependent agency of the borrower or sub-borrower or Employer.					with attachments
2.1.5	United Nations resolution or Borrower's country law	Not having been excluded as a result of prohibition in the Borrower's country laws or official regulations against commercial relations with the Bidder's country, or by an act of compliance with UN Security Council resolution, both in accordance with ITB 4.7 and Section V.	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Letter of Bid
2.2 Historical Contract Non-Performance							
2.2.1	History of Non-Performing Contracts	Non-performance of a contract[1] did not occur as contractor since 1st January 2017 (Past 7 years)	Must meet requirement	Must meet the requirement	Must meet requirement or as member to past or existing JV	N / A	Form CON - 2
2.2.2	Suspension due to withdrawal of the Bid within Bid validity	Not under suspension based on execution of a Bid Securing Declaration pursuant to ITB 4.6 or	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Letter of Bid

[1](a) Non-performance, as decided by the Employer, shall include all contracts where any dispute with IWAI is not concluded.

(b) For entities other than IWAI (i) Non-performance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (ii) contracts that were so challenged but fully settled against the contractor. Non-performance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Non-performance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
		withdrawal of the Bid pursuant ITB 19.9.					
2.2.3	Pending Litigation	Bidder's financial position and prospective long term profitability sound according to criteria established in 2.3.1 below and assuming that all pending litigation will be resolved against the Bidder	Must meet requirement	Must meet requirement by itself or as member to past or existing JV	Must meet requirement by itself or as member to past or existing JV	N/A	Form CON - 2
2.2.4	Litigation History	No consistent history of court/arbitral award decisions against the Bidder[2] since 1st January 2017 (Past 7 years)	Must meet requirement	Must meet requirement		N/A	Form CON - 2
2.2.5	Declaration: Environmental, Social, Health, and Safety (ESHS) past performance	Declare any civil work contracts that have been suspended or terminated and/or performance security called by an employer for reasons related to the non-compliance of any environmental, or social, (including sexual exploitation and abuse (SEA) and gender-based violence (GBV) or health or safety requirements or safeguard in the past five years[3] since 1st Jan, 2019.	Must make the declaration. Where there are Specialized Sub-contractor/s, the Specialized Sub-contractor/s must also	N/A	Each must make the declaration. Where there are Specialized Sub-contractor/s, the Specialized Sub-contractor/s must also	N/A	Form CON-3 ESHS Performance Declaration

[2] The Bidder shall provide accurate information on the letter of Bid about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last seven years. A consistent history of court/arbitral awards against the Bidder or any member of a joint venture may result in disqualifying the Bidder.

[3]The Employer may use this information to seek further information or clarifications in carrying out its due diligence.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
			make the declaration.		make the declaration.		
2.3 Financial Situation and Performance							
2.3.1	Financial Capabilities	(a) The Bidder shall demonstrate that it has access to, or has available liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the **cash flow requirements estimated as INR 5.45 crores** (Five crores & forty-five lakhs only) - (about 3 months cash flow at peak period of work) for the subject contract(s) net of the Bidders other commitments	Must meet requirement	Must meet 100% requirement	Each member Must meet at least 15% of the requirement as a minimum, such that all partners combined meet 100 % of the requirement.	Must meet at least 51% of the requirement as a minimum	Form FIN – 3.1, with attachments
		(b) The Bidder shall also demonstrate, to the satisfaction of the Employer, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments	Must meet requirement	Must meet requirement.	N / A	Must meet requiremen t	Form FIN – 3.1 (A), with attachments
		(c) The audited balance sheets or, if not required by the laws of the Bidder's country, other financial statements acceptable to the Employer, for the last 5 years (**ending FY 2022-23**) shall be	Must meet requirement	Must meet 100% of the requirement	Must meet requirement	N/A	Form FIN – 3.1, with attachments

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
		submitted and must demonstrate the current soundness of the Bidder's financial position and indicate its prospective long-term profitability.					
2.3.2	Annual Average Turnover	Minimum average annual turnover of ***INR 19.62 crores (INR Nineteen crores & Sixty two lakhs only)***, calculated as total certified payments received for contracts in progress and/or completed within the last five financial years, divided by five years **ending 31st March 2023**.	Must meet requirement	Must meet 100% requirement	Must meet at least 15% of the requirement as a minimum, such that all partners combined meet 100 % of the requirement.	Must meet at least (51%) as a minimum	Form FIN - 3.2
2.4 Experience							
2.4.1	**General Dredging Experience**	Experience under contracts for similar works such as those pertaining to **General Dredging Experience in Ports / River / Lakes/ Canals/ Water Bodies / Management of Vessels / Manning of Vessel or Vessel related Marine Works or Wet excavation in Dams** **a. River Dredging and management of dredged materials**	Must meet requirement	Must meet requirement	N/A	Must meet requirement	Form EXP – 4.1

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
		b. Dredged material used in reclamation of port / harbour will also be considered. in the role of contractor, JV member, sub-contractor, or management contractor during at least the **last seven [7] years** ending last day of month prior to the bid submission deadline **(FY 2022-23)**					
2.4.2 (a)	**Specific Dredging Experience**	Bidder should have successfully completed as a prime contractor, JV member[4], management contractor or sub-contractor, minimum (a) Three similar works each costing not less than **INR 8.72 crores** or Dredged Quantity of **1.2864 Lakh cum** **OR** (b) Two similar works each costing not less than **INR 10.90 crores** or Dredged Quantity of **1.7152 Lakh cum** **OR**	Must meet requirement	Must meet requirement	N/A	Must meet requirement for one contract of 51%	Form EXP 4.2 (a). The contractor should have borne responsibility for execution of works to the extent he claims experience. A contractor should not claim experience

[4] For contracts under which the Bidder participated as a joint venture member or sub-contractor, only the Bidder's share, by value, shall be considered to meet this requirement

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
		(c) One similar work costing not less than **INR 17.44 Crores** or Dredged Quantity of **3.4304 Lakh cum** For the purpose of completed works, the value of the completed contract for similar works should not be less than **80% of the contract value**. A certificate for ongoing works from the employer stating the Value[5] of the work & 80% completion has been achieved shall be considered as completed and certificate of employer in this regard stating percentage of completion shall be submitted.					for the works he has never executed.
2.4.2 (b)	**The value of the similar work where 80% of contract value is paid will be considered as complete for evaluation purposes.** In the case of JV, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In determining whether the JV meets the requirement of total number of contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.						Form EXP – 4.2 (b)
2.4.2 (c)	Specific Experience in managing ES aspects	For the contracts in 2.4.2 (a) above and/or any other contracts	Desirable	Desirable	Desirable	Desirable	Form EXP – 4.2 (c)

[5] At FY 2022-23 price level. Cost of completed works of previous years shall be given weightage @5% per year based on rupees value to bring them to the price level of the financial year in which bids are received.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
		[substantially completed and under implementation] as prime contractor, joint venture member, or Subcontractor since 1st January 2019 and Application submission deadline, experience in managing ES risks and impacts.					
2.4.2 (d)	Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity for work is equal to or more than the total bid value of the work. The available bid capacity will be calculated as: - Assessed Available bid capacity[6] = **(A*N*1.5 - B)** where, A = Maximum value of all works executed in any one year during the last five years (updated to the price level of the financial year 31st March, 2023 at the rate of 5% per year), taking into account the completed as well as works in progress). N = Number of years prescribed for completion of the works for which bids are invited (period up to 6 months to be taken as half-year and more than 6 months as one year). B = Value, at the current price level, of existing commitments on on-going works to be completed during the period of completion of the works for which bids are invited. Note: the statements in Section IV showing the value of existing commitments of on-going works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the Engineer in charge, not below the rank of an Executive Engineer or equivalent.						Form EXP – 4.2 (d)
2.5 Quality Requirements							
2.5.1	**ISO 9001-2008/2015** quality Management system requirement	Valid - Quality Management Certificate issued by the International Organization for Standardization	Must meet requirement	Must meet requirement	N/A	Must meet requirement	Valid ISO 9001 Certification. Form EXP – 5.0

[6] During technical evaluation, the available bid capacity will be calculated and compared with the estimated cost. After opening of the financial bids (Part – II) and during the financial evaluation, the bid capacity will be further validated with discovered price.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
2.5.2	**ISO 45001** - Occupational Health and Safety Management or Equivalent	Valid - Relevant ISO 45001 certificate and Experience in occupational health and safety management	Must meet requirement	Must meet requirement	N/A	Must meet requirement	Valid ISO 45001 certificate or equivalent. Form EXP – 5.0
2.5.3	**ISO 14001: 2004 / 2015** Environmental Management systems	Valid - Relevant Environmental management certificate and experience with environmental management systems.	Must meet requirement	Must meet requirement	N/A	Must meet requirement	Valid ISO 14001:2004/ 2015 certificate. Form EXP – 5.0

2.6 Contractors Representative & Key personnel

The Bidder must demonstrate that it will have a suitably qualified (and in adequate numbers) minimum key personnel, as described in the table below, that are required to perform the contract.
The Bidder shall provide details for the key personnel and such other Key Personnel that the Bidder considers appropriate, together with their academic qualifications and work experience.
The Bidder shall complete the relevant Forms in Section IV, Bidding Forms.
The Contractor shall require the Employer's consent to substitute or replace the Key Personnel.

Item No.	Position/specialization required	Qualification Criteria	Minimum years of relevant work experience	Must meet requirement
1.	Contract Manager / Project Manager	Contract Manager shall have a Bachelor's degree in Civil / Mechanical engineering and an experience of minimum 10 years', out of which at least 7 years shall be in managing projects of similar nature. Personnel must have experience in executing dredging projects. The desirable age of the personnel as on the date of bid submission shall not be more than 50 years. However, if the personnel above 50 years is proposed, then the specific health fitness certificate shall be submitted with the bid.	7	Bidder to provide the details (CVs as per Form PER -2 with relevant supporting document) of the manpower along with the Bid. To be considered for Evaluation.
2.	Surveyor	Diploma in Civil Engineering / Mechanical Engineering / Surveying with 3 years' experience in Hydrographic Survey or Survey Recorder I/II in Hydrographic Survey	3	
3.	Dredger Master	Dredging Experience in River/Canal/Port	7	
Suitable experts in the following specializations				
4.	Crew	Must have inland vessel certification	-	Desirable at the time of Bid Submission
5.	Social Expert	Graduate or equivalent in social sciences	3	
6.	Environment Expert	Graduate in Environmental Engineering/ Environmental Sciences	3	
7.	Health & Safety Expert	Graduate in Engineering / Science / Social Sciences and must have Diploma / Certification in health and Safety	3	

The Bidder must not have in his employment:

(i) the near relations (defined as first blood relations, and their spouses, of the bidder or the bidder's spouse) of persons of the following Government Departments: - All organization entities / agencies under Ministry of Ports, Shipping and Waterways
(ii) without Government permission, any person who retired as gazetted officer within the last two years.

The Bidder shall provide details of the proposed personnel and their experience records in the relevant Forms included in Section IV, Bidding Forms.

2.7 Equipment – The Bidder must demonstrate that it has Key equipment listed hereunder

Equipment	Equipment type, numbers & minimum capacity	
2.7.1 **Dredger**	**Minimum of Two (2) nos. of Cutter Suction Dredgers** having capacity of dredging minimum of 250 cum of solids per hour. a) The dredgers must be registered as 'Dredger' either under Inland Vessel Act, 2021* or under Merchant Shipping Act, 1958 and must have valid registration certificate from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. b) Dredgers must have valid Survey certificates from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. Valid Survey Report by Indian Register of Shipping (IRS) or any other classification society will also be considered valid. The above valid certificates as on date of submission of bid shall be submitted with the technical bid.	The valid statutory certificates shall be submitted along with the bid for evaluation of bid. These Equipment must be either owned or hired or 'to be procured' by the bidder and/or by member of JV. In case the dredgers / survey vessel is leased or hired, a proper lease/hire agreement on Stamp paper shall be submitted along with the technical bid stating that the proposed equipment (along with the details and statutory certificates) shall be available to the bidders for immediate deployment on the Award of the Work. In case, the equipment is proposed to be procured, the proof of intent along with expected delivery period from award date duly accepted / issued by the manufacturer shall be submitted along with the technical bid. Details also to be provided in **Form Schedule E**
2.7.2 **Survey Vessel**	**Minimum of One (1) no.** equipped with multi beam echo-sounder a) The Survey Vessel must be registered either under Inland Vessel Act, 2021* or under Merchant Shipping Act, 1958 and must have valid registration certificate from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. b) Survey Vessel must have valid Survey certificates from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. Valid Survey Report by Indian Register of Shipping (IRS) or any other classification society will also be considered valid. The above valid certificates as on date of submission of bid shall be submitted with the technical bid.	

2.7.3 **Tug Boats**	Having suitable capacity for pulling the Dredgers and allied equipment / boats / pipelines etc. a) The Tug Boats must be registered either under Inland Vessel Act, 2021* or under Merchant Shipping Act, 1958 and must have valid registration certificate from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. b) Tug Boats must have valid Survey certificates from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. Valid Survey Report by Indian Register of Shipping (IRS) or any other classification society will also be considered valid. The above valid certificates as on date of submission of bid shall be submitted with the technical bid.	Desirable at the time of bidding. Details also to be provided in **Form Schedule E**
2.7.4 **Accommodation Boats**	To accommodate Operational staff. a) The Accommodation Boats must be registered either under Inland Vessel Act, 2021* or under Merchant Shipping Act, 1958 and must have valid registration certificate from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. b) Accommodation Boats must have valid Survey certificates from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. Valid Survey Report by Indian Register of Shipping (IRS) or any other classification society will also be considered valid. The above valid certificates as on date of submission of bid shall be submitted with the technical bid.	

***Bidders to Note - Clause 114 (Repeal and Savings) of IV Act, 2021:**

114. Repeal and savings. — (1) The Inland Vessels Act, 1917 (1 of 1917) is hereby repealed. (2) Notwithstanding the repeal of the enactment referred to in sub-section (1), —

(a) any notification, rule, regulation, bye-law, order or exemption issued, made or granted under the enactment hereby repealed shall, if it is not inconsistent with the provisions of this Act, continue to be in force unless and until revoked, and shall have effect as if it had been issued, made or granted under the corresponding provision of this Act;

(b) any officer appointed and anybody elected or constituted under any enactment hereby repealed shall continue and shall be deemed to have been appointed, elected or constituted unless specifically removed or replaced by appointment of officer or offices, as the case may be, under this Act;

(c) any document referring to the enactment hereby repealed shall be constructed as referring to this Act or to the corresponding provision of this Act;(d) any fine levied or penalty imposed under the enactment hereby repealed may be recovered as if it had been levied under this Act;

(e) any offence committed under the enactment hereby repealed may be prosecuted and punished as if it had been committed under this Act;

(f) sailing vessels or sailing boats registered under the enactment hereby repealed shall be deemed to have been registered under the Act;

(g) mortgages of any mechanically propelled inland vessels recorded in any register book maintained at any port in India under the enactment hereby repealed shall be deemed to have been recorded in the register book under the corresponding provision of this Act;

(h) any licence, certificate of competency or service, certificate of survey, licenses or any other certificate or document issued, made or granted under the enactment hereby repealed and in force at the commencement of this Act shall be deemed to have been issued, made or granted under this Act and shall, unless cancelled under this Act, continue in force until the date shown in the certificate or document, as the case may be.

(3) The matters specifically provided in this section, shall not be held to prejudice or affect the general application of section 6 of the General Clauses Act, 1897 (X of 1897).

	3. Financial Part
1.	Margin of Preference
2.	Alternative Completion Times
3.	Alternative Technical Solutions Financial Part for specified parts of the Works
4.	Other criteria (if permitted under ITB 35.1(f))
	3.1 Multiple Contracts if permitted under ITB 35.3, will be evaluated as under - Not Applicable If works are grouped in multiple contracts pursuant to Sub-Clause 35.3 of the Instructions to Bidders, the Employer will evaluate and compare Bids on the basis of a contract, or a combination of contracts, or as a total of contracts in order to arrive at the least cost combination for the Employer by taking into account discounts offered by Bidders in case of award of multiple contracts, subject to the selected Bidder(s) meeting the required qualification criteria for lot or combination of lots as the case may be.
	3.2 Other Criteria (if permitted under ITB 35.1 (f) In addition to the criteria listed in ITB 35.1 (a) – (e) the following criteria shall apply: - Determining aggregate of the Net Present Value (NPV) of three years prices for Services quoted in the Priced Activity Schedule, by discounting these prices to the Date of Commencement of Services, *assuming only for purpose of the evaluation* that the prices are payable at the end of the respective years. For the purpose of determining NPV, discount factor of 10 % per annum shall be applied.

Section IV. Bidding Forms

Section IV. Bidding Forms

Table of Forms

1. **Bid Submission Form / letter of Bid & Technical Proposal Form**

The bidder's Technical Proposal shall include the following details in the prescribed forms along with technical bid.

SCHEDULE B……Site Organization
SCHEDULE C…… Dredging Methodology & Dredging Management Plan (Method Statement)
SCHEDULE D……Mobilization Schedule.
SCHEDULE E……Contractor's Equipment
SCHEDULE F……Key Personnel Proposed with Resumes
SCHEDULE G……Subcontractors & JV details
SCHEDUEL H……ESHS Management Strategies and Implementation Plans (ESHS-MSIP)
SCHEDUEL I…… Code of Conduct for Contractor's Personnel (ES) Form

	Format	**Reference**	**Content**
1.1	Form ELI-1.1 Form ELI - 1.2 & 1.2A	Section-III QR 2.1- Eligibility	Bidder's / JV Information Form with attachments
1.2	Form CON-2	Section-III QR 2.2 (Historical Contract Non-Performance)	Historical Contract Non-performance, Pending Litigation and Litigation history
1.3	Form CON-3	Section-III QR **2.2.5** (ESHS)	Environmental, Social, Health, and Safety Performance Declaration
1.4	Form FIN-3.1 ; Fim3.1A ; Fin 3.2	Section-III QR 2.3 (Financial)	Financial Situation and Performance; Cash Flow/ Working Capital; Financial Resources; Average Annual Dredging Turn Over.
1.5	Form EXP-4.1 Form EXP-4.2(a) Form EXP-4.2(b)	Section-III QR 2.4 (Experience) **[2.4.1 to 2.4.2(d)]**	General Dredging Experience; Specific Dredging and Contract Management Experience; Specific Dredging Experience of Key Activities;
	Form EXP-4.2(c)	Section-III QR 2.4.2 (c)	Specific Experience in managing ES aspects & Code of Conduct: Environmental, Social, Health and Safety (ESHS).
	Form EXP-4.2(d)	Section-III QR 2.4.2 (d)	Current Contract Commitment for Bid Capacity
1.6	Form Exp 5.0	Section-III QR 2.5 (Quality Requirements)	Quality Requirements
2.	Bid Security (Format)		
3.	Format for the Affidavit		
4.	Letter of Bid – Finance Pat (Bid Price Form) Appendix to Financial Part – BOQ Financial Bid – BOQ online submission Schedule		

Letter of Bid – Technical Part

The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and address.

Date: _____
NCB No.: _____
Invitation for Bid No.: _____

To: ***(Insert name of the Employer)***

Subject: - Fairway Maintenance of Farakka - Katwa (199 km) stretch of National Waterway -1 (River Ganga)

We, the undersigned, hereby submit our bid, in two parts, namely:

1. the Technical Part, and
2. the Financial Part

In submitting our Bid, we make the following declarations:

a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB 8);

b) We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;

c) We have not been suspended nor declared ineligible by the Employer based on execution of a Bid-Securing Declaration or Proposal-Securing Declaration in the Employer's Country in accordance with ITB 4.6;

d) We offer to execute in conformity with the Bidding Documents the following Works: **Fairway Maintenance of Farakka - Katwa (199 km) stretch of National Waterway -1 (River Ganga)**

e) Our bid shall be valid for a period of **120 days** from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

f) We accept the appointment of ***[insert name proposed in Bid Data Sheet]*** as the Adjudicator

[or]

We do not accept the appoint of ***[insert name proposed in Bid Data Sheet]*** as the Adjudicator, and propose instead that ***[insert name]*** be appointed as Adjudicator, whose daily fees and biographical data are attached;

g) If our bid is accepted, we commit to obtain a performance security [*and an Environmental, Social, Health and Safety (ESHS) Performance Security, **Delete if not applicable***] in accordance with the Bidding Document;

h) We are not participating, as a Bidder, in more than one bid in this bidding process in accordance with ITB 4.2,

i) Our firm, its affiliates or subsidiaries, including any Subcontractors or Suppliers for any part of the contract, has not been declared ineligible by the Bank, under the Employer's country laws or official regulations or by an act of compliance with a decision of the United Nations Security Council (ITB 4.7);

j) We are not a government owned entity / We are a government owned entity but meet the requirements of ITB 4.5[7];

k) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of fraud and corruption.

l) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed;

m) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive; and

n) If awarded the contract, the person named below shall act as Contractor's Representative: –

Name of the Bidder* ***[insert complete name of person signing the Bid]***

Name of the person duly authorized to sign the Bid on behalf of the Bidder** ***[insert complete name of person duly authorized to sign the Bid]***

Title of the person signing the Bid ***[insert complete title of the person signing the Bid]***

Signature of the person named above ***[insert signature of person whose name and capacity are shown above]***

Date signed ***[insert date of signing]*** day of ***[insert month]***, ***[insert year]***

*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

**: Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.

[7]Use one of the two options as appropriate.

Technical Proposal – Site Organization Schedule – B

Bidders shall provide full particulars of the organisation they propose to establish, direct, and administer for the performance of the Contract. In particular, bidders shall indicate the location of site camps and the resources they intend to allocate to Self-Control Units for planning and monitoring purposes.

1. SITE ORGANIZATION CHART

2. NARRATIVE DESCRIPTION OF SITE ORGANISATION CHART

Site Organization and Communications Plans that clearly provide: -

i. An overall organization chart;

ii. A site organization chart;

iii. Internal Communications Plan;

iv. External Communication Plan; and

v. Navigational protocol to assure free passage for vessels during dredging or other works.

Technical Proposal – Dredging Methodology & Dredging Management Plan (Method Statement) - Schedule – C

(a) Contractor's Statement of Work Methods

To demonstrate a clear understanding of the requirements of the Contract, Bidders shall provide in the form of a narrative descriptions, sketches and drawings, how the works shall be undertaken.
The Statement of Work Methods shall demonstrate the Bidders capability to define, optimize and carry out on a timely basis the physical interventions detailed in the scope of requirements specified in Section VII.

The Statement of Work Methods shall include a mobilization and execution plan that details how the bidder will, on waterway stretch, carry out on a timely basis the following: -

Fairway Maintenance of Farakka - Katwa (199 km) stretch of National Waterway -1 (River Ganga)

i. An outline proposal on how the Contractor shall minimize environmental impacts especially to sensitive and critical areas including but not limited to reed lands, mud flats, mangrove forests and migratory bird habitats taking into account:

   - The requirement for dredging sediment volumes in shallow waterways; placing dredged materials in-stream or in-river; and, early detection and quantification of hazardous sediment and its removal; and,
   - The requirement to minimize noise, water and air pollution from its own operations.

ii. An outline Quality Assurance Plan; and,

iii. A Health and Safety Plan specific to the proposed works.

Technical Proposal – Mobilization Schedule Schedule – D

In accordance with the Particular Conditions, Sub-Clause 16.2, the Contractor shall not carry out mobilization to Site unless the Project manager gives consent that appropriate measures are in place to address environmental and social risks and impacts, which at a minimum shall include applying the Management Strategies and Implementation Plans (MSIPs) and Code of Conduct for Contractor's Personnel, submitted as part of the Bid and agreed as part of the Contract.

Technical Proposal – Contractor's Equipment Schedule – E

The bidder shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for the key equipment listed in Section III (Evaluation and Qualification Criteria), Clause 2.7. The Bidder shall provide all the information requested below.

S. N.	Item of Equipment Description	Capacity	Age (years)	No. available and present location	Owned	Leased / Hired	To be Procured

Technical Proposal – Key personnel Proposed

Schedule F

Form PER – 1: Proposed Personnel

Bidders should provide the names of suitably qualified personnel to meet the specified requirements for each of the positions listed in Section III (Evaluation and Qualification Criteria), Clause 2.6. The data on their experience should be supplied using the Form below for each candidate.

S. No.	Position	Name	Qualification	Years of total Experience	Years of experience in proposed position

Technical Proposal Key personnel

Schedule – F

Form PER – 2: Resume of Proposed Personnel

The Bidder shall provide all the information requested below. Fields with asterisk (*) shall be used for evaluation.

Position*		
Personnel information	Name	Date of birth*
	Professional qualifications	
Present employment	Name of Employer	
	Address of Employer	
	Telephone	Contact (Manager / personnel officer)
	Fax	E-mail
	Job title	Years with present Employer

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

From*	To*	Company, Project, Position, and Relevant Technical and Management Experience*

Declaration: -

I, the undersigned Key Personnel, certify that to the best of my knowledge and belief, the information contained in this Form PER-2 correctly describes myself, my qualifications and my experience.

I confirm that I am available as certified in the following table and throughout the expected time schedule for this position as provided in the Bid:

Commitment	**Details**
Commitment to duration of contract:	*[insert period (start and end dates) for which this Key Personnel is available to work on this contract]*
Time commitment:	*[insert the number of days/week/months/ that this Key Personnel will be engaged]*

I understand that any misrepresentation or omission in this Form may:

(a) be taken into consideration during Bid evaluation;
(b) my disqualification from participating in the Bid;
(c) my dismissal from the contract.

Name of Key Personnel: [*insert name*]
Signature: _____Date: (day month year): _____
Countersignature of authorized representative of the Bidder: Signature:

_____

Date: (day month year): _____

Technical Proposal – Sub Contractors & JV Details
Schedule – G

[Insert proposal of sub-contracting elements of works amounting to more than 10% of the bid price for each element and indicate the name of the sub-contractor, its qualifications and experiences to execute that element satisfactorily]

Form SC- Sub Contracting

SCHEDULE OF SUBCONTRACTORS

Item	Element of work	% of bid price	Name and address of sub-contractor	Qualification and experience of sub-contractor on similar works of the elements executed

The Bidder shall enter in this schedule a list of the major sections and appropriate value of the work for which he proposes to use subcontractors *[for those costing more than 10% of the bid price for each element], together with the names, addresses and experiences of the proposed subcontractors.*

The capability of the sub-contractor will also be assessed (on the same lines as for the main Contractor) before according approval to him.

(Work should not be split into small parts and sub-contracted; but, sub-contracting specialized elements of works is acceptable).

Technical Proposal – ESHS Management Strategies and Implementation Plans

Schedule H

(ESHS-MSIP)

The Bidder shall submit comprehensive and concise Environmental and Social Management Strategies and Implementation Plans (ES-MSIP) as required by ITB 11.2 (j) of the Bid Data Sheet. These strategies and plans shall describe in detail the actions, materials, equipment, management processes etc. that will be implemented by the Contractor, and its subcontractors.

In developing these strategies and plans, the Bidder shall have regard to the ESHS provisions of the contract including those as may be more fully described in the Works' Requirements described in Section VII.

Technical Proposal - Code of Conduct for Contractor's Personnel (ES) Form

Schedule – I

The Bidder shall submit the Code of Conduct that will apply to the Contractor's employees and subcontractors as required by ITB 11.2 (j) of the Bid Data Sheet. The Code of Conduct shall ensure compliance with the ESHS provisions of the contract, including those as may be more fully described in the Works Requirements described in Section VII.

In addition, the Bidder shall submit an outline of how this Code of Conduct will be implemented. This will include: how it will be introduced into conditions of employment/engagement, what training will be provided, how it will be monitored and how the Contractor proposes to deal with any breaches.

Code of Conduct for Contractor's Personnel (ES) Form

CODE OF CONDUCT FOR CONTRACTOR'S PERSONNEL

We are the Contractor, [*enter name of Contractor*]. We have signed a contract with [*enter name of Employer*] for [*enter description of the Works*]. These Works will be carried out at [*enter the Site and other locations where the Works will be carried out*]. Our contract requires us to implement measures to address environmental and social risks related to the Works, including the risks of sexual exploitation and assault and gender-based violence.

This Code of Conduct is part of our measures to deal with environmental and social risks related to the Works. It applies to all our staff, labourers and other employees at the Works Site or other places where the Works are being carried out. It also applies to the personnel of each subcontractor and any other personnel assisting us in the execution of the Works. All such persons are referred to as "**Contractor's Personnel"** and are subject to this Code of Conduct.

Note to the Bidder:

The minimum content of the Code of Conduct form as set out by the Employer shall not be substantially modified. However, the Bidder may add requirements as appropriate, including to take into account Contract-specific issues/risks.

The Bidder shall initial and submit the Code of Conduct form as part of its bid.

This Code of Conduct identifies the behaviour that we require from all Contractor's Personnel.

Our workplace is an environment where unsafe, offensive, abusive or violent behaviour will not be tolerated and where all persons should feel comfortable raising issues or concerns without fear of retaliation.

REQUIRED CONDUCT

Contractor's Personnel shall:

1. carry out his/her duties competently and diligently;
2. comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other Contractor's Personnel and any other person;
3. maintain a safe working environment including by:
    a. ensuring that workplaces, machinery, equipment and processes under each person's control are safe and without risk to health;
    b. wearing required personal protective equipment;
    c. using appropriate measures relating to chemical, physical and biological substances and agents; and
    d. following applicable emergency operating procedures.
4. report work situations that he/she believes are not safe or healthy and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health;
5. treat other people with respect, and not discriminate against specific groups such as women, people with disabilities, migrant workers or children;
6. not engage in any form of sexual harassment including unwelcome sexual advances, requests for sexual favours, and other unwanted verbal or physical conduct of a sexual nature with other Contractor's or Employer's Personnel;
7. not engage in Sexual Exploitation, which means any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. In Bank financed projects, sexual exploitation occurs when access to or benefit from Bank financed Goods, Works, Consulting or Non-consulting services is used to extract sexual gain;
8. not engage in Sexual Assault, which means sexual activity with another person who does not consent. It is a violation of bodily integrity and sexual autonomy and is broader than narrower conceptions of "rape", especially because (a) it may be committed by other means than force or violence, and (b) it does not necessarily entail penetration.
9. not engage in any form of sexual activity with individuals under the age of 18, except in case of pre-existing marriage;
10. complete relevant training courses that will be provided related to the environmental and social aspects of the Contract, including on health and safety matters, and Sexual Exploitation, and Assault (SEA);
11. report violations of this Code of Conduct; and
12. not retaliate against any person who reports violations of this Code of Conduct, whether to us or the Employer, or who makes use of the [Project Grievance [Redress] Mechanism].

RAISING CONCERNS

If any person observes behaviour that he/she believes may represent a violation of this Code of Conduct, or that otherwise concerns him/her, he/she should raise the issue promptly. This can be done in either of the following ways:

1. Contact [*enter name of the Contractor's Social Expert with relevant experience in handling gender-based violence, or if such person is not required under the Contract, another individual designated by the Contractor to handle these matters*] in writing at this address [ ] or by telephone at [ ] or in person at [ ]; or
2. Call [ ] to reach the Contractor's hotline *(if any)* and leave a message.

The person's identity will be kept confidential, unless reporting of allegations is mandated by the country law. Anonymous complaints or allegations may also be submitted and will be given all due and appropriate consideration. We take seriously all reports of possible misconduct and will investigate and take appropriate action. We will provide warm referrals to contractor s that may help support the person who experienced the alleged incident, as appropriate.

CONSEQUENCES OF VIOLATING THE CODE OF CONDUCT

Any violation of this Code of Conduct by Contractor's Personnel may result in serious consequences, up to and including termination and possible referral to legal authorities.

FOR CONTRACTOR'S PERSONNEL:

I have received a copy of this Code of Conduct written in a language that I comprehend. I understand that if I have any questions about this Code of Conduct, I can contact [*enter name of Contractor's contact person with relevant experience in handling gender-based violence*] requesting an explanation.

Name of Contractor's Personnel: [insert name]
Signature: _____
Date: (day month year): _____

Countersignature of authorized representative of the Contractor:
Signature: _____
Date: (day month year): _____

Appendix to Technical Part

Form - ELI - 1.1: Bidder Information Form

Date: *[insert day, month, year]*
NCB No. and title: *[insert NCB number and title]*
Page *[insert page number]* of *[insert total number]* pages

1.1 Bidder Information			
Bidder's legal name			
In case of JV, legal name of each member			
Bidder's country of constitution			
Bidder's year of constitution			
Bidder's legal address in country of constitution			
Bidder's authorized representative (Name, address, telephone numbers, fax numbers, e-mail address)			

Attached are copies of the following original documents.

1. In case of single entity, articles of incorporation or constitution of the legal entity names above, in accordance with ITB 4.1 and 4.3.
2. Authorization to represent the firm or JV named in above, in accordance with ITB 20.2.
3. In case of JV, letter of intent to form JV or JV agreement: in accordance with ITB 4.1 read with BDS
4. In case of government-owned entity, documents establishing legal and financial authority and compliance with the principles of commercial law in accordance with ITB 4.5 read with Sub-clause 2.1.4 of Qualification Criteria.
5. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Appendix to Technical Part

DETAILS OF PARTICIPATION IN THE JOINT VENTURE

PARTICIPATION DETAILS	FIRM 'A' (Lead Member)	FIRM 'B'	FIRM 'C'	Firm 'D'
Financial				
Name of the Banker(s)				
Planning				
Equipment				
Key Personnel				
Execution of Work (Give details on proposed contribution of each)				
The Joint Venture should indicate the details of participation as above.				

Appendix to Technical Part
Form - ELI - 1.2: JV Information Form

(Where permitted as per BDS ITB 4.1)

Each member of a JV must fill in this form
Date: *[insert day, month, year]*
NCB No. and title: *[insert NCB number and title]*
Page *[insert page number]* of *[insert total number]* pages

JV/Specialist Subcontractor Information				
Bidder's legal name				
JV Member's legal name				
JV Member's country of constitution				
JV Member's year of constitution				
JV Member's legal address in country of constitution				
JV Member's authorized representative information (Name, address, telephone numbers, fax numbers, e-mail address)				

Attached are copies of the following original documents:

1. Articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 read with BDS.
2. Authorization to represent the firm names above, in accordance with ITB 20.2.
3. In the case of government-owned entity, documents establishing legal and financial autonomy and compliance with commercial law, in accordance with ITB Sub-Clause 4.5read with Sub-Clause 2.1.4 of Qualification Criteria.
4. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Specialized Subcontractor's Information (Not Applicable)
Form ELI -1.2 A

NCB No. and title: *[insert NCB number and title]*

Bidder's legal name:

Specialized Subcontractor's legal name:

Specialized Subcontractor's country of registration:

Specialized Subcontractor's year of constitution:

Specialized Subcontractor's legal address in country of constitution:

Specialized Subcontractor's authorized representative information
Name: _____
Address: _____
Telephone/Fax numbers: _____ E-mail address: _____

Attached are copies of original documents of

☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.4.

☐ Authorization to represent the Specialized Subcontractor.

Form CON–2

Appendix to Technical Part
Historical Contract Non-Performance, Pending Litigation and Litigation History

[The following table shall be filled in for the Bidder and for each member of a Joint Venture]

Bidder's Name: *[insert full name]* Date: *[insert day, month, year]*
Joint Venture Party Name: *[insert full name]*
NCB No. and title: *[insert NCB number and title]*
Page *[insert page number]* of *[insert total number]* pages

Non-Performed Contracts in accordance with Section III, Qualification Criteria and Requirements			
☐ Contract non-performance did not occur during the (*number)* years specified in Section III, Qualification Criteria and Requirements, Sub-Factor 2.2.1. ☐ Contract(s) not performed during the *(number)* of years specified in Section III, Qualification Criteria and Requirements, requirement 2.2.1			
Year	**Non-performed portion of contract**	**Contract Identification**	**Total Contract Amount (in Indian Rupees)**
[insert year]	*[insert amount and percentage]*	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Reason(s) for non-performance: *[indicate main reason(s)]*	*[insert amount]*
Pending Litigation, in accordance with Section III, Qualification Criteria and Requirements			
☐ No pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2.3. ☐ Pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2.3as indicated below.			

Year of dispute	**Amount in dispute (Rupees)**	**Contract Identification**	**Total Contract Amount (Rupees)**
[insert year]	*[insert amount]*	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Matter in dispute: *[indicate main issues in dispute]* Party who initiated the dispute: *[indicate "Employer" or "Contractor"]* Status of dispute: *[Indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]*	*[insert amount]*
Litigation History in accordance with Section III, Evaluation and Qualification Criteria			
☐ No litigation history in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2.4. ☐ Litigation history in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2.4 as indicated below.			
Year of award	**Outcome as percentage of Net Worth**	**Contract Identification**	**Total Contract Amount (Rupees)**
[insert year]	*[insert percentage]*	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Matter in dispute: *[indicate main issues in dispute]* Party who initiated the dispute: *[indicate "Employer" or "Contractor"]* Reason(s) for Litigation and award decision *[indicate main reason(s)]* Status of dispute: *[Indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]*	*[insert amount]*

Appendix to Technical Part
Form CON – 3: Environmental and Social (ES)
Environmental, Social, Health and Safety Management Strategies and Implementation Plans
Performance Declaration

[The following table shall be filled in for the Bidder, and each member of a Joint Venture and each Specialized Subcontractor]

Bidder's Name	*[insert full name]*
Date:	*[insert day, month, year]*
Joint Venture Member Name	*[insert full name]*:
NCB No. and title	*[insert NCB number and title]*
Page…	*[insert page number]* of *[insert total number]* pages

Environmental, Social, Health, and Safety Performance Declaration
in accordance with Section III, Qualification Criteria, and Requirements

☐ **No suspension or termination of contract**: An employer has not suspended or terminated a contract and/or called the performance security for a contract for reasons related to Environmental, Social, Health, or Safety (ESHS) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.2.5.

☐ **Declaration of suspension or termination of contract**: The following contract(s) has/have been suspended or terminated and/or Performance Security called by an employer(s) for reasons related to Environmental, Social, Health, or Safety (ESHS) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.2.5. Details are described below:

Year	Suspended or terminated portion of contract & Contract Identification		Total Contract Amount
[insert year]	*[insert amount and percentage]*	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Name & Address of Employer: *[insert full name]/ city /* Reason(s) for suspension or termination: *[indicate main reason(s) e.g., for GBV/ SEA breaches]*	*[insert amount]*
…	…	*[list all applicable contracts]*	…

Performance Security called by an employer(s) for reasons related to ESHS performance

Year	Contract Identification	Contract Amount (Rs.)
[insert year]	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Reason(s) for suspension or termination: *[indicate main reason(s) e.g., for GBV/ SEA breaches*	*[insert amount]*

FIN – 3.1

Appendix to Technical Part
Financial Situation

Financial Situation and Performance	
Bidder's Name	*[insert full name]*
Date:	*[insert day, month, year]*
Joint Venture Member Name	*[insert full name]*:
NCB No. and title	*[insert NCB number and title]*
Page…	*[insert page number]* of *[insert total number]* pages

1. Financial data: - *[The following table shall be filled in for the Bidder and for each member of a Joint Venture]*

SUMMARY OF FINANCIAL STATEMENTS

Name of bidder/JV Member:

(Equivalent Rs. Million)

S. No.	**Financial Information in Rupee equivalent with exchange rate at the end of concerned year**	**Actuals for Previous five (5) years excluding the current financial year**					**Ref. of Page Nos. of Balance Sheets**
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Total Assets						
2	Total Turnover						
3	Current Assets						
4	Current Assets + Loan & Advances						
5	Total Liabilities						
6	Current Liabilities						
7	Current liabilities & provision						
8	Profit before Interest and Tax						
9	Profit before Tax						
10	Profit after Tax						
11	Shareholder's Funds (Net Worth) = (Paid up equity +Reserves) - (Revaluation reserves + Miscellaneous expenditure not written off)						
12	Depreciation						
13	Current Ration (2)/ (5)						
14	Net cash Accruals = Profit after Tax + Depreciation						

This information should be extracted from the Annual Financial Statements/ Balance sheets, which should be enclosed. Year 1 will be the latest year for which audited financial statements are available. Year 2 shall be the year immediately preceding year 1 and year 3 shall be the year immediately preceding Year 2.

2. Sources of Finance:

The following table shall be filled in for the Bidder and for each member of a Joint Venture] Specify sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.

No.	Source of finance	Amount Equivalent INR
1		
2		
3.		
4.		

3. Financial documents :

The Bidder and its parties shall provide copies of financial statements for [number] years pursuant Section III, Qualifications Criteria and Requirements, Sub-factor 2.3.1. The financial statements shall:

(a) Reflect the financial situation of the Bidder or member to a JV, and not sister or parent companies.
(b) Be audited by a certified Chartered Accountant
(c) Be complete, including all notes to the financial statements.
(d) Correspond to accounting periods already completed and audited (no statements for partial periods shall be accepted.

☐ Attached are copies of financial statements (balance sheets, including all related notes, and income statements) for the five (5) years required above; and complying with the requirements (If the most recent set of financial statements is for a period earlier than 12 months from the date of bid, the reason for this should be justified)

☐ Attached is a copy of certificate given from the commercial bank assuring cash flow (working capital for contraction) in the format attached.

Appendix to Technical Part

FORM FIN – 3.1 (A)

FORMAT FOR EVIDENCE OF ACCESS TO OR AVAILABILITY OF CASH FLOW
[To be given from a Nationalized or Scheduled Bank in India]

Clause 2.3.1 (b) of Section III – Qualification Criteria

(AVAILABILITY OF CASH FLOW (WORKING CAPITAL)

This is to certify that M/s. _____ is a reputed company with a good financial standing.

If the contract for the works, namely _____ [funded by the World Bank] is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs. _____ to meet their capital requirements for executing the above contract.

-- Sd. --
Name of Bank Manager
Senior Bank Manager & Address of the Bank

***Change the text as follows for Joint venture:**

This is to certify that M/s. …….. who has formed a JV with M/s. ……..... and M/s. ……..... for participating in this bid, is a reputed company with a good financial standing.

If the contract for the work, namely ……. [funded by the World Bank] is awarded to the above Joint Venture, we shall be able to provide overdraft/credit facilities to the extent of Rs. …… to meet the working capital requirements for executing the above contract.
[This should be given by the JV members in proportion to their financial participation.]

Appendix to Technical Part

Form FIN - 3.2

Average Annual Dredging Turnover

[The following table shall be filled in for the Bidder and for each member of a Joint Venture]	
Bidder's Name	*[insert full name]*
Date:	*[insert day, month, year]*
Joint Venture Member Name	*[insert full name]*:
NCB No. and title	*[insert NCB number and title]*
Page…	*[insert page number]* of *[insert total number]* pages

Annual turnover data (Dredging only) *	
Year	**Amount in Rs.**
[Financial year]	*[insert amount]*
1. YR 2022 -23	
2. YR 2021 -22	
3. YR 2020 -21	
4. YR 2019 -20	
5. YR 2018 -19	
Average Annual Dredging Turnover	

*** To be certified by a Chartered Accountant**

Appendix to Technical Part
Joint Venture

Names of all members of a joint venture
1. Member in charge
2. Member
3. Member
4. Member

Total value of annual dredging turnover, in terms of work billed to clients, in Rupees

Annual Turnover Data (dredging only; in Rupees *)							
Member	**Form 2- page no.**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Average**
1. Member in charge							
2. Member							
3. Member							
4. Member							
TOTAL							

Name and address of Bankers to the Joint Venture

Provide details regarding financial responsibility and participation (percentage share in the total) of each firm in the Joint Venture. Attach a Memorandum of Understanding for the Proposed Agreement of joint Venture which should lay down responsibility regarding work and financial arrangements in respect of each of the firm in the Joint Venture (Refer also ITB Clause 4.1).

*** To be certified by a chartered accountant**

Appendix to Technical Part
Form EXP - 4.1
General Dredging Experience

[The following table shall be filled in for the Bidder and in the case of a JV Bidder, each Member]	
Bidder's Name	*[insert full name]*
Date:	*[insert day, month, year]*
Joint Venture Member Name	*[insert full name]*:
NCB No. and title	*[insert NCB number and title]*
Page…	*[insert page number]* of *[insert total number]* pages
[Identify contracts that demonstrate continuous dredging work over the past seven (7) years pursuant to Section III, Qualification Criteria and Requirements, Sub-Factor 2.4.1. List contracts chronologically, according to their commencement (starting) dates.]	

Starting Year	Ending Year	Contract Identification along with Supporting Documents including Completion Certificates	Role of Bidder
[indicate year]	*[indicate year]*	Contract name: *[insert full name]* Brief Description of the Works performed by the Bidder: *[describe works performed briefly]* Amount of contract: *[insert amount in Rupees]* Name of Employer: *[indicate full name]* Address: *[indicate street/number/town or city/country*	*[insert "Prime Contractor" or "JV Member" or "Sub-contractor" or "Management Contractor"]*
		Contract name: *[insert full name]* Brief Description of the Works performed by the Bidder: *[describe works performed briefly]* Amount of contract: *[insert amount in Rupees]* Name of Employer: *[indicate full name]* Address: *[indicate street/number/town or city/country*	*[insert "Prime Contractor" or "JV Member" or "Sub-contractor" or "Management Contractor"]*
		Contract name: *[insert full name]* Brief Description of the Works performed by the Bidder: *[describe works performed briefly]* Amount of contract: *[insert amount in Rupees]* Name of Employer: *[indicate full name]* Address: *[indicate street/number/town or city/country*	*[insert "Prime Contractor" or "JV Member" or "Sub-contractor" or "Management Contractor"]*

Appendix to Technical Part
Form EXP - 4.2(a)
Specific Dredging Experience

[The following table shall be filled in for contracts performed by the Bidder, each member of a Joint Venture, and Specialized Sub-contractors]- along with Supporting Documents including Completion Certificates	
Bidder's Name	*[insert full name]*
Date:	*[insert day, month, year]*
Joint Venture Member Name	*[insert full name]*:
NCB No. and title	*[insert NCB number and title]*
Page…	*[insert page number]* of *[insert total number]* pages

(A) Work performed as prime Contractor or JV Member or Sub-Contractor or Management Contractor (*in the same name and style*) on dredging works of a similar nature and volume over the last Seven years[8]. [*Attach certificate from the Engineer-in-charge*]

Project Name	Name of Employer	Description of work	Contract No.	Value of contract	Date of Issue of Work Order	Stipulated Date of Completion	Actual Date of Completion	Remarks explaining reasons for Delay, if any

[8] Immediately preceding the financial year in which bids are received.

Appendix to Technical Part
Form EXP - 4.2 (b)
Specific Dredging Experience (JV)

Joint Venture's Name	*[Insert full Name]*
Date:	*[Insert day, month, year]*
Joint Venture Member Name	*[Insert full Name]*
NCB No. and title	*[Insert NCB number and title]*
Page	*[Insert page number] of [insert total number] pages*

All Sub-contractors for key activities must complete the information in this form as per ITB 33.

(B) **Quantities of work executed as prime contractor or Sub-Contractor** in the last Seven (7) years:[9]

Key Activity No. One: *[insert brief description of the Activity, emphasizing its specificity]* … Total Quantity of Activity under the contract: _____

Contract Identification	*[insert contract name and number, if applicable]*			
Award date	*[insert day, month, year]*			
Completion date	*[insert day, month, year]*			
Role in Contract *[check the appropriate box]*	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Sub-contractor ☐
Total Contract Amount	*[insert total contract amount in contract currency(ies)]*			
Quantity (Volume, number or rate of production, as applicable) performed under the contract per year or part of the year *[Insert extent of participation indicating actual quantity of key activity successfully completed in the role performed]*	Total quantity in the contract (i)	Percentage participation (ii)	Actual Quantity Performed (i) x (ii)	
Year 1 (FY 2022-23)				
Year 2 (FY 2021-22)				
Year 3 (FY 2020-21)				
Year 4 (FY 2019-20)				
Year 5 (FY 2018-19)				
Year 6 (FY 2017-18)				
Year 7 (FY 2016-17)				
Employer's Name:	*[insert full name]*			
Address: Telephone/fax number E-mail:	*[indicate street / number / town or city / country]* *[insert telephone/fax numbers, including country and city area codes]* *[insert e-mail address, if available]*			

[9] Immediately preceding the financial year in which bids are received.

Appendix to Technical Part
Form EXP - 4.2(c)
Specific Experience in Managing ES aspects

[The following table shall be filled in for contracts performed by the Bidder, and each member of a Joint Venture]				
	Bidder's Name: _____ Date: _____ Bidder's JV Member Name: _____ IFB No. and title: _____ Page _____ of _____ pages			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Subcontractor ☐
Total Contract Amount			Rs.	
Details of relevant experience				

Appendix to Technical Part — Form 4.2 (d)

Form for Current Contract Commitments/Works in Progress

Bidders and each member to a JV should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

(A) Existing commitments and on-going works:

Description of Work	Place & State	Contract No. & Date	Name and Address of Employer	Value of Contract (Rs. equivalent in million)	Stipulated period of completion	Value of works[10] remaining to be completed (Rs. equivalent in million)	Anticipated date of completion	Average Monthly Invoicing Over Last Six Months (Rs. /month) Equivalent in millions)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

(B) Works for which bids already submitted and likely to be awarded – expected additional commitment.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Description of Work	Place & State	Name and Address of Employer	Estimated value of Works (Rs. equivalent in million)	Stipulated period of completion	Date when decision is expected	Remarks, if any

[10] *Attach certificate(s) from the Engineer(s)-in-Charge.*

Appendix to Technical Part

Form EXP – 5.0

Quality Requirements

Bidder's Name	*[insert full name]*
Date:	*[insert day, month, year]*
Joint Venture Member Name	*[insert full name]*:
NCB No. and title	*[insert NCB number and title]*
Page…	*[insert page number]* of *[insert total number]* pages

1.	ISO 9001-2008/2015 Quality management system requirements	Quality management certificate issued by an international standards organization	Must meet requirement	Valid ISO 9001 Certification.	Yes / No – ref.
2.	ISO 45001 - Occupational Health and Safety Management or Equivalent	Valid - Relevant ISO 45001 certificate and Experience in occupational health and safety management	Must meet requirement	Valid ISO 45001 certification or Equivalent	Yes / No – ref.
3.	ISO 14001:2004 / 2015 Environmental Management systems	Relevant Environmental management certificate and experience with environmental management systems	Must meet requirement	Valid ISO 14001:2004 / 2015 certification	Yes / No – ref.

Appendix to Technical Part

(Name of the Project)

(*Declaration regarding tax/duty exemption for materials/construction equipment bought for the work)*

(*Bidder's Name and Address*)

To: ……...
(*Name of the Employer& address*)

Dear Sir:
Re: [*Name of Work*] …….
Certificate for Import/Procurement of Goods/Construction Equipment
Government Order/Circular Number under which tax/duty Exemption is being sought:

1. We confirm that we are solely responsible for obtaining tax/duty waivers which we have considered in our bid and in case of failure to receive such waivers for reasons whatsoever, the Employer will not compensate us.
2. We are furnishing below the information required by the Employer for issue of the necessary certificates in terms of the Government of India's relevant Notifications.
3. The goods/construction equipment for which certificates are required are as under:

Items *(modify the list suitably for each specific work)*	Make /Brand Name	Capacity [*where applicable*]	Quantity	Value	State whether it will be procured locally or imported *[if so from which country]*	Remarks regarding justification for the quantity and their usage in works.
Dredging Equipment						

4. We agree that no modification to the above list is permitted after bids are opened.
5. We agree that the certificate will be issued only to the extent considered reasonable by the Employer for the work, based on the Bill of Quantities and the construction program and methodology as furnished by us alongwith the bid.
6. We confirm that the above goods and construction equipment will be exclusively used for the construction of the above work and the construction equipment will not be sold or otherwise disposed of in any manner for a period of five years from the date of acquisition.

Date: _____
(*Signature*)_____
Place:_____ (*Printed Name*)_____
(*Designation*)_____
(*Common Seal*) _____

[***This certificate will be issued within 60 days of signing of contract and no subsequent changes will be permitted.***]

** Modify the above to suit the requirements given in Government of India's Notifications as current of date of bidding.*

Appendix to Technical Part
Form of Bid Security - Bank Guarantee

[Guarantor letterhead or SWIFT identifier code]

Bid Guarantee No…… *[insert guarantee reference number]*
Date…… *[insert date of issue of the guarantee]*

WHEREAS, _____ *[name of Bidder]*[11] (hereinafter called "the Bidder") has submitted his Bid dated _____ *[date]* or will submit his Bid for the construction of _____ *[name of Contract]* (hereinafter called "the Bid") under Invitations for Bids No……*[insert number]* (hereinafter called "the IFB")

KNOW ALL PEOPLE by these presents that We _____ *[name of bank]* of _____ *[name of country]* having our registered office at _____ (hereinafter called "the Bank") are bound unto _____*[name of Employer]* (hereinafter called "the Employer") in the sum of _____[12] for which payment well and truly to be made to the said Employer the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this _____ day of _____ 20____.

THE CONDITIONS of this obligation are:

(1) If after Bid opening the Bidder (a) withdraws his bid during the period of Bid validity specified in the Letter of Bid; or (b) does not accept the correction of the Bid Price pursuant to ITB 36;

OR

(2) If the Bidder having been notified of the acceptance of his bid by the Employer during the period of Bid validity:

(a) fails or refuses to execute the Contract Agreement in accordance with the Instructions to Bidders, if required; or
(b) fails or refuses to furnish the Performance Security, and if required, the Environmental and Social (ES) Performance Security, in accordance with the Instruction to Bidders.

we undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or any of the four conditions, specifying the occurred condition or conditions.

[11] Insert name of the Bidder, which in the case of a joint venture shall be (a) the name of the joint venture that submits the bid if the JV has been constituted into a legally enforceable JV, or (b) the names of all future members of the JV as named in the letter of intent to execute the JV Agreement submitted by the bidder along with its bid.

[12] The Bidder should insert the amount of the guarantee in words and figures denominated in Indian Rupees. This figure should be the same as shown in Clause 19.1 of the Instructions to Bidders.

This Guarantee will remain in force up to and including the date _____[13] days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not later than the above date.

DATE _____ SIGNATURE OF THE BANK _____

WITNESS _____ SEAL _____

[signature, name, and address]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[13] 45 days after the end of the validity period of the Bid.

Format for the Affidavit

[Reference ITB 12.3 (iii)]

(NOTE: This affidavit should be on a non-judicial stamp paper of Rs.10/- and shall be attested by Magistrate/ Sub-Judge/ Notary Public)

I, ……..… (name of the authorised representative of the bidder) son/daughter of ……..……..…. resident of …….. (full address), aforesaid solemnly affirm and state as under:

1. I hereby certify that all the information and documents furnished with the bid submitted online in response to Invitation For Bid ……..…… dated ……..…. issued by ……... (Authority inviting bids) for ……..…… …… (name and identification of work) are true and correct.

2. I hereby certify that I have been authorised by …… ……..……..…….. (Bidder) to sign on its behalf, the bid mentioned in paragraph 1 above.

Deponent
Place: ……...
Date: ……

Letter of Bid – Financial Part

The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and address.

To,	Date …… Invitation for Bid No……

Subject: - *Fairway Maintenance of Farakka - Katwa (152 km) stretch of National Waterway -1 (River Ganga)*

We, the undersigned, hereby submit the second part of our Bid, the Bid Price and Bill of Quantities. This accompanies the Letter of Technical Part:
In submitting our Bid, we make the following additional declarations:

(a) Our bid shall be valid for a period of _____ ***[insert validity period as specified in ITB 18.1**.]* days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(b) The total price of our Bid, excluding any discounts offered in item (c) below is:

-In case of only one lot, total price of the Bid ***[insert the total price of the bid in words and figures]***;
-In case of multiple lots, total price of each *lot* ***[insert the total price of each lot in words and figures]***;
-In case of multiple lots, total price of all lots (sum of all lots) ***[insert the total price of all lots in words and figures]***;

(c) The discounts offered and the methodology for their application are:

(i) The discounts offered are: ***[Specify in detail each discount offered.]***

(ii) The exact method of calculations to determine the net price after application of discounts is shown below*: [**Specify in detail the method that shall be used to apply the discounts**]*;

(d) We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract:[14] [*insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount of each such commission or gratuity*]

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate "none.")

Binding Contract: We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed.

Name of the Bidder***** ***[insert complete name of person signing the Bid]***

Name of the person duly authorized to sign the Bid on behalf of the Bidder****** ***[insert complete name of person duly authorized to sign the Bid]***

[14] If none has been paid or is to be paid, indicate "none".

Title of the person signing the Bid ***[insert complete title of the person signing the Bid]***

Signature of the person named above _____ ***[insert signature of person whose name and capacity are shown above]***

Date signed ***[insert date of signing]*** day of ***[insert month]***, ***[insert year]***

*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder
**: Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.

Appendix to Financial Part: Schedules
Form SC: Sub-Contracting

SCHEDULE OF SUBCONTRACTORS

Item	Element of work	Approximate value of sub-contract	% of bid price	Name and address of sub-contractor	Qualification and experience of sub-contractor on similar works of the elements executed

The Bidder shall enter in this schedule a list of the major sections and appropriate value of the work for which he proposes to use subcontractors *[for those costing more than 10% of the bid price for each element]*, **together with the names, addresses and experiences of the proposed subcontractors.**

The capability of the sub-contractor will also be assessed (on the same lines as for the main Contractor) before according approval to him.

(Work should not be split into small parts and sub-contracted; but, sub-contracting specialized elements of works is acceptable).

Appendix to Financial Part
Bill of Quantities
Part II – Priced Activity Schedule

The rates to be quoted are for Fairway Maintenance of Farakka - Katwa (199 km) stretch of National Waterway -1 (River Ganga)

- Bidder shall quote prices for Performance based dredging for 3 years including ESHS and 1% Labour welfare cess for the work of "**Fairway Maintenance of Farakka - Katwa (199 km) stretch of National Waterway -1 (River Ganga)**".

- Bidder has to quote prices duly taking into account the requirements specified in the Section-VII (Works Requirement) as specified therein.

- Bidders shall ensure that the bid price shall include all duties, taxes, labour cess and other levies excluding GST payable by the contractor under this contract or for any other cause, as of 28 days prior to the deadline for the submission of the bids.

- GST amount considered shall be provided separately in the BOQ.

- Bid price shall be filled in by the bidder before uploading the same with the bid on e-procurement portal.

Note:

1. *Item for which no rate or price has been entered in will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities (refer: ITB Clause 14.2 and GCC Clause 41.3)*

2. *Unit rates and prices shall be quoted by the bidder in Indian Rupees (refer: ITB Clause 14.1 and ITB Clause 15.1)*

Appendix to Financial Part
Bill of Quantities

- **Priced Activity Schedule**

Sl. No.	Fairway Maintenance of Farakka - Katwa (199 km) stretch of National Waterway -1 (River Ganga)	Year wise Lumpsum Price shall be quoted including ESHS & Labour Cess		NPV Factor (Based on discount Factor of 10)*	NPV of quoted bid price for Maintenance Services Col 2 x Col 4 (in Rs) ** *[only for evaluation purpose]*
	(1)	(2)	(3)	(4)	(5)
		In Figures	In Words		In Figures
1.	Year 1			0.909	
2.	Year 2			0.826	
3.	Year 3			0.751	
	TOTAL AMOUNT FOR 3 YEARS inclusive of ESHS & all taxes excluding GST– In Figures In Words				
	(GST Amount Considered)				

We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract:[15][*insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount of each such commission or gratuity*]

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate "none.")

[15] ***If none has been paid or is to be paid, indicate "none".***

Finance Bid: Bill of Quantity
(For On-line Submission Schedule)

Validate Print Help

Item Rate BOQ

Tender Inviting Authority: Jal Marg Vikas Project, Inland Waterways Authority of India, Noida

Fairway Maintenance of Farakka - Katwa (199 km) stretch of National Waterway -1 (River Ganga)

Contract No: IN-IWAI-400747-CW-RFB

Name of the Bidder / Firm / Company:	

PRICE SCHEDULE

Sl. No.	Item Description	Quantity	Unit	Year wise Lumpsum Price shall be quoted including ESHS and 1% of Labour welfare Cess Rs. P.	AMOUNT Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	6	7
1.0	Fairway Maintenance Contract for providing Assured Least Available Depth (LAD) of 3.0 m with 45 m channel width by Performance based dredging including River Conservancy works, channel marking etc. in Farakka - Katwa (199 km) Stretch of National Waterway -1 (River Ganga)					
	Year-1, LAD-3.0 m; Channel Width- 45m	1	LS		**0.00**	Zero Only
	Year-2, LAD-3.0 m; Channel Width- 45m	1	LS		**0.00**	Zero Only
	Year-3, LAD-3.0 m; Channel Width- 45m	1	LS		**0.00**	Zero Only
2	**GST**					
2.0	**(GST amount considered)**	1	Rs.			
Total in Figures					**0.00**	INR Zero Only
Quoted Rate in Words		**INR Zero Only**				

Evaluation Criteria to Decide L1 NPV – Net Present Value Factor						
Fairway Maintenance Contract for providing Assured Least Available Depth (LAD) of 3.0 m with 45 m channel width by Performance based dredging including River Conservancy works, channel marking etc. in Farakka - Katwa (199 km) Stretch of National Waterway -1 (River Ganga)			Bid Price for the services to be provided as specified inclusive of all taxes excluding GST – Year-wise (INR)		NPV factor (Based on discount factor of 10% per annum)	NPV of the quoted Bid Price Col 4 x Col 6 (INR)/ (Currency) *(Only for the purpose of evaluation)*
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Year	LAD	Width	In figures	In words	-	In figures
Year 1	3.0 m	45 m			0.909	
Year 2	3.0 m	45 m			0.826	
Year 3	3.0 m	45 m			0.751	
Total for 3 years						
Determining aggregate of the Net Present Value (NPV) of three years' prices for Services quoted in the Priced Activity Schedule, by discounting these prices to the Date of Commencement of Services, *assuming only for purpose of the evaluation* that the quoted prices are payable at the end of the respective years. For the purpose of determining NPV, discount factor of 10 % per annum shall be applied.						

Section V. Eligible Countries

Eligibility for the Provision of Goods, Works and Non-consulting Services in Bank-Financed Procurement

In reference to ITB 4.7, and 5.1, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this bidding process:

Under ITB 4.7 (a) and 5.1 - None

Under ITB 4.7 (b) and 5.1 - None

Section VI. Bank Policy - Corrupt and Fraudulent Practices

Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011:

"**Fraud and Corruption:**

1.16 It is the Bank's policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.[16] In pursuance of this policy, the Bank:

(a) defines, for the purposes of this provision, the terms set forth below as follows:

(i) "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;[17];

(ii) "fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;[18]

(iii) "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;[19]

(iv) "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;[20]

(v) "obstructive practice" is

(aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive

[16] In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

[17] For the purpose of this sub-paragraph, "*another party*" refers to a public official acting in relation to the procurement process or contract execution. In this context, "*public official*" includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

[18] For the purpose of this sub-paragraph, "party" refers to a public official; the terms "benefit" and "obligation" relate to the procurement process or contract execution; and the "act or omission" is intended to influence the procurement process or contract execution.

[19] For the purpose of this sub-paragraph, "parties" refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other's bid prices or other conditions.

[20] For the purpose of this sub-paragraph, "party" refers to a participant in the procurement process or contract execution.

practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or

(bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 1.16(e) below.

(b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

(c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;

(d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,[21] including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated[22];

(e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank."

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[21] A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

[22] A nominated sub-contractor, consultant, manufacturer or supplier, or contractor (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

Section-VII
Description of Services (Work's requirement)

	1	Introduction
	2	Objective
	3	Scope of Works
	4	Technical Specification
	5	Water Level
	6	Meandering
	7	Shoals
	8	Course of Navigation
	9	Quantity of Dredging
	10	Dredging
	11	Dredgers
	12	Navigational Aids (Day Channel Marking)
	13	Bandalling
	14	Monitoring
	15	Clearances (Horizontal & Vertical)
	16	Disposal of Dredged Material
	17	Material Obtained from excavation and treasure, trove, fossils etc.
	18	Survey Vessel
	19	Multi-Beam Echo Sounder
	19	Environmental Management Plan
	20	Other Conditions

1. Introduction	Inland Waterways Authority of India (IWAI) is a statutory body set up in 1986 under the Ministry Ports, Shipping and Waterways, Govt. of India. The Authority is entrusted with development, maintenance and management of National Waterways for shipping and navigation. Inland Waterways Authority of India (IWAI) is implementing Jal Marg Vikas Project (JMVP) for capacity augmentation of National Waterway - 1 between Varanasi - Haldia (1380 Km) with the technical assistance and financial support of the World Bank. The project is extended to be completed by December, 2025. Payment after duration of the World Bank assistance shall be considered by IWAI through its resources. The Ganga-Bhagirathi-Hooghly River system for a length of 1620 km connecting Haldia (Sagar) - Kolkata - Bhagalpur –Sultanganj – Mahendrapur - Barh - Patna - Ghazipur - Varanasi – Allahabad was declared as National Waterway 1 (NW-1) in the year 1986. There is considerable difference between flood and lean season discharges and water level. The targeted Least Available Depths (LAD) in various stretches of NW-1 are Haldia - Farakka - 3.00 m; Farakka –Barh 3.0 m; Barh – Ghazipur - 2.50 m and Ghazipur –Varanasi – 2.20 m. To achieve the navigation of vessels **in Farakka - Katwa (199 km)** stretch of NW-1, IWAI intends to engage agency for providing fairway with Assured Depth of 3.0 m and channel width of 45.0 m by dredging and other suitable river conservancy measures on performance basis for three years and extendable on yearly basis for another two years on satisfactory performance to tackle the shoals occurring in the river or as per the requirement.
2. Objective	The Objective of the Works & Services is to maintain Assured Least Available Depth (LAD) of 3.0 m and channel width of 45 m between Farakka - Katwa (199 km) stretch of National Waterway-1 on performance basis for 3 years by Dredging and River conservancy measures (Bandalling, Submerged vanes etc.) as well as erection & maintenance of Navigational Aids (Day Channel Markings).
3. Scope of Work	The Contractor will have to identify the best course of Navigation channel from time to time and remove shoals (shallow area w.r.t assured Least available Depth (LAD). Maintenance of a navigation channel of 45 m width and assured LAD of 3.0 m in all three (3) years throughout the stretch as specified which can be done by the combination of dredging and river training measures. The scope of the contract shall include: (i) To Provide and maintain assured LAD of 3.0 m and Channel width of 45 m with naturally side slopes during three (3) years from the date of commencement of Services.

	(ii) To install and maintain Day Channel Markings (Navigational Aids) throughout the Contract Period. (iii) Assistance to Normal barge and vessels / crafts movement in the navigation channel during dredging operation. The tentative dredging quantity in Farakka - Katwa (199 km) stretch is 12.86 Lakh cum for three years.
4. Technical Specifications	The material to be dredged is sand, silt, soft clay or a mixture of these materials, compact and sediment clay. If the dredger meets any strata such as boulders, ropes, sand stone, stone debris, wooden logs etc., such patches will also continue to be tackled with a modified cutter or cutter teeth like serrated etc. capable for dredging such materials for a length of up to 20 m. Further steps to be taken, should be decided mutually between the Contractor and the Engineer-in-charge, if hard strata exist beyond 20 m. To achieve the LAD of 3.0 m and Channel width of 45 m, the bidder / Contractor shall take into account tolerance of + 1 m from each edge of the channel and tolerance of +30 cm on the depth. There is however, no restriction on maximum width of the channel which may naturally be available. And no additional payments shall be admissible to this effect.
5. Water Levels	The vertical water level difference is about 10-12 m. The current in the river ranges from 0.5 to 4.5 m/s. However, the current during the lean season seldom exceeds 1.5 m/s. Details of the water levels in Farakka - Katwa (199 km) stretch are provided in **Annexure A**.
6. Meandering	There has been substantial meandering and details of changes to the river course in past years are given in **Annexure B.**
7. Shoals	There is substantial braiding in the river which during lean season (Mid Oct – Mid June) results into shoals at various places which hinder navigation. 2015 Bathymetric survey shows around 91 shoal locations with a total dredge length of about 30.2 kms, in Tribeni- Farakka Stretch with depths less than 3.0 m. The location of shoals in Farakka - Katwa stretch is provided in **Annexure C**.
8. Course of Navigation	The Contractor will have to identify the best course of navigation channel from time to time and remove shoals [shallow area w.r.t. assured least available depth of 3.0 m] by dredging and / or bandalling. The tenderer shall inspect and ascertain for himself details of horizontal & vertical clearances available at bridges/locks etc. within the National Waterway-I from the view point of safe mobilization/ demobilization of their various equipment to the dredging locations. Available information in this regard will be provided to the tenderer by the Authority on request.

9. Quantity of Dredging

The quantity of dredging and length of Bandals are to be ascertained by the Contractor as per site conditions and own resources. The Bidder may also take into consideration data available in IWAI website, which gives details of LAD in the past years.

The tentative dredging quantity in Farakka - Katwa (199 km) stretch is approximately 12.86 Lakh cum for three years.

However, it is a fact that the quantum of dredging and Bandalling as well as erection and maintenance of navigational aids (day channel markings) varies year to year based on the condition of channel after flood season and it may vary to the tune of + 10% to 25%. It is advised that the Bidder should collect necessary information, data, navigational charts of NW-1 or any other site information related to availability of men, material, equipment's etc. and familiarize himself with the site conditions before bidding.

The indicative annual maintenance task to achieve assured LAD and specified Channel width (dredging and bandalling) are given in Table 1.

Stretch of Farakka - Katwa (199 km) - Tentative Quantity of 12.86 Lakh Cum to be dredged during the lean season of (8) eight months (Mid-Oct to Mid-June) except for flood seasons (Mid-June to Mid-October)

Table-1: Indicative Annual Maintenance Task (Dredging & Bandalling) based on 2015 bathymetric and topographic survey and considering average flow conditions)

S. No.	Description	Year-1	Year-2	Year-3	Total
1.	LAD to be provided	LAD-3.0 m	LAD – 3.0 m	LAD 3.0 m	
2.	Channel Width	45 m	45 m	45 m	
3.	Dredging Quantity	4.288 Lakh cum	4.286 Lakh cum	4.286 Lakh cum	12.86 Lakh cum
4.	Bandalling (m)	4,400	4,400	4,400	13,200

On an average Length of bandalling is taken @100m at each shoal. Actual length required may vary depending upon site conditions and bandalling may not be required at all the shoals. This has to be decided by the contractor after survey.

Indicative amounts for Bandalling include work to erect and re-erect or relocate the same as and when necessary. Bandalling is typically deployed in length of 100-500 m at each deployment location. The number of bandalling location indicated in Table 1 are based on the assumption that bandalling will be required where a shoal is present. However, the number of locations is tentative and shall be selected suitably subjected to the desired benefits in light of local conditions.

Dredged and Bandalling work is not normally required to be done during flood period (normally from June to September or October). The reach wise shoal data are given in Table 2.

Table-2

IWAI Reach	Name of the Beat Details of shoals	Chainages (in Km)	No. of Shoals	Total Shoal Length (m)	Total Shoal Length (m) where Dredging is less than 1m
1	Katwa – Palassey	345-371	7	3,586	2030
2	Palassey - Chaurigacha	371-400	9	2,295	2090
3	Chaurigacha - Berhampur	400-421	7	2,906	2910
4	Berhampur – Mohammadpur	421-449	4	2,381	2370
5	Mohammadpur - Nasirpur	449-479	12	3,531	3280
6	Nasirpur – Jangipur Lock	479-505	3	700	700
7	Jangipur Lock – Farrakka Lock	505-544	2	370	370
	Subtotal		**44**	**15,769**	**13,750**

10. Dredging

Dredging is to be carried out with suitable Cutter Suction Dredgers having capacity of dredging minimum of 250 cum solids per hour in shallow patches. Cutter suction dredgers can also be supported by backhoe dredgers, water injection dredgers (WIDs) and plough dredgers. Maintenance of a navigation channel of 45 m width with natural side slope throughout the stretches as specified maybe achieved by the combination of dredging and bandalling or other suitable river conservancy measures.

The maintenance methodology shall be determined by the selected Contractor taking into account the nature of the river and other environmental characteristics, including the nature, location and size of shoals, and the contract period.

Sufficient number of qualified manpower should be deployed by the Contractor on the dredgers and other equipment and on other works throughout the contract period at his cost.

11. Dredgers

The Contractor shall not change the type, numbers, size and make of dredgers submitted in their bid without the prior approval of the Engineer-in-Charge.

The Contractor shall mobilize additional resources like dredger, equipment, etc. at his cost for maintaining the assured depth of 3.0 m and channel width of 45 m in the entire stretch during the entire contract period of 3 years.

	In case of failure in achieving LAD of 3.0 m & channel width 45 m, the Engineer-in-charge may direct Contractor to deploy additional resources and, in such case, Contractor may mobilize additional resources without any cost to the Employer. If the dredger goes out of order, the contractor shall arrange for its replacement with a dredger of equivalent capacity. Contractor shall not be eligible for payment of costs involved in shifting the dredger and its accessories from one shoal to another shoal or from one area to another area in Farakka - Katwa sector of NW-1. Deployed equipment shall have valid statutory certificates at all times during the contract period.
12. Navigational Aids (Day Channel Marking)	(i) Specified day channel markings are an essential component of navigation through the channel which is to be maintained by the Contractor under this contract. Contractor is advised to acquaint himself adequately with various types of channel marks specified by IWAI under regulation for Prevention of Collision on National Waterways Regulations, 2002. (ii) The inspection of the navigational channel for certifying the maintenance of assured LAD will also be carried out in the channel thus marked by the Contractor. The inland vessels (the end users) also use these channel marks as standard guiding aids for safe navigation. (iii) The number and type of aids to navigation to be provided shall be based on the volume of traffic and degree of risk associated with navigation on the river route. Further, minimum number of day navigational marks is to be erected in the maintained channel during the lean (Mid-June to Mid-Oct) and flood season (Mid-Oct to Mid-June) are 220 & 110 respectively in the way that it is safe for navigation and can be easily identified as navigation route by the end users during their course of navigation without any assistance. (iv) The contract shall also include the maintenance of navigational aids to navigation delineating river fairways. (v) The Contractor will also be required to deploy its own pilots for assisting cargo and passenger / tourist vessels for their movement based on written request by the end users. For this, the Contractors can charge the fee from the users as per IWAI's regulation. (vi) In case any cargo vessel is grounded due to inadequacy of depths or channel marking, the Contractor shall make arrangement for rescue of the vessels by providing rescue tugs at his own cost. EIC has the right to take appropriate action if the contractor fails to satisfy EIC about number type and quality of channel markings or if an end user complains in writing with Prima facie evidence about absences, inadequacy or mistakes in channel marking erected by the contractor under this contract.

Some important aspects of channel marking to be erected and maintained by the Contractor to meet the requirements of this contract are as following:

A. The responsibility of the contract includes erection, supervision, safe keeping, re - erection and maintenance of the channel marks and other allied works and the provision of all labour, materials, mechanized boats, temporary works and everything whether of a temporary or permanent nature required for safe navigation as specified or reasonably to be inferred from the contract.
B. For marking the channel, the material used shall be bamboos, bamboo strips, bamboo mats, coir string, straw, lime, etc., the materials and other tools and plants as may be required are to be arranged at different sectors at Contractor's own cost.
C. Marks shall have to be erected at suitable places as per requirement of E-I-C or his representative and also as per Enclosure-3 herewith. In case, any marks are placed wrongly the same shall be rectified by the Contractor at his own cost.
D. The Contractor shall at his risk and cost, make all arrangements for locating the navigable channels, sand chars, snags, etc., by means of regular soundings along the river and change the position of the marks to indicate the navigable channel by the end users during operating in the stretch.
E. All the marks termed as right-hand marks, left hand marks, channel closing marks and snags (for lean season) and right-hand transit mark and left-hand transit mark (for flood season) are of variable nature and this can be determined only after conducting the survey in the field. In case of additional requirement of marks, the Contractor shall erect the same without additional cost.
F. The Contractor shall be liable to bear the expenditure of all manpower, material and equipment required for the work at his cost. He must, therefore, have thorough knowledge about the work prior to submission of his rates in the bid. No extra claim in this regard shall be entertained once the contract has been awarded. The marks shall be maintained during the entire contract period. The material used for channel marking thereafter shall have to be removed by the Contractor at his risk & cost.
G. Bamboo Harauti of 18 to 23 cm circumference at 45 cm (1'-6") from the bottom about 7 to 7.5 mtrs. long are required for marking the channel. The marks shall be driven properly by using wooden hammer up to at least (one) 1 meter below the ground level. Submerged sand chars, submerged high banks and other possible navigational obstructions shall be duly marked Beginning and end of a channel through chars shall be prominently marked using bamboo poles with bamboo mats reinforced with bamboo strips for being located. These shall also be painted with lime. The reference of marking shall be commenced from upstream of the river and marks shall be put up on the right-hand side of the channel or the left-hand side of channel as given in Enclosure 3.

	H. The navigable channel shall be 45 m wide and 3.0 m deep throughout the year. Marks shall be erected after taking measurement across the river by marked bamboo poles. I. Navigational channel in the crossing from one bank to another shall be marked with transit marks. Where straight reach is available, marking shall be placed at longer distance but shall be visible from first mark. For marking the main channel passing through the shoal / chars the marks shall be erected in water close to the main navigational channel. J. All snags shall be marked with proper care. During the flood a number of trees, trunks & other permanent structures which are uprooted in the U/S of the river, flows down & get strangles at marking places even some time in the main channel. For safety of navigation, these obstructions known as snags should be detected first & marks properly. For these special marks (as mid water snag marks, left & right-hand snag marks) are being used which may be seen in Enclosure-3. If they are deep in water lying on river bed but allowing sufficient navigation depth in lean period then marking is done by a navigation buoy made of a sealed 15 litre empty oil tin painted red, tied with a wire rope & sunk by a sinker. K. The materials used on the work shall be of good quality conforming to the specifications laid in the contract. The work shall be carried out in a workman like and expeditious manner and the quality of work at each stage shall be monitored by the Engineer-in-charge or its representatives. The Engineer-in-charge's decision as to the quality of such materials and work shall be final and binding on the Contractor. The Contractor shall bear full responsibility for the intimation to the Engineer-in-charge forthwith of any accident and take all necessary action required under relevant Acts and Rules, Marine Rules etc., as the case may be. The Contractor shall also report such accidents to the Competent Authority wherever such reports are required under rules. The Engineer-in-charge or his representative must however, be informed immediately in the event of any marine accident. The Contractor should also bear full responsibility for all accident, damages or injury caused to any of the Employer's employees, cause of which is established to be attributable to the Contractor's carelessness or negligence.
13. Bandalling	The Contractor may for the purpose of maintenance of the required LAD and channel width, undertake erection and maintenance of bandals as under, in addition to dredging works and other methods that may be employed by him. i) Bandals of required length are erected at shoal sites to increase the depth of main channel for the purpose of navigation or to maintain desired depth in dredged channel. It will include erection, supervision, safe keeping, re-erection and maintenance of bandals and other allied works complete with all labour, materials, boats, temporary and permanent works, taxes, levies, duties etc. as specified in the contract. ii) Bandals are fabricated using new bamboos, mats and coir string. Length of each unit of bandal is normally about 30 m/ 15 m and size of screen is 1.2 m x 0.9 m. These bandals are placed at 30 degrees to

45-degree angle to the direction of current driving bamboo poles. The bamboo mats are placed in such a way that only 10 cm. is above the water level and rest inside the water. It is required to be maintained at appropriate level by lowering/raising the mats depending on the change in water level. Bandal needs to be erected according to the drawings given in Enclosure 1 & 2. In A type bandal the 90 cm side of the mat will be in vertical position (i.e. 80 cm. inside water and 10 cm. above) and in B type bandal 120 cm. side is in vertical position

iii) New harauti/ Jati bamboo of 18-23 cm circumference at 45 cm from the bottom and 7 to 7.5 m long are used for horizontal, vertical and side support. The vertical bamboo pins are driven in proper line with spacing of 60 cm as per drawings enclosed. The number of bamboos required for 15 m length/30 m length are as under:

For 15 m – 40 Nos. and For 30 m – 80 Nos.

iv) new bamboo mats 1.2 m x 0.9 m made of minimum 1 mm thick and minimum 1.5 to 2 cm. wide bamboo strips closely woven, tied together with the help of bamboo strips and coir string are fixed on vertical bamboo pins of bandal to act as screen as per drawing and direction of EIC. The no. of mats & quantity of thick and thin coir string required during erection of 15 m and 30 m length of Bandals generally are as under:

For 30 m	**For 15m**
Bamboo mats - 56 nos. Coir string (thick)-10 kgs. Coir string (thin) – 5 kgs.	Bamboo mats - 28 nos. Coir string (thick) – 5 kgs. Coir string (thin) – 2.5 kgs.

The bandals of specified length can be erected at the sites as per requirement to maintain the navigational channel/depth.

v) Erected / re-erected bandals are maintained depending upon the requirements. After certain period sand chur may appear behind one or more length of bandal at one end of alignment of bandal. In that case such one or more units of bandal may require to be removed and re-erected at other alignment.

vi) During maintenance period, materials of bandal (e.g., bamboo, bamboo mats, coir strings) is changed due to decay of material only.

vii) For effective bandalling, sufficient anticipated amount of materials (e.g. bamboo, bamboo mats, coir string) is generally be stored at each bandal site so that during maintenance materials may be replaced without any loss of time. Replacement of decayed mats is completed at shortest period and no part of bandal is kept without mats at any time.

viii) Sometimes it may be observed that the required depth of main channel is achieved at any shoal by erecting bandals, but after a period of time, continuing the bandals is no longer considered

	necessary. In that case the erected bandals are required to be removed. ix) Re-erection of bandal at new places is done with the help of salvaged materials obtained from the removed bandal and by using other fresh materials e.g., bamboo, bamboo mats and coir string, by substituting whatsoever may be found damaged in the process of re-erection. x) Adequate number of boats / logistics are arranged by for erection and maintenance of the bandals at each site are to be arranged by the Contractor. Contractor may use power boats/ launches for timely erection and proper maintenance of bandals. The above details of bandals are given only for the guidance of Contractor. However, the Contractor is free to alter the specification of bandals. In fact, Contractor is also free to employ every other method of aid for maintenance of targeted LAD. This may include any type of temporary or semi-permanent river training works. It is to be reiterated that for performance of this contract or for payments to be made under the contract the only objective / measurement to be made is the LAD recorded on specified joint inspections and not either the quantity of dredging or bandalling or channel marking or anything else. But if the Contractor wishes to employ any other method (other than traditional dredging or bandalling), he has to request for the same with sufficient details and obtain written permission from Engineer-in-charge for every innovative work. If such works are found prima facie practical, they will be accepted and encouraged.
14. Monitoring	Monitoring shall be undertaken by the Employer. This shall be done directly and through an appointed Supervision Consultant (TSSC-III). This may also include monitoring by placing survey sounders on select merchant ships passing through part of the route. Any supervision and monitoring shall not relieve the Contractor of his obligations under the Contract, including his duty to make his own surveys. IWAI may conduct aerial surveys from time to time to monitor the depth and width of the navigational channel maintained by the contractor. Contractor shall install the Online Dredging monitoring Software (like developed by NTCPWC or any other Organisation) at his cost.
15. Clearances (Horizontal & Vertical)	The Contractor shall inspect and ascertain himself details of horizontal & vertical clearances available at bridges/locks etc. within the National Waterway from the view point of safe mobilization / demobilization of their various equipment to the specified dredging locations. The Contractor shall be liable to bear the expenditure of all manpower, material and equipment required for all the related work. No extra claim in this regard shall be entertained once the contract has been awarded. .

16. Disposal of Dredged Materials	Disposal of dredged materials would be effected into the free -stream of the river / on the banks /into the nearby redundant channels at a least distance of 150-200 m from the navigation channel. The disposal locations should be so positioned so as to avoid material working its way back into the dredged channel by taking such precautions as, disposing into faster flowing water, downstream and to the side of the working dredger. Disposal of material into secondary and redundant channels could also be considered as this provides a location where material is less likely to be remobilized. Materials dredged may also be disposed on to the banks of the river or onto the low-lying area ashore in case of narrow stretch of the river / channel. In wider stretches, it shall be deposited off at least 150 to 200 meters away from the navigational channel and in case the dredged material has a tendency to come back to channel, then its disposal distance shall be increased suitably to avoid repeated work. If required, temporary dykes may be constructed for holding the material. In case the Contractor intends to dispose of the dredged materials on banks outside the river, they may do so after obtaining necessary permission from Engineer-in-charge and also from the land owner(s) and the concerned Department of the State Govts. (Forest / Mining / Revenue etc.) for dumping the material on their lands. In case of any dispute with State Govts. (Forest / Mining / Revenue etc.) regarding selling of dredged material, IWAI may forfeit the Performance Security of the contractor. Expenditure involved in such disposal including payment to the land owner(s) for dumping the material on their lands shall be borne by the Contractor.
17. Material Obtained from Excavation and Treasure, Trove, Fossils etc.	Material of any kind obtained from excavation on the site shall remain the property of the Authority and shall be disposed off as directed by the Engineer-in-Charge. However, if any of the materials thus obtained from excavation on the site is such as can be used in the execution of work under the contract, the contractor will be allowed to use the same free of cost (except that any amount of royalty paid for in this regard by the Authority shall be recoverable from the contractor) for the aforesaid purpose provide the same is found suitable and is approved by the Engineer-in-Charge. Fossils, coins, articles of value, structures and other remains of things of geological or archaeological interest discovered on the site shall be the absolute property of the Authority. The contractor shall take reasonable precautions to prevent is labor or any other person from removing or damaging any such article or things and shall acquaint the

	Engineer-in-Charge with such discovery and carryout the Engineer-in-Charge's directions as to the disposal of the same at the expense of the Authority.
18. Survey Vessel	The Survey Vessel shall have: (a) Multi-Beam Echo sounder; (b) Sufficient size and stability to safely and properly carry out the survey work under the prevailing site conditions; (c) Good manoeuvrability even at low speeds of 1 to 2 knots; (d) Ample space for instruments, recorders, etc; (e) Day accommodation for two men of the EIC's staff besides the normal crew and Contractor's own surveyors; (f) A helmsman experienced in survey work; (g) Adequate radio communication between all persons concerned in the surveys; (h) Facility for operation of Automated Hydrographic Survey System (AHSS) etc.
19. Multi Beam Echo-Sounder	Multi Beam Echo-Sounder: - The digital echo sounder for hydrographic surveys shall in principle be operated in the 210 kilo Hertz range (narrow beam transducer). The Accuracy of the survey shall be not less than 0.1 m. At the start of each hydrographic survey, the Automated Hydrographic Survey System (AHSS) is to be calibrated to the specified accuracy. To this effect, the Contractor shall establish a fixed point (or fixed points) with known coordinates such that the survey boat can easily be positioned with the transducer of the echo-sounder always in the same position relative to the calibration point.
20. Environmental Management Plan	The Contractor shall be required to dispose of dredged materials complying with environmental consideration as detailed under Environmental Management Plan, which has been published on IWAI's website (http://www.iwai.nic.in) and same is appended to the bidding document as **Annexure D**
21. Other Conditions	Mobilization / Demobilization charges for the dredgers and its accessories and other logistics for survey/ inspection/works etc. should be inbuilt in the bid by the Contractor. No additional payment/ claim in this regard will be considered. (a) Normal barge and vessels/crafts movement in the channel shall not be interrupted by the dredging operation. (b) No idle time charges shall be payable to the Contractor on any account during the contract period. (c) The Contractor shall arrange at its own cost the transits, buoys, lights, mooring etc. as required for dredging and also for cautioning other vessels in the waterway.

(d) The Engineer-in-charge or his representative will inspect, co-ordinate and measure the work as per the contract condition. He has the right to inspect at any time during the contract period besides the specified schedule of inspections.

(e) The Contractor shall provide the Engineer-in-Charge or his representative boat/ survey launch from shore to dredger and back to shore and movement in the stretch for inspection & supervision.

(f) The Contractor may execute the work round the clock and on all days including Sundays and Public Holidays with the permission of the Engineer-in-charge in writing excepting National Holidays and subject to such restrictions as may be imposed by State Govt./local body.

(g) If the Contractor's personnel or any outside labour employed to work during execution of contract, breaks or damages/destroys any vessel, craft, net, fishing stakes etc. building, road, kerb, water pipe, fence, bund, wires, trees, crop, fruit or cultivated ground etc. during the period of agreement, the same shall be made good by the Contractor at his own expenses or in default the Employer may cause the same to be made good by other sources and deduct the expenses from any sums that may be then or at any time thereafter may become due to the Contractor.

(h) Any dispute with the local fishermen, for removal of fishing nets, stakes, from the channel to be dredged shall be solved by the Contractor. However, on request the Employer may extend the assistance for solving the issues only through the concerned official/ dept. of the State Govts. or local bodies.

(i) Contractor shall pay special attention for identification of disposal sites with a view to ensure uninterrupted dredging operation and plan in advance disposal details ahead of location of dredger. In the event of non-availability of dumping site, Employer shall not be responsible for delays caused in in the dredging operation/ maintenance of navigational channel.

(j) In case obstructions like concrete piles, structures of fishing nets, plastic debris, fallen trees, sunken boats etc. are encountered, those will be removed by the Contractor and no extra payment on this account shall be admissible to the Contractor.

(k) In case of any local objections against dredging or disposal of dredged spoils, it has to be settled by the Contractor. However, on request, Employer will extend liaison/ help to the Contractor to approach concerned officials of State Administration.

(l) If the maintenance of navigational channel is stopped continuously for more than 3 days due to law and order, Contractor has to report to the same to the Engineer-in-charge and take actions mutually in accordance with prevailing local laws for removal of such problem and proceeding further with the work. In case of delay in work, the Engineer-in-charge may take suitable decision without affecting the main objective of the project.

(m) The Contractor shall adopt adequate precaution and measures such as construction of temporary protection etc. during the dredging operation, to avoid any collapse/ damages to the

	existing bank. Protection work of the dredged area shall be at its own cost. (n) The Contractor shall forthwith dispatch, raise and remove any plant (floating or otherwise) belonging to him or to any person employed by him which may be sunk in the course of execution and completion of the works or otherwise deal with the same as the Engineer-in-charge or his representative may direct. Until the same shall be raised and removed, the Contractor shall display at night search lights and do all such things for the safe navigation as may be directed by the Engineer-in-charge. In the event of the Contractor not carrying out the obligations imposed upon him by this clause, the Engineer-in-charge shall raise and remove the same (without prejudice to the right of the Employer to hold the Contractor liable) and the Contractor shall pay to the Employer all costs incurred in connection therewith. The fact that sunken vessel, craft or plant is insured or has been declared a total loss, shall not absolve the Contractor from his obligation under this clause to raise and remove the same. (o) During execution of the work if any environmental degradation occurs, consequent on dumping of dredged material or any other reason the same shall be undone or necessary mitigation measures to the satisfaction of Engineer-in-charge by the Contractor at his cost, without claiming any additional payment from Employer. (p) Any charges incurred on testing of the dredged material, testing/ analysing the quality of water for adopting environmental safeguards, minimizing detrimental impacts, enhancing the beneficial aspects of the project and for effective management of the environmental resources affected by the project shall be met by the Contractor. No additional charges on any such account shall be payable by the Employer.

Environmental and Social (ES) requirements

SUGGESTED CONTENT FOR AN ENVIRONMENTAL AND SOCIAL POLICY

The Works' policy goal, as a minimum, should be stated to integrate environmental protection, occupational and community health and safety, gender, equality, child protection, vulnerable people (including those with disabilities), sexual harassment, gender-based violence (GBV), sexual exploitation and abuse (SEA), HIV/AIDS awareness and prevention and wide stakeholder engagement in the planning processes, programs, and activities of the parties involved in the execution of the Works. The Employer is advised to consult with the World Bank to agree the issues to be included which may also address: climate adaptation, land acquisition and resettlement, indigenous people, etc. The policy should set the frame for monitoring, continuously improving processes and activities and for reporting on the compliance with the policy.
The policy shall include a statement that, for the purpose of the policy and/or code of conduct, the term "child" / "children" means any person(s) under the age of 18 years.
The policy should, as far as possible, be brief but specific and explicit, and measurable, to enable reporting of compliance with the policy in accordance with the Particular Conditions of the Contract Sub-Clause 26.2 and Appendix B to the General Conditions of Contract.
As a minimum, the policy is set out to the commitments to:

1. *apply good international industry practice to protect and conserve the natural environment and to minimize unavoidable impacts;*
2. *provide and maintain a healthy and safe work environment and safe systems of work;*
3. *protect the health and safety of local communities and users, with particular concern for those who are disabled, elderly, or otherwise vulnerable;*
4. *be intolerant of, and enforce disciplinary measures for illegal activities. To be intolerant of, and enforce disciplinary measures for GBV, inhumane treatment, sexual activity with children, and sexual harassment;*
5. *incorporate a gender perspective and provide an enabling environment where women and men have equal opportunity to participate in, and benefit from, planning and development of the Works;*
6. *work co-operatively, including with end users of the Works, relevant authorities, contractors and local communities;*
7. *engage with and listen to affected persons and organizations and be responsive to their concerns, with special regard for vulnerable, disabled, and elderly people;*
8. *provide an environment that fosters the exchange of information, views, and ideas that is free of any fear of retaliation, and protects whistleblowers;*
9. *minimize the risk of HIV transmission and to mitigate the effects of HIV/AIDS associated with the execution of the Works;*

The policy should be signed by the senior manager of the Employer. This is to signal the intent that it will be applied rigorously.

Minimum Content of ES requirements: -

In preparing detailed specifications for ES requirements, the specialists should refer to and consider:

- *project reports e.g., ESIA/ESMP*
- *consent/permit conditions*

- *required standards including World Bank Group EHS Guidelines*
- *relevant international conventions or treaties etc., national legal and/or regulatory requirements and standards (where these represent higher standards than the WBG EHS Guidelines)*
- *relevant international standards e.g., WHO Guidelines for Safe Use of Pesticides*
- *relevant sector standards e.g., EU Council Directive 91/271/EEC Concerning Urban Waste Water Treatment*
- *grievance redress mechanism including types of grievances to be recorded and how to protect confidentiality e.g., of those reporting allegations of GBV/SEA.*
- *GBV/SEA prevention and management.*

The detail specification for ES should, to the extent possible, describe the intended outcome rather than the method of working.

The ES requirements should be prepared in manner that does not conflict with the relevant General Conditions of Contract and Particular Conditions of Contract.

Payment for ES Requirements

The Employer's ES and procurement specialists should consider how the Contractor will cost the delivery of the ES requirements. In the majority of cases, the payment for the delivery of ES requirements shall be a subsidiary obligation of the Contractor covered under the prices quoted for other Bill of Quantity items. For example, normally the cost of implementing workplace safe systems of work, including the ***measures*** *necessary for ensuring traffic safety, shall be covered by the Bidder's rates for the relevant works. Alternatively, provisional sums could be set aside for discrete activities for example for HIV counselling service, gender-based violence and SEA awareness and sensitization or to encourage the contractor to deliver additional ES outcomes beyond the requirement of the Contract.*

ANNEXURE – A

[Farakka - Tribeni 351 Km]

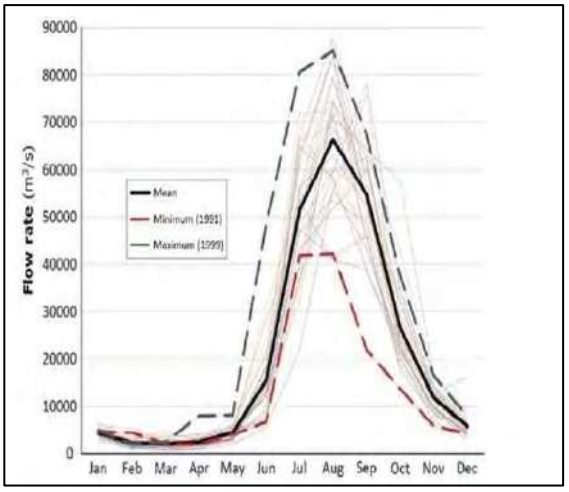
The report "Status on River Ganga: State of the Environment and Water Quality" from the National River Conservation Directorate (2009) provides useful information in terms of understanding water discharges along the upstream reaches of NW-1. The report presents water discharges with a probability of exceedance of 50%, 10% and 90% at 6 stations: Allahabad, Mirzapur, Varanasi, Buxar, Patna and Azamabad during the low flow season. It also presents average post-monsoon flows (in October-November), average flows in December-February and in March-May periods. These values are summarized in below.

Table A- 1: Characteristic discharges obtained from the National River Conservation Directorate (2009) report

Flow regime Discharge (m3/s)	Allahabad	Mizarpur	Varanasi	Buxar	Patna	Azamabad
Q50 (flow with 50% probability of exceedance) during low season	300	300	300	450	1050	1400
Q90 (flow with 90% probability of exceedance) during low season	175	175	175	250	600	1050
Q10 (flow with 10% probability of exceedance) during low season	450	450	450	600	1600	2000
Average in October-November	2000	2200	2400	3100	5500	9500
Average in December-February	500	500	500	750	1300	2200
Average in March-May	400	400	400	500	1000	1500

Source: The National River Conservation Directorate, Ministry of Environment and Forests, Government of India (2009)

Farakka Barrage, with a length of 2.2 km and about 15 km from the border with Bangladesh, regulates the flow of the River Ganga diverting some of the water into the 42 km long Feeder Canal linking with the Bhagirathi River downstream towards Kolkata. The navigation lock at Farakka, as well as the Feeder Canal, are part of the Farakka Barrage Project and become the link between the Bhagirathi-Hugli system and the main River Ganga upstream of the Farakka Barrage



The existing agreement between India and Bangladesh, includes specific water allocation rules during the low flow season. The treaty establishes that during the period January – May water shall be shared alternatively through the Farakka Barrage on a 10 day cycle in each month by both countries.

Data extracted from Jeuland et al (2013) shows the historical flows at Farakka for the period 1969-2001

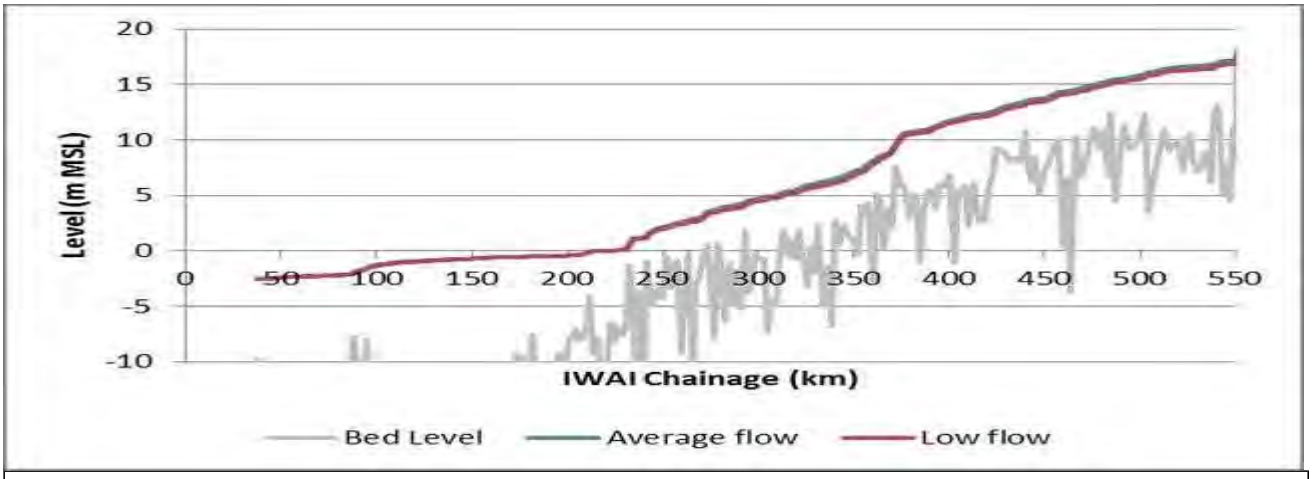
Source: The National River Conservation Directorate, Ministry of Environment and Forests, Government of India (2009)

1. Water Levels

The 1D model has been run for the whole waterway from Allahabad to Haldia. The model has been run considering the following discharges from Allahabad to Farakka:

- The average dry season flow;
- The 1 in 2 year low flow (50% annual probability of occurrence)
- The 1in 10 year low flow (10% annual probability of occurrence)

Water level results for the reach from Tribeni to Farakka are presented in figure below:



2.1. Analysis of LAD

Least Available Depth (LAD) available from Tribeni to Allahabad was analysed to get an understanding of the variations of water depths. Data for the period April 2002 to June 2015 was used to build probability curves of LAD. The probability curves for the reaches between Barh-Doriganj are shown in Figure A-2. The curves shows the percentage of the years where LAD value lower than the value shown in the graph..

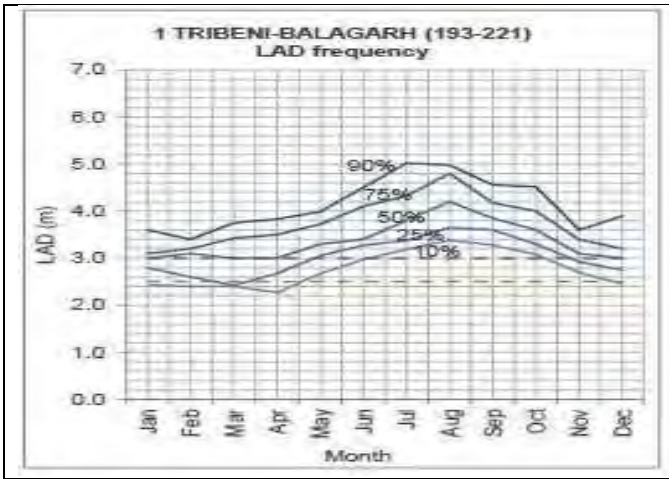


Figure 1: Reach 1 Tribeni – Balagarh LAD frequency curves

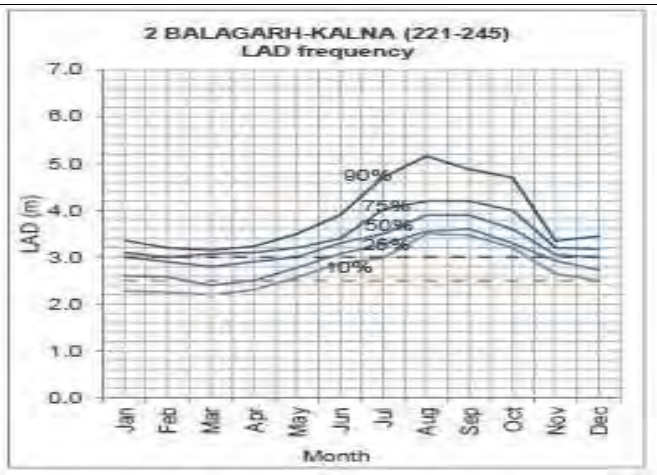


Figure 2: Reach 2 Balagarh – Kalna LAD frequency curves

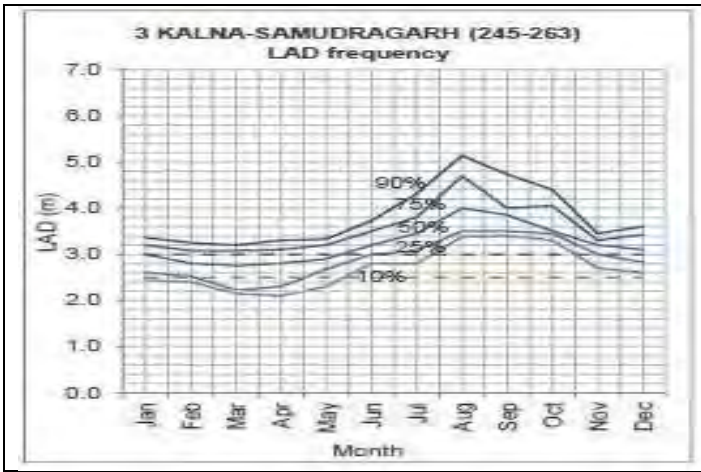


Figure 3: Reach 3 Kalna - Samudragarh LAD probability curves

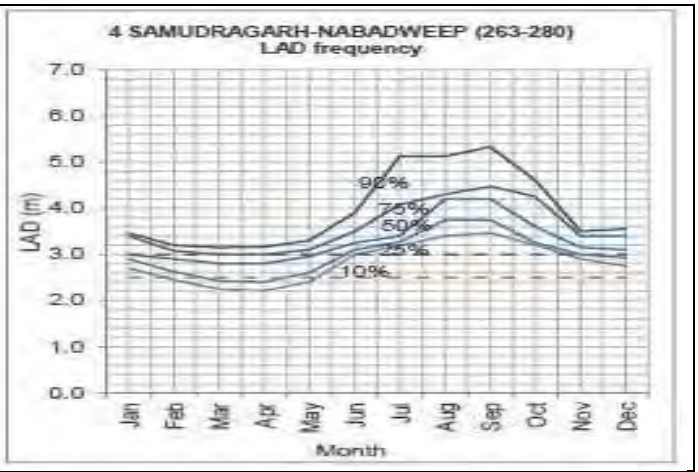


Figure 4: Reach 4 Samudragarh - Nabadweep LAD probability curves

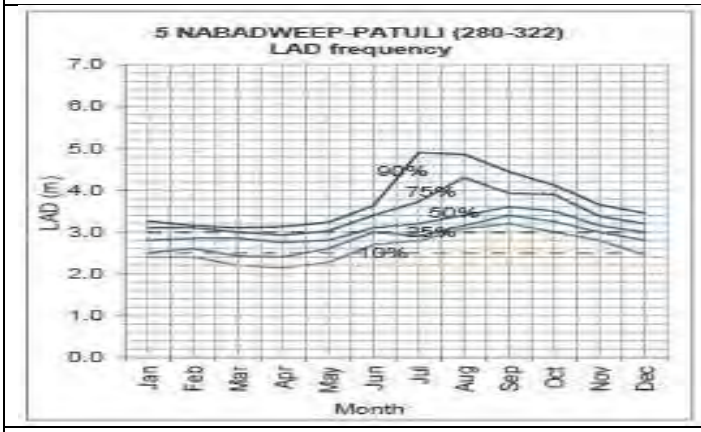


Figure 5: Reach 5 Nabadweep - Patuli LAD probability curves

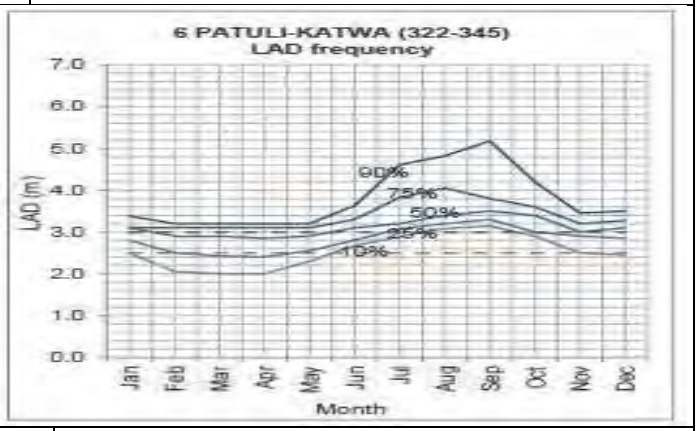


Figure 6: Reach 6 Patuli - Katwa LAD probability curves

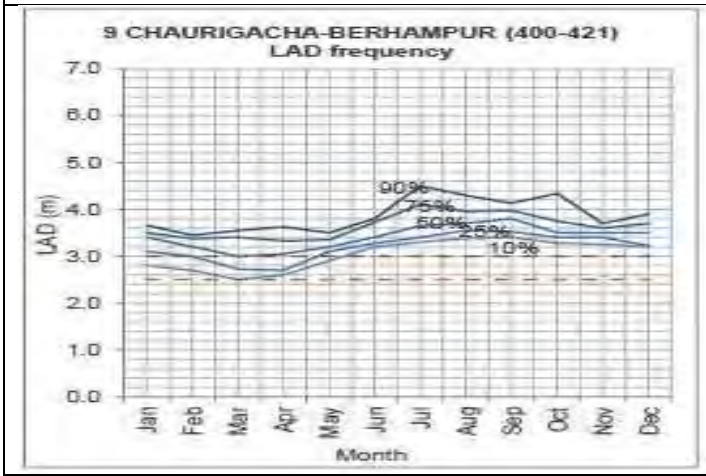


Figure 7: Reach 7 Katwa - Palassey LAD probability curves



Figure 8: Reach 8 Palassey - Chaurigacha LAD probability curves

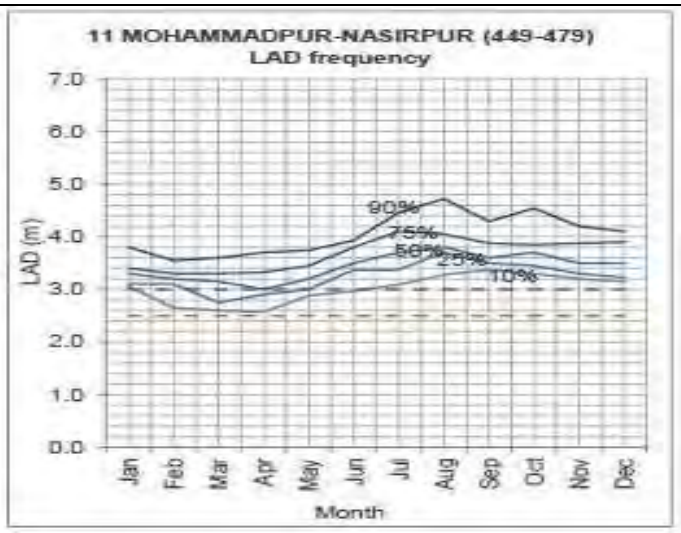


Figure 9: Reach 9 Chaurigacha - Berhampur LAD probability curves

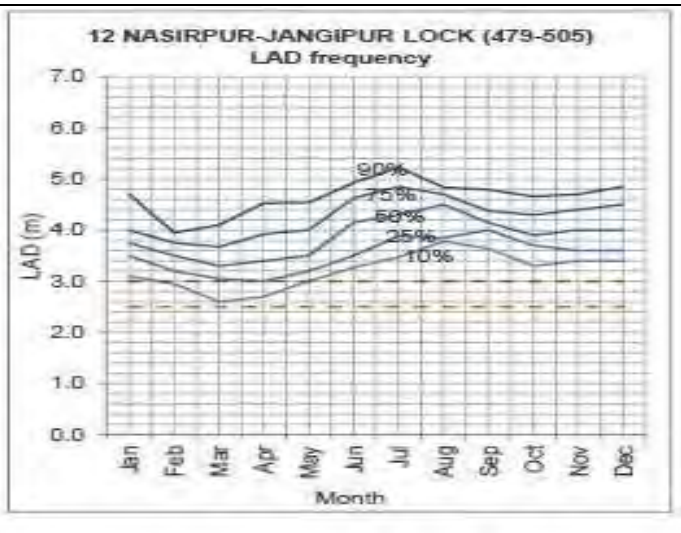


Figure 10: Reach 10 Berhampur – Mohammadpur LAD probability curves

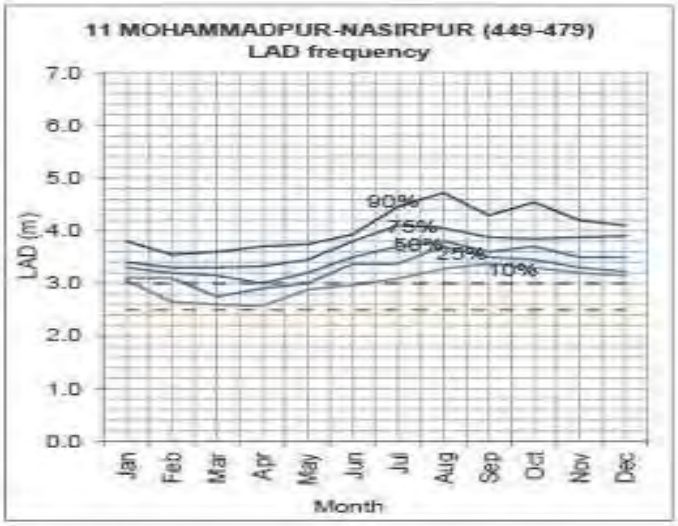


Figure 11: Reach 11 Mohammadpur – Nasirpur LAD probability curves

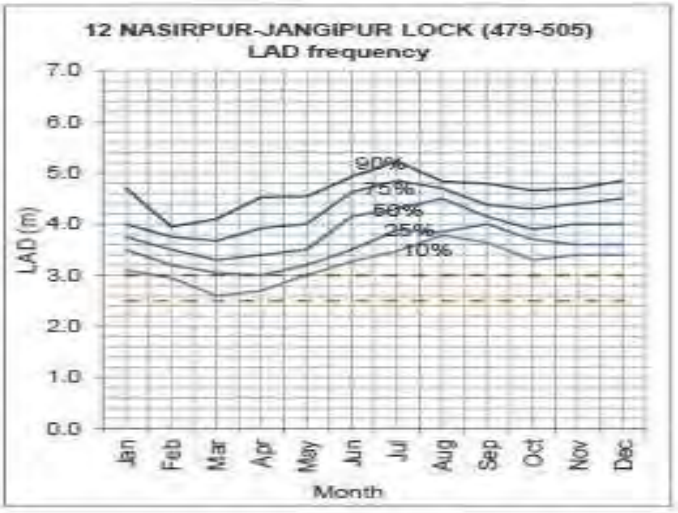


Figure 12: Reach 12 Nasirpur – Jangipur Lock LAD probability curves

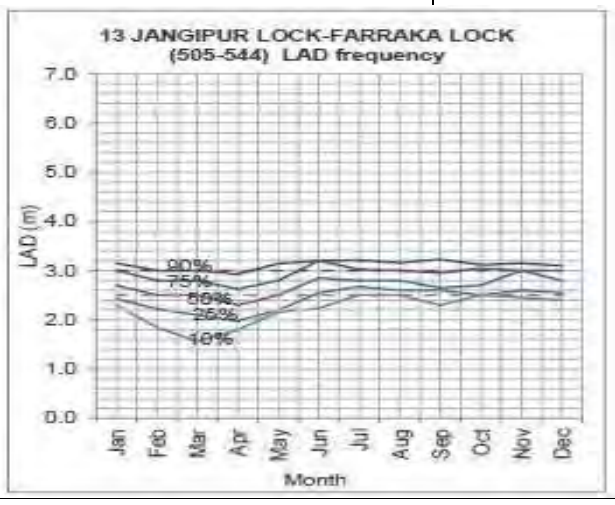


Figure 13: Reach 13 Jangipur Lock – Farakka Lock LAD probability curves

Figure A-1: Probability curves of LAD in Tribeni-Farakka

This statistical information has also been analysed to show the periods when available water depths have a 50% probability to be lower than a certain value mentioned here. The information is presented in Table A- 1below.

Table A- 1: 50% probability of LADs being lower than mentioned LAD (in metres)

	Name	Chainage (km)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	Tribeni – Balagarh	193-221	3.00	3.10	3.00	3.00	3.30	3.40	3.80	4.20	3.80	3.60	3.10	3.00
2	Balagarh – Kalna	221-245	3.00	2.90	2.80	2.90	3.00	3.30	3.50	3.95	3.90	3.60	3.05	3.05
3	Kalna - Samudragarh	245-263	3.00	2.80	2.75	2.80	2.90	3.20	3.60	4.00	3.80	3.50	3.20	3.10
4	Samudragarh-Nabadweep	263-280	3.00	2.90	2.80	2.80	2.95	3.25	3.40	4.20	4.20	3.70	3.20	3.10
5	Nabadweep – Patuli	280-322	2.80	2.85	2.85	2.75	2.80	3.10	3.30	3.50	3.70	3.50	3.10	3.00
6	Patuli – Katwa	322-345	3.10	2.90	2.90	2.85	2.90	3.10	3.20	3.40	3.50	3.30	3.00	3.05
7	Katwa – Palassey	345-371	2.80	2.65	2.50	2.50	2.70	3.00	3.00	3.50	3.40	3.10	2.80	2.80
8	Palassey - Chaurigacha	371-400	2.90	2.95	2.80	2.90	3.00	3.10	3.10	3.40	3.40	3.20	3.05	3.00
9	Chaurigacha - Berhampur	400-421	3.40	3.20	3.00	3.05	3.20	3.40	3.70	3.70	3.80	3.55	3.50	3.50
10	Berhampur– Mohammadpur	421-449	3.20	3.00	3.00	3.00	3.10	3.45	3.60	3.95	3.70	3.60	3.40	3.30
11	Mohammadpur - Nasirpur	449-479	3.30	3.20	3.15	3.00	3.20	3.50	3.70	3.80	3.50	3.70	3.50	3.50
12	Nasirpur – Jangipur Lock	479-505	3.75	3.50	3.30	3.40	3.50	4.15	4.30	4.50	4.20	3.95	4.00	4.00
13	Jangipur Lock – Farrakka Lock	505-544	2.70	2.50	2.50	2.30	2.50	2.85	2.80	2.80	2.70	2.75	3.00	2.80

Key3.0m =< LAD	2.5m =< LAD < 3.0m	2.2m =< LAD < 2.5m	LAD < 2.2m

The different colours in show the range of minimum depths available. Green corresponds to the months when available depths are larger than 2.5 m. The table clearly shows the behaviour of water depths upstream of Doriganj. The LADs for the period 2006 & 2010 -2015 are shown in the tables below.

Table A- 2: LAD for 2015 (in metres)

	Name	Chainage (km)	Jan IFN	Jan IIFN	Feb IFN	Feb IIFN	Mar IFN	Mar IIFN	Apr IFN	Apr IIFN	May IFN	May IIFN	Jun IFN	Jun IIFN	Ju	Au	Se	Oct IFN	Oct IIFN	Nov IFN	Nov IIFN	Dec IFN	Dec IIFN
1	Tribeni - Balagarh	193-221	3.1	3.7	3.3	3.1	3.0	3.7	3.2	3.5	3.3	3.3	4.2	4.1	4.	4.	3.	N/	3.	3.1	3.5	3.0	3.2
2	Balagarh - Kalna	221-245	3.1	3.3	3.0	3.0	3.0	3.3	3.3	3.5	3.2	3.5	3.4	3.4	4.	4.	3.	N/	3.	3.0	3.3	3.3	3.2
3	Kalna - Samudragarh	245-263	3.5	4.0	3.8	3.3	3.2	3.6	3.6	3.6	3.2	3.3	3.3	3.5	3.	4.	3.	N/	3.	3.4	3.3	3.3	3.3
4	Samudragarh - Nabadweep	263-280	3.4	3.2	3.4	3.3	3.2	3.6	3.3	3.5	3.3	3.3	3.4	3.9	3.	4.	3.	N/	3.	3.5	3.2	3.2	3.1
5	Nabadweep - Patuli	280-322	3.2	3.3	3.2	3.2	3.1	3.2	3.3	3.2	3.1	3.3	3.4	3.5	3.	4.	3.	N/	3.	3.0	3.0	2.9	2.9
6	Patuli - Katwa	322-345	3.2	3.2	3.3	3.2	3.1	3.3	3.3	3.3	3.1	3.2	3.1	3.3	3.	4.	3.	N/	3.	2.9	3.0	2.9	2.8
7	Katwa - Palassey	345-371	3.1	3.1	3.1	3.0	3.0	3.3	3.1	3.2	3.3	3.3	3.4	3.4	4.	4.	3.	N/	3.	3.2	3.1	2.9	2.9
8	Palassey - Chaurigacha	371-400	3.3	3.3	3.4	3.1	3.1	3.3	3.3	3.2	3.1	3.2	3.1	3.3	3.	4.	3.	N/	3.	3.1	3.1	2.9	2.9
9	Chaurigacha - Berhampur	400-421	3.7	3.6	3.9	3.4	3.5	3.9	3.8	4.0	3.5	3.4	3.8	4.1	3.	4.	3.	N/	3.	4.1	3.6	3.4	3.5
1	Berhampur – Mohammadpur	421-449	3.8	3.7	3.8	3.4	3.2	3.9	3.7	3.8	3.9	3.8	3.8	3.9	4.	4.	3.	N/	3.	3.6	3.4	3.2	3.3
1	Mohammadpur - Nasirpur	449-479	3.3	3.3	3.3	3.2	3.0	3.7	4.0	3.7	3.8	3.9	3.9	3.5	3.	4.	3.	N/	3.	3.5	3.3	3.3	3.2
1	Nasirpur – Jangipur Lock	479-505	4.1	4.8	4.6	4.2	3.3	4.7	4.9	4.9	5.0	5.0	5.0	4.9	4.	4.	4.	N/	4.	4.0	4.2	4.0	4.0
1	Jangipur Lock – Farakka Lock	505-544	3.2	3.2	3.2	3.2	2.8	3.1	3.1	3.1	3.3	3.2	3.2	3.3	3.	3.	3.	N/	3.	3.0	3.0	2.7	2.7

	3.0m =< LAD	2.5m =< LAD < 3.0m	2.2m =< LAD < 2.5m	LAD < 2.2m

Table A- 4: LAD for 2014 (in metres)

	Name	Chainage (km)	Jan IFN	Jan IIFN	Feb IFN	Feb IIFN	Mar IFN	Mar IIFN	Apr IFN	Apr IIFN	May IFN	May IIFN	Jun IFN	Jun IIFN	Jul	Aug	Sep	Oct IFN	Oct IIFN	Nov IFN	Nov IIFN	Dec IFN	Dec IIFN
1	Tribeni - Balagarh	193-221	3.	3.	2.	3	3	3	3	3.5	3	3	3	3	4.1	3.3	3.6	4	N/	3.	3.4	3	3.1
2	Balagarh - Kalna	221-245	2.	3.	2.	2	3	3	3	3.1	3	3	3	3	3.5	3.5	3.6	3	N/	3.	3.1	3	3.1
3	Kalna - Samudragarh	245-263	3.	3.	3.	3	3	3	3	3.0	3	3	3	3	3.3	3.5	3.5	3	N/	3.	3.8	3	3.5
4	Samudragarh -	263-280	2.	3.	2.	2	3	2	3	3.1	3	3	3	3	3.6	3.8	3.6	3	N/	3.	3.4	3	3.6
5	Nabadweep - Patuli	280-322	3.	3.	2.	2	2	2	3	3.0	3	3	3	3	3.3	3.1	3.5	3	N/	3.	3.1	3	3.2
6	Patuli - Katwa	322-345	3.	3.	3.	3	3	3	3	3.0	3	3	3	3	3.2	3.0	3.5	3	N/	3.	3.3	3	3.1
7	Katwa - Palassey	345-371	2.	2.	3.	3	3	3	3	3.0	3	3	3	3	3.2	3.4	3.6	3	N/	3.	3.0	3	3.1
8	Palassey - Chaurigacha	371-400	2.	3.	3.	3	3	3	3	3.0	3	3	3	3	3.1	3.4	3.5	3	N/	3.	3.1	3	3.2
9	Chaurigacha - Berhampur	400-421	3.	3.	3.	3	3	3	3	3.3	3	3	3	3	3.5	3.6	3.4	3	N/	3.	3.5	3	3.6
10	Berhampur –	421-449	2.	2.	3.	3	3	3	2	2.9	2	3	3	3	3.6	3.7	3.9	3	N/	3.	3.8	3	3.8
11	Mohammadpur - Nasirpur	449-479	3.	3.	3.	3	3	3	3	2.9	3	3	3	3	3.4	3.3	3.5	3	N/	3.	3.4	3	3.2
12	Nasirpur – Jangipur Lock	479-505	3.	4.	3.	3	3	4	4	3.7	3	3	3	4	4.3	4.5	4.7	4	N/	4.	4.9	4	4.4
13	Jangipur Lock – Farakka Lock	505-544	2. 8	2. 8	2. 8	2 .	3 .	2 .	2 .	2.5	2 .	4 .	4 .	3 .	3.1	3.0	3.0	3 .	N/ A	3. 1	3.0	3 .	3.0
	3.0m =<	2.5m =< LAD <	2.2m =< LAD <	LAD <																			

Table A- 4: LAD for 2013 (in metres)

	Name	Chainage (km)	Jan IFN	Jan IIFN	Feb IFN	Feb IIFN	Mar IFN	Mar IIFN	Apr IFN	Apr IIFN	May IFN	May IIFN	Jun IFN	Jun IIFN	Jul	Aug	Sep	Oct IFN	Oct IIFN	Nov IFN	Nov IIFN	Dec IFN	Dec IIFN
1	Tribeni - Balagarh	193-221	3.9	N/A	4.5	3.5	3.8	3.5	3.2	3.5	3.9	5.3	4.1	4.0	3.	3.7	3.7	N/A	3.8	3.1	3.5	3.0	3.1
2	Balagarh - Kalna	221-245	3.4	N/A	3.2	3.2	3.1	3.5	3.1	3.1	3.5	3.5	3.4	3.3	4.	3.5	3.2	N/A	4.0	3.1	3.0	3.4	3.1
3	Kalna - Samudragarh	245-263	3.3	N/A	3.5	3.1	3.1	3.1	3.1	3.1	3.3	3.2	3.2	3.2	3.	3.5	3.6	N/A	4.2	3.1	3.1	3.5	3.7
4	Samudragarh - Nabadweep	263-280	3.3	N/A	3.1	3.1	3.1	3.0	2.9	2.8	2.9	3.0	3.2	3.2	3.	4.3	3.2	N/A	4.0	2.9	2.9	2.8	2.8
5	Nabadweep - Patuli	280-322	3.3	N/A	3.2	3.1	3.0	3.0	2.9	2.9	3.0	3.1	3.2	3.1	3.	3.6	3.7	N/A	4.6	3.2	3.4	2.9	3.0
6	Patuli - Katwa	322-345	3.5	N/A	3.2	3.1	3.1	3.0	2.9	2.9	3.2	3.2	3.3	3.1	3.	3.4	3.3	N/A	4.2	2.9	2.9	3.0	3.0
7	Katwa - Palassey	345-371	3.3	N/A	3.1	3.0	3.0	3.0	2.9	2.9	3.0	3.0	3.1	3.0	3.	3.4	3.0	N/A	3.3	2.8	2.8	2.7	2.8
8	Palassey - Chaurigacha	371-400	3.3	N/A	3.4	3.0	3.0	3.4	3.0	2.9	3.4	3.2	3.2	3.1	3.	3.9	3.6	N/A	4.2	2.9	3.0	3.0	3.1
9	Chaurigacha - Berhampur	400-421	3.4	N/A	3.2	3.2	3.2	3.4	3.1	3.0	3.5	3.2	3.5	3.2	3.	4.3	3.9	N/A	4.5	3.5	3.7	3.6	3.9
10	Berhampur – Mohammadpur	421-449	3.0	3.2	3.5	3.2	3.3	3.1	3.1	3.0	3.5	3.2	3.9	3.7	3.	4.2	3.5	N/A	4.0	3.3	3.1	3.4	3.1
11	Mohammadpur - Nasirpur	449-479	3.1	3.2	3.5	3.3	3.2	3.2	3.1	3.0	3.2	3.2	3.7	3.6	4.	4.1	4.2	N/A	3.8	3.4	3.3	3.9	3.5
12	Nasirpur – Jangipur Lock	479-505	3.6	4.0	3.5	3.6	3.4	3.6	3.5	3.1	3.9	4.2	4.7	4.9	4.	5.0	4.4	N/A	5.2	4.1	4.1	4.9	3.8
13	Jangipur Lock – Farakka Lock	505-544	3.6	3.0	3.0	3.0	3.0	3.0	3.0	2.9	3.1	3.0	3.2	3.2	3.	3.4	3.3	N/A	3.3	3.1	3.1	3.1	3.0
	3.0m =<	2.5m =< LAD <	2.2m =< LAD <	LAD <																			

Table A- 4: LAD for 2012 (in metres)

	Name	Chainage (km)	Jan IFN	Jan IIFN	Feb IFN	Feb IIFN	Mar IFN	Mar IIFN	Apr IFN	Apr IIFN	May IFN	May IIFN	Jun IFN	Jun IIFN	Jul	Aug	Sep	Oct	Oct	Nov	Nov	Dec	Dec
1	Tribeni - Balagarh	193-221	3.1	3.0	3.2	3.4	3.5	3.2	3.0	3.5	3.8	3.5	3.4	5.1	4.1	5.6	4.7	4.2	N/A	3.3	3.9	4.4	3.3
2	Balagarh - Kalna	221-245	3.2	2.8	3.0	2.8	3.1	3.1	3.1	3.1	3.2	3.1	3.4	3.9	4.0	4.2	4.1	3.9	N/A	3.3	3.6	3.5	3.1
3	Kalna - Samudragarh	245-263	3.2	3.0	2.9	2.8	3.0	3.5	3.1	3.3	3.4	3.4	3.6	3.7	3.7	3.9	3.5	3.5	N/A	3.4	3.3	3.1	3.1
4	Samudragarh - Nabadweep	263-280	3.0	3.0	2.9	2.2	2.7	3.0	3.1	3.3	3.2	3.3	3.4	3.7	3.4	3.7	5.0	3.6	N/A	3.4	3.2	3.1	3.1
5	Nabadweep - Patuli	280-322	3.2	3.0	3.0	2.5	3.0	3.2	3.1	3.1	3.2	3.1	3.4	3.7	3.6	3.7	3.7	3.8	N/A	3.7	3.6	3.3	3.2
6	Patuli - Katwa	322-345	3.1	3.1	2.7	2.0	3.0	3.3	3.1	3.1	3.2	3.2	3.1	3.6	3.2	3.0	3.3	3.4	N/A	3.5	3.3	3.1	3.2
7	Katwa - Palassey	345-371	3.0	3.0	2.7	2.0	2.5	3.2	2.8	3.0	3.3	3.1	3.2	3.4	3.5	3.1	3.4	3.1	N/A	2.8	2.6	3.2	3.2
8	Palassey - Chaurigacha	371-400	2.6	2.6	2.7	2.7	2.7	2.8	3.1	3.5	3.3	3.0	3.3	3.6	3.7	3.5	3.4	3.2	N/A	3.4	3.1	3.0	3.1
9	Chaurigacha - Berhampur	400-421	2.8	2.8	2.7	2.0	2.5	2.8	3.2	3.5	3.2	3.2	3.2	3.8	3.6	3.7	3.4	3.4	N/A	3.4	3.4	3.5	3.5
10	Berhampur –	421-449	2.2	2.6	2.7	2.5	2.8	3.0	3.0	3.0	3.1	3.0	3.0	3.1	3.4	3.2	3.3	3.2	N/A	3.0	3.0	3.0	3.1
11	Mohammadpur - Nasirpur	449-479	2.5	2.5	2.7	2.7	3.0	3.1	3.0	3.6	3.2	3.0	3.0	3.8	3.7	3.2	3.7	3.6	N/A	3.5	3.3	3.1	3.4
12	Nasirpur – Jangipur Lock	479-505	2.9	2.9	3.1	2.9	3.0	3.2	3.3	3.9	3.0	3.2	3.3	4.6	4.2	4.2	4.3	4.3	N/A	3.6	4.0	4.1	3.6
13	Jangipur Lock – Farrakka	505-544	2.0	2.5	2.0	1.7	2.5	2.8	2.8	2.8	2.8	2.8	3.0	3.1	3.2	3.1	3.2	3.1	N/A	3.0	3.0	3.0	3.1

K

3.0m =<	2.5m =< LAD <	2.2m =< LAD <	LAD <

Table A- 4: LAD for 2011 (in metres)

	Name	Chainage (km)	Jan IFN	Jan IIFN	Feb IFN	Feb IIFN	Mar IFN	Mar IIFN	Apr IFN	Apr IIFN	May IFN	May IIFN	Jun IFN	Jun IIFN	Jul	Aug	Sep	Oct IFN	Oct IIFN	Nov IFN	Nov IIFN	Dec IFN	Dec IIFN
1	Tribeni - Balagarh	193-221	3.6	3.4	3.4	3.2	3.2	4.1	4.6	4.7	3.6	4.2	5.1	4.1	3.6	3.4	4.1	3.1	3.1	3.1	3.6	3.2	3.2
2	Balagarh - Kalna	221-245	3.6	3.4	3.2	3.2	3.1	2.9	3.1	3.2	3.0	4.0	4.6	3.9	3.5	5.1	3.9	3.2	3.2	3.4	3.2	3.2	3.2
3	Kalna - Samudragarh	245-263	3.3	3.4	3.2	3	3.0	2.7	2.9	3.3	3.4	3.1	4.3	4.5	3.2	5.3	3.8	3.4	3.4	3.2	3.2	3.2	3.2
4	Samudragarh - Nabadweep	263-280	3.5	3.5	3.2	3.1	3.0	2.6	2.8	3.0	3.1	3.6	3.9	3.1	3.3	4.2	3.9	3.2	3.2	3.4	3.4	3.4	3.4
5	Nabadweep - Patuli	280-322	3.1	3.5	3.1	3.1	3.1	2.7	2.7	3.5	3.3	3.3	4.4	3.3	3.1	3.6	3.5	3.3	3.3	3.2	3.2	3.4	3.5
6	Patuli - Katwa	322-345	3.5	3.5	3.1	3.1	3.1	2.7	2.9	3.2	3.0	3.0	4.4	3.5	3.2	5.7	4.1	3.5	3.5	3.5	3.4	3.5	3.3
7	Katwa - Palassey	345-371	3.1	3.2	2.8	2.8	2.7	2.5	2.5	2.9	3.0	3.0	4.2	3.3	3.0	5.3	4.1	3.2	3.2	2.8	2.8	2.8	2.8
8	Palassey - Chaurigacha	371-400	3.1	3.1	3	3.1	2.8	2.5	2.8	3.0	3.1	3.1	3.8	4.0	3.2	4.3	4.1	3.2	3.2	3.3	3.2	3.0	3.0
9	Chaurigacha - Berhampur	400-421	3.5	3.5	3.3	3.1	2.8	2.6	2.7	3.0	3.1	3.1	4.3	3.8	3.2	4.0	4.2	3.3	3.3	3.6	3.6	3.3	3.3
10	Berhampur – Mohammadpur	421-449	3.5	3.3	3	3	3.0	2.5	2.7	3.0	3.4	3.1	4.2	3.9	3.1	5.1	4.1	3.6	3.6	3.7	3.8	3.4	3.3
11	Mohammadpur - Nasirpur	449-479	3.5	3.3	3.2	3.2	3.2	2.7	3.0	3.3	3.8	3.5	4.7	3.6	3.1	5.1	3.3	3.7	3.7	3.2	3.8	3.8	3.6
12	Nasirpur – Jangipur Lock	479-505	3.8	4.0	3.6	3.6	3.6	3.3	3.0	4.0	4.1	3.9	5.3	4.2	3.5	5.1	5.0	3.7	3.7	3.5	3.6	4.2	3.7
13	Jangipur Lock – Farrakka Lock	505-544	3.1	3.0	2.5	2.3	2.1	1.4	1.4	2.0	2.0	2.2	3.2	3.2	3.2	3.7	3.3	3.1	3.1	3.8	4.0	2.7	2.7

3.0m =<	2.5m =< LAD <	2.2m =< LAD <	LAD <

Table A- 4: LAD for 2010 (in metres)

	Name	Chainage (km)	Jan IFN	Jan IIFN	Feb IFN	Feb IIFN	Mar IFN	Mar IIFN	Apr IFN	Apr IIFN	May IFN	May IIFN	Jun IFN	Jun IIFN	Jul	Aug	Sep	Oct IFN	Oct IIFN	Nov IFN	Nov IIFN	Dec IFN	Dec IIFN
1	Tribeni - Balagarh	193-221	3.1	3.0	3.4	3.2	3.1	3.6	3.9	3.0	4.4	3.9	3.4	4.0	3.7	4.5	4.2	4.5	N/A	3.4	3.6	3.4	4.2
2	Balagarh - Kalna	221-245	3.0	3.0	3.0	3.0	2.6	2.5	3.0	2.7	3.0	3.0	3.0	3.4	3.4	4.0	3.8	3.2	N/A	3.2	3.2	3.3	3.5
3	Kalna - Samudragarh	245-263	3.0	3.0	3.0	2.5	2.1	1.5	2.1	2.0	2.3	2.8	3.0	3.0	2.8	3.5	3.4	3.3	N/A	3.4	3.2	3.5	3.5
4	Samudragarh - Nabadweep	263-280	3.4	3.4	3.0	3.0	2.4	2.3	3.0	3.0	2.8	2.6	3.1	3.5	3.0	4.0	3.7	3.2	N/A	3.7	3.3	3.4	3.6
5	Nabadweep - Patuli	280-322	3.2	3.0	3.1	2.9	2.5	2.0	2.6	2.5	2.7	2.2	3.0	3.1	3.0	3.4	3.2	3.2	N/A	3.2	3.2	3.2	3.1
6	Patuli - Katwa	322-345	3.1	3.1	3.0	2.8	2.8	2.0	3.0	2.4	2.2	2.3	2.5	2.8	2.6	3.1	3.5	3.1	N/A	3.0	3.2	3.2	3.2
7	Katwa - Palassey	345-371	3.0	3.0	3.0	3.0	2.4	1.5	2.2	1.6	2.3	2.2	2.5	3.2	2.9	3.2	3.1	3.1	N/A	3.3	3.2	3.1	3.1
8	Palassey - Chaurigacha	371-400	3.0	3.0	3.0	3.0	2.6	2.0	3.0	2.1	3.0	2.5	3.0	3.3	3.1	3.4	3.3	3.0	N/A	3.1	3.3	3.3	3.1
9	Chaurigacha - Berhampur	400-421	3.8	3.5	3.2	3.0	2.8	2.2	3.0	2.2	3.3	2.8	3.3	3.6	3.6	3.8	3.4	3.0	N/A	3.3	4.0	3.5	3.5
10	Berhampur – Mohammadpur	421-449	3.0	3.2	3.0	3.0	2.5	2.0	2.9	2.1	3.4	3.0	3.5	3.4	3.0	3.8	3.6	3.1	N/A	3.6	3.4	3.5	3.2

11	Mohammadpur - Nasirpur	449-479	3.4	3.3	3.7	3.0	2.9	2.6	3.0	2.2	3.0	3.2	3.5	3.9	3.6	3.8	3.5	3.1	N/A	3.7	4.1	3.9	4.0
12	Nasirpur – Jangipur Lock	479-505	3.7	3.1	3.9	3.2	3.3	2.3	3.0	2.5	4.2	3.2	3.8	4.4	3.8	4.8	4.0	3.7	N/A	3.4	4.0	4.8	4.5
13	Jangipur Lock – Farrakka Lock	505-544	3.0	3.0	3.0	2.7	2.0	1.9	1.9	1.9	2.2	1.8	2.6	2.6	2.6	2.8	2.6	3.0	N/A	3.0	3.2	3.0	3.1

3.0m =<	2.5m =< LAD <	2.2m =< LAD <	LAD <

Table A- 4: LAD for 2006 (in metres)

	Name	Chainage (km)	Jan IFN	Jan IIFN	Feb IFN	Feb IIFN	Mar IFN	Mar IIFN	Apr IFN	Apr IIFN	May IFN	May IIFN	Jun IFN	Jun IIFN	Jul IFN	Jul IIFN	Aug IFN	Aug IIFN	Sep IFN	Sep IIFN	Oct IFN	Oct IIFN	Nov IFN	Nov IIFN	Dec IFN	Dec IIFN
1	Tribeni - Balagarh	193-221	2.8	2.8	3.1	2.4	2.4	2.5	2.1	2.9	2.9	2.7	3.1	3.4	3.1	4.9	4.9	4.6	3.7	5.6	3.7	2.9	2.8	2.9	2.9	2.7
2	Balagarh - Kalna	221-245	3.1	3.1	3.1	2.1	2.1	2.4	1.8	2.7	2.4	2.6	3.5	3.1	2.8	4.8	4.1	3.6	3.9	5.9	4.0	3.7	3.2	3.0	2.8	2.7
3	Kalna - Samudragarh	245-263	3.2	3.1	3.1	2.4	2.0	2.6	1.8	2.8	2.3	2.8	3.8	3.1	2.8	5.5	4.4	4.7	4.7	5.3	4.1	3.5	3.2	3.1	3.0	2.7
4	Samudragarh - Nabadweep	263-280	3.4	3.0	3.0	2.5	2.2	2.7	1.9	2.7	2.5	2.7	4.2	3.1	3.3	4.8	4.2	4.3	4.5	6.1	4.6	3.0	3.0	3.0	3.0	2.7
5	Nabadweep - Patuli	280-322	2.4	2.4	2.6	2.1	1.8	2.6	1.5	2.5	2.2	2.6	3.5	2.7	2.5	4.9	4.3	4.3	3.7	5.3	3.8	3.0	3.0	3.0	3.0	2.8
6	Patuli - Katwa	322-345	3.0	3.0	2.8	2.1	1.6	2.6	1.5	2.8	2.4	2.6	3.7	2.7	3.2	4.7	3.2	3.2	3.0	6.5	3.7	3.5	3.0	3.0	3.0	2.8
7	Katwa - Palassey	345-371	2.8	2.8	2.8	2.0	1.6	2.2	1.5	2.5	2.3	2.5	2.7	2.4	2.7	4.7	3.9	3.9	3.5	4.4	3.1	2.6	2.8	2.6	2.5	2.4
8	Palassey - Chaurigacha	371-400	3.2	3.2	3.2	2.0	2.2	2.7	2.2	3.1	2.5	2.7	2.9	2.6	2.8	4.5	3.7	3.4	3.3	4.9	3.2	3.1	3.0	3.0	2.8	2.8
9	Chaurigacha - Berhampur	400-421	3.5	3.1	3.0	2.5	2.5	2.7	1.8	3.0	2.5	2.9	3.4	3.1	3.3	4.0	3.3	3.7	3.8	5.0	3.5	3.6	3.5	3.5	3.2	3.0
10	Berhampur –	421-449	3.8	3.2	3.0	2.5	2.4	3.5	2.2	3.5	3.1	3.9	3.2	3.0	3.3	3.7	3.1	4.4	3.7	3.8	3.6	3.8	3.7	3.7	3.3	3.5
11	Mohammadpur - Nasirpur	449-479	3.8	3.8	3.1	2.6	2.5	3.3	2.1	3.0	2.7	3.7	3.4	3.5	3.7	4.1	4.0	4.2	3.7	4.2	4.0	4.5	4.2	4.4	4.1	3.6
12	Nasirpur – Jangipur Lock	479-505	4.5	4.8	3.3	3.0	3.2	3.3	2.9	3.6	3.5	3.1	4.2	4.0	4.3	4.7	4.7	4.8	4.2	4.7	4.6	4.4	4.4	4.4	4.4	4.7
13	Jangipur Lock – Farakka	505-544	2.7	2.7	1.4	1.5	0.9	0.7	0.8	2.2	2.2	2.5	2.4	2.1	2.7	2.8	2.6	2.6	2.7	2.6	2.9	2.8	3.0	3.0	2.8	2.7

3.0m =<	2.5m =< LAD <	2.2m =< LAD <	LAD <

Annexure B

Studies of Changes to the River Course in Past Ten Years

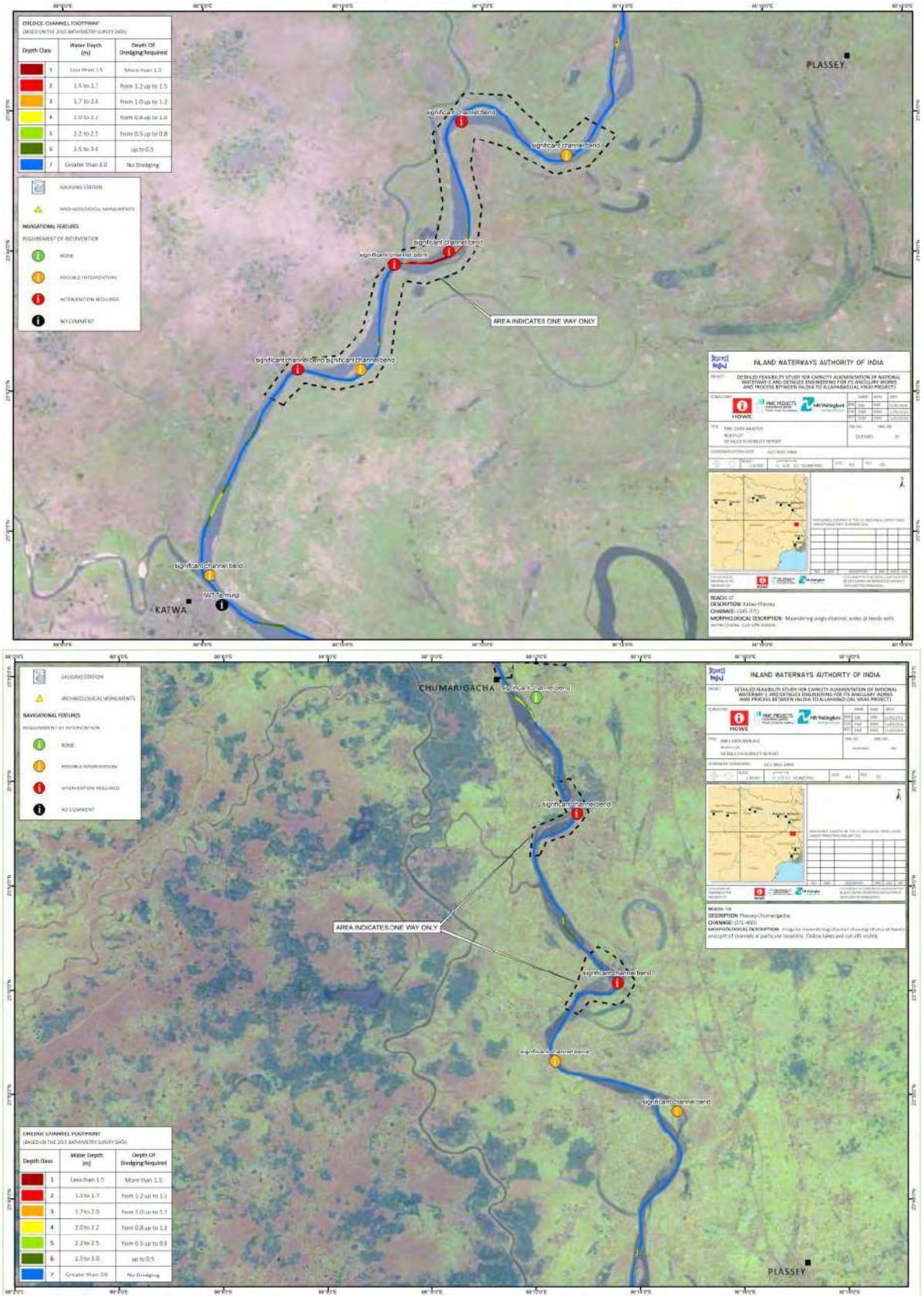
In this section, the general character of the river morphology is discussed having in mind its possible impacts to navigation. The river Ganga is a dynamic system which has continuous and unsteady inputs (e.g., water discharge, sediment transport) and thus, it is continuously adjusting in response to the changing inputs. Depending on those inputs, the river is significantly mobile, changing pattern from one season to another.

From the analysis of satellite images in the last 10 years, the general river typologies along each river reach have been identified. These are presented below.

Table: Description of the Morphological Character from Farakka - Katwa

Reach	Description	Chainage	Morphological description
7	Katwa-Palassey	(345-371)	Meandering single channel, wider at bends with some chutes. Cut-offs visible.
8	Palassey-Chaurigacha	(371-400)	Irregular meandering channel showing chutes at bends and split of channels at particular locations. Oxbow lakes. Cut-offs also visible
9	Chaurigacha-Berhampur	(400-421)	Sinuous channel except for the approximately last 5 km of the reach. In that area the channel shows tortuous meanders and oxbow lakes. Cut-offs also visible
10	Berhampur-Mohammedpur	(421-449)	Irregular meandering single channel. Oxbow lakes visible.
11	Mohammedpur-Nasirpur	(449-479)	Tortuous meandering single channel with central bars at certain locations. Oxbow lakes visible.
12	Nasirpur-Jangipur Lock	(479-505)	Tortuous meandering single channel. Cut-off and abandoned meander channels visible.
13	Jangipur Lock-Farakka Lock	(505-544)	Artificial channel.

Annexure C: River Reach Figures: Farakka - Katwa (199 Km)

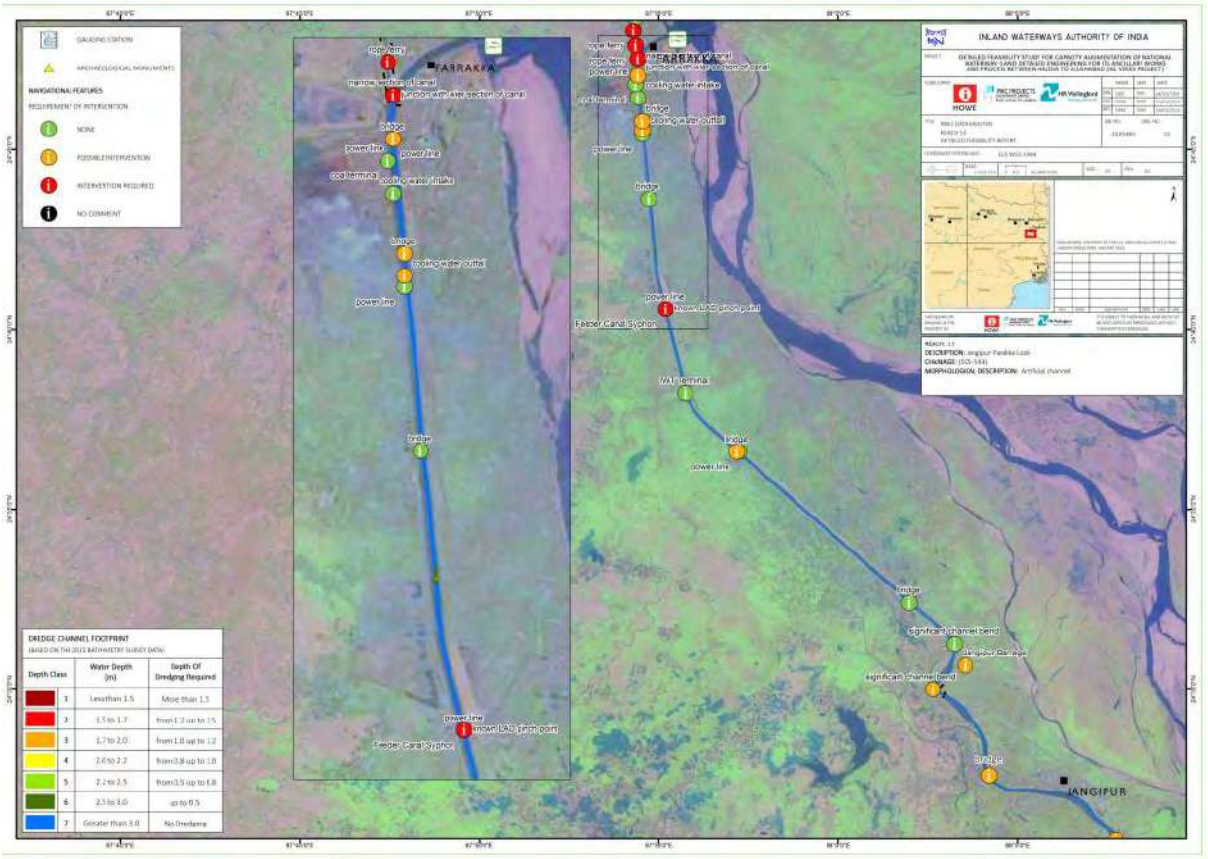



BERHAMPORE
AREA INDICATES ONE WAY ONLY
CHUMARIGACHA
INLAND WATERWAYS AUTHORITY OF INDIA


MAHAMMADPUR
AREA INDICATES ONE WAY ONLY
BERHAMPORE
INLAND WATERWAYS AUTHORITY OF INDIA


INLAND WATERWAYS AUTHORITY OF INDIA
NASIPUR
AREA INDICATES ONE WAY ONLY
MAHAMMADPUR
DREDGE CHANNEL FOOTPRINT


INLAND WATERWAYS AUTHORITY OF INDIA
JANGIPUR
AREA INDICATES ONE WAY ONLY
NASIPUR
DREDGE CHANNEL FOOTPRINT


INLAND WATERWAYS AUTHORITY OF INDIA
FARAKKA
JANGIPUR
bridge
power line
cooling water intake
cooling water outfall
Feeder Canal Syphon
significant channel bend
DREDGE CHANNEL FOOTPRINT

"CAPACITY AUGMENTATION OF NATIONAL WATERWAY.1"

(Jal Marg Vikas Project)

ENVIRONMENTAL IMPACT ASSESSMENT REPORTS

VOLUME - 8:
Environmental Management Plan (EMP)
for
Maintenance Dredging

May 2016

(Revised September 2016)

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Table of Contents

CHAPTER 1. EMP FOR MAINTENANCE DREDGING 146
1.1.Introduction 146
1.2.Description of Environment 146
1.3.Environmental Management Plans 148
1.3.1. Environmental Management Plan for Maintenance Dredging 148

List of Tables

Table 1.1 : Salient Environmental Features along NW-1 Alignment..... 147

Table 1.2 : Dredging and Disposal Management Plan for NW-1..... 149

Table 1.3 : Environmental Management Plan for Maintenance Dredging 151

List of Figures

Figure 1.1 : Location Map 146

Figure 1.2 : Fish Breeding and Spawning Grounds along NW-1 (Haldia to Baidyapur Stretch)..... 150

Figure 1.3 : Fish Breeding and Spawning Grounds along NW-1 (Baidyapur to Sahibganj Stretch) 151

Figure 1.4 : Fish Breeding and Spawning Grounds along NW-1 (Sahibganj to Patna Stretch)**Error! Bookmark not defined.**

Figure 1.5 : Fish Breeding and Spawning Grounds along NW-1 (Patna to Allahabad Stretch)**Error! Bookmark not defined.**

List of Annexure

Annexure 1.1: Standards for onshore & off-shore disposal of dredged material 157

CHAPTER 1. EMP FOR MAINTENANCE DREDGING

1.1. Introduction

Inland waterways Authority of India (IWAI) has proposed to augment the navigation capacity of waterway NW-1 (Haldia to Allahabad) and continue to maintain the entire stretch. Under this project, IWAI has proposed to develop the infrastructure facility like Multimodal terminals, Navigation aids for day & night navigation, River information system with all hardware and software, Ro-Ro jetties, Bank & slope protection, River training works, Equipment like tow barges, inland vessels, survey vessels including rescue boats & survey equipment and Dredging of the navigation channel, to augment the navigation capacity of the waterway. Location map of NW-1 is given in Figure 1.1.

To improve the navigation in national waterways-1 IWAI has proposed a project “Capacity Augmentation of the Nation Waterway 1 (1620 kms, with minimum water depth of 2.5-3 m) between Haldia and Allahabad”. For which dredging is required at different locations along the NW-1 and to be carried out so as to maintain the least available depth (LAD).

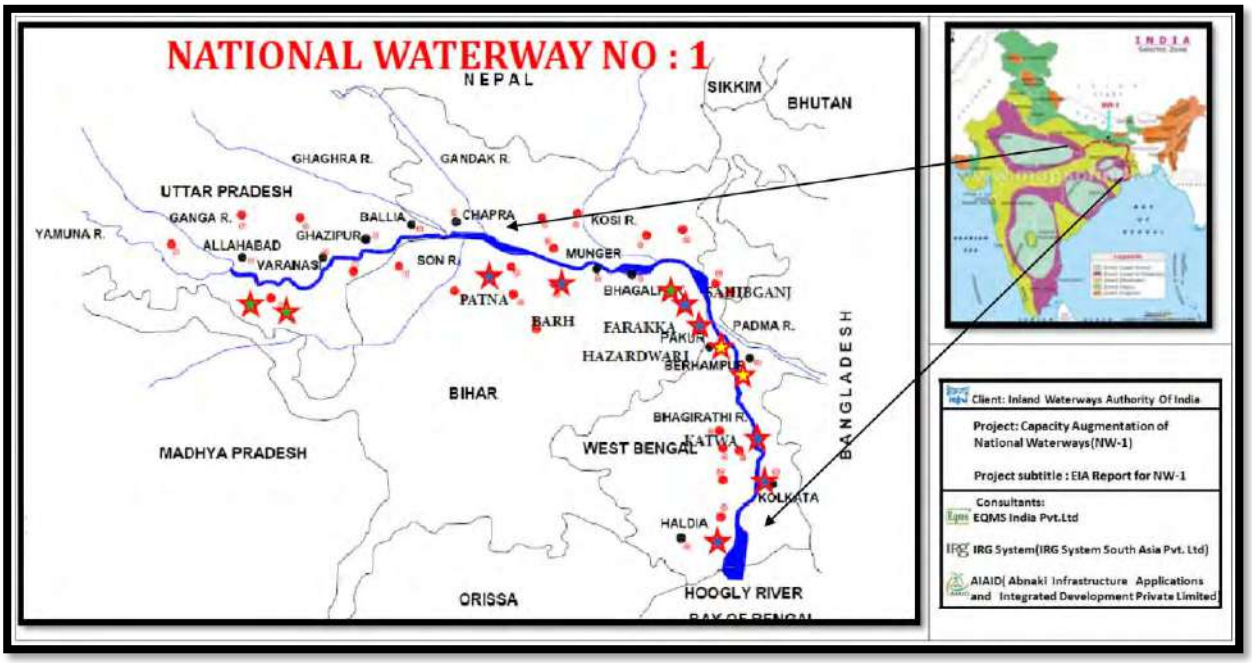


Figure 1.1 : Location Map

1.2. Description of Environment

The NW-1 stretch starts from Haldia to Allahabad (1620 KM long) on Ganga - Bhagirathi - Hooghly river system. The Hooghly river portion of the waterway from Haldia to Nabadwip is under tidal influence. From Nabadwip to Jangipur the NW-1 stretch is formed by Bhagirathi river. Bhagirathi river flow is regulated through barges at Farakka and Jangipur. From Farakka upstream the navigable route depends upon the main Ganga river flow. The Feeder Canal and the navigation lock at Farakka become the link between the Bhagirathi and main Ganga upstream of Farakka Barrage. NW-1 is passing through four states namely UP, Bihar, Jharkhand and West Bengal. The salient environmental features around NW-1 within, 500m, 2km and 10km stretches are summarised in **Table 1.1.**

Table 1.1 : Salient Environmental Features along NW-1 Alignment

S. No.	Environmental Features	Within NW-1 (500 M)	Within 2 km area around NW-1	Within 10 km area around NW-1
1	**Ecological Environment**			
A	Presence of National Park/Biosphere Reserves, Tiger reserve etc.	None	None	None
	Presence of Wildlife Sanctuary	Yes o) Kashi Turtle Sanctuary at Varanasi p) Vikramshila Dolphin Sanctuary Kahalgaon to Sultanganj q) Hilsa Sanctuary stretch in west Bengal	None	Yes Udhwa lake sanctuary in Jharkhand (about 9 km away from NW-1
B	Reserved /Protected Forests	None	None	Yes (Bethuadahari RF, Bahadurpur RF & RF near Rajmahal Hills)
C	Wetland of state and national interest	None	None	Yes (Udhwa Bird sanctuary)
D	Migratory route for wild terrestrial animals	None	None	None
E	Presence of Schedule-I Terrestrial Fauna	None	Yes Migratory birds near Farakka Barrage and surrounding	Yes Migratory birds at important birds' areas
F	Presence of Schedule-I Aquatic Fauna	Yes Dolphin, and Turtle	None	None
G	Important Bird Area	Vikramshila sanctuary area	Yes 3. Danapur Cantonment area 4. Mokama tal 5. Kurseala river course and diyara floodplain. 6. Farakka Barrage and surround area	Yes Udhwa lake sanctuary

S. No.	Environmental Features	Within NW-1 (500 M)	Within 2 km area around NW-1	Within 10 km area around NW-1
H	Seismicity	NW-1 falls in Zone-III (moderate risk) and zone IV (high damage risk zone) as per Seismic Zoning Map of India		
B.	**Social Environment**			
I	Physical Setting	Rural, Industrial and Urban		
	Densely populated area	Allahabad, Sirsa, Mirzapur, Chunar, Varanasi, Zamania, Ghazipur, Gahmar, Buxar, Ballia, Chappra, Patna, Barh, Bihat, Munger, Bhgalpur, Kahalgaon, Sahibganj, Farakka, Berhampore, Katwa, Kalna, Kolkatta and Haldia are densely populated areas.		
J	Physical Sensitive Receptors	Yes Ghats, Temples, Schools, Colleges and Hospitals are present all along the NW-1.		
K	Archaeological Monuments	Yes There are 9 archaeological sites located within 300 m area of the NW-1 and these are Kardmeshwar Mahadeva Mandir, Ramnagar fort, archaeological excavation site, Varanasi, Manmahal and observatory, St. John's Church, Temple of Gour Chandra and Krishnachandra at Chatra (Gaur Chandra Ghat), Hazardwari Palace, Sindhi Dalan and Jami Masjid.		

1.3. Environmental Management Plans

Major activities associated with the project are construction and operation of the civil interventions, barge movement and maintenance dredging. Barge movement and maintenance dredging will be carried out during the operation phase of the project only whereas development of civil interventions will have components distributed during design, construction and operation phases. Civil interventions include construction of jetty, terminals, river training works, bend corrections, barge maintenance facility, and RO-RO jetties. A detailed environmental management plan for each associated development for all the three phases of the project, i.e. design/pre-construction, construction and operation phase is prepared as applicable. EMP lists the activities involved, associated impact with each activity on environment, suggestive mitigation measures, allocated environment budget for impact mitigation, implementation plan covering monitoring, reporting and implementation and supervisory responsibility.

-

1.3.1. *Environmental Management Plan for Maintenance Dredging*

Maintenance dredging will be carried out during operation phase of the project to maintain LAD for navigation. Maintenance dredging will be carried out as per the availability of the depth naturally and depth required for movement of the cargo depending on the size of the cargo planned to ply in the stretch. The design consultant estimates estimation of the required amount of maintenance dredging in different stretch of the waterway. An analysis has been done during EIA study to establish the environmental, biological and social sensitivity of the waterway and a dredging and dredge disposal management plan is prepared which is presented in **Table 1.2.** Environment Management Plan for Dredging Activity is given in **Table 1.3.**

-

Table 1.2 : Dredging and Disposal Management Plan for NW-1

Stretch/Dredging Quantity & Quality/Proposed Disposal Location	**Biological, cultural, social and religious Sensitivity**	**Aquatic sensitivity**		**Management Measures**
		Sensitive zone	**Breeding & Spawning Period and grounds***	
Stretch: Haldia to Farakka Dredged Qty: 3620000 cum between Tribeni to Farakka Dredged Quality: Not contaminated Disposal Location: In river/shoals/scours	Imp. Bird area- Farakka Barrage and adjoining area (Surrounding NW-1) Archaeological locations- St. John's Church (300 m, E), Temple of Gour Chandra and Krishna Chandra at Chatra-Gaur Chandra Ghat (0 m, W) & Hazardwari Palace (30 m, E) Fest & Festivals: Ganga Sagar Mela at Sagar (January)	Hilda Sanctuary (Within NW-1)- 4 locations	Peak spawning season for Hilsa is July-August Breeding & Spawning grounds for Hilsa: Stretch between Nischintpur (Kolkata) & Diamond Harbour, Hoogly ghat & Kalna and Lalbagh to Farakka23	Dredging should be regulated during July-August Dredge disposal should not be carried out within Sanctuary area and other defined sensitive locations Dredge disposal should be carried out at minimum distance of 100 m from bank Dredging & disposal should not be carried out during time & location of festivals
Stretch: Farakka to Barh Dredged Qty: 3960000 cum Dredged Quality: Not contaminated Disposal Location: In river/shoals/scours	Imp. Bird Area- Udhwa Lake Bird Sanctuary (9 km, W), Vikramshila Gangetic Dolphin Sanctuary- VGDS (within NW-1), Mokama Taal (Barah) Wetlands (Along NW-1) & Kurseala River Course and Diyara Flood Plains (Along NW-1) Archaeological locations- Sindhi Dalan (300 m, W) & Jama Masjid (140 m, W) Religious locations: Community Temple at Sahibganj Terminal site (to be shifted) Fest & Festivals: Chatt (Oct-Nov)	Vikramshila Gangetic Dolphin Sanctuary (within NW-1)	Major Birth season for Dolphin is October to March24 Breeding Ground: Very shallow waters for giving birth	Dredging should be stopped if Dolphins are sighted Dredge disposal should not be carried out within Sanctuary area and other defined sensitive locations Dredge disposal should be carried out at minimum distance of 100 m from bank Dredging & disposal should not be carried out during time & location of festivals
Stretch: Barh to Patna Dredged Qty:16,00,000 cum Dredged Quality: Not contaminated Disposal Location: In river/shoals/scours	Fest & Festivals: Chat (Oct-Nov)	None	Peak spawning season for Indian Major Carps is May-August Breeding & Spawning grounds: Shallow waters and areas inundated during monsoon season25	Dredging should be stopped if any dolphin or big aquatic species is sighted Dredging should be avoided during May-August Dredge disposal should be carried out at minimum distance of 100 m from bank Dredging & disposal should not be carried out during time & location of festivals
Stretch: Patna to Buxar Dredged Qty: 27,70,000 cum Dredged Quality: Not contaminated Disposal Location: In river/shoals/scours	Imp. Bird Area- Danapur cantonment area (2 km, S) Fest & Festivals: Chatt (Oct-Nov)	None	Peak spawning season for Indian Major Carps is May-August Breeding & Spawning grounds: Shallow waters and areas inundated during monsoon season	Dredging should be stopped if any dolphin or big aquatic species is sighted Dredging should be avoided during May-August Dredge disposal should be carried out at minimum distance of 100 m from bank Dredging & disposal should not be carried out during time & location of festivals

[23]Perspectives of reproductive biology and spawning behavior of Indian shad (*Tenualosa ilisha*)-A global review, Utpal Bhaumik, Former Divisional Head, Riverine Ecology and Fisheries, Central Inland Fisheries Research Institute, Barrackpore, India

[24]Ganges River Dolphins, WWF (http://wwf.panda.org/what_we_do/endangered_species/cetaceans/about/river_dolphins/ganges_river_dolphin/)

[25] Genetic Resources of Indian Major Carps, Their Distribution and Characterization, FAO (http://www.fao.org/docrep/006/x3850e/X3850E02.htm)

Stretch/Dredging Quantity & Quality/Proposed Disposal Location	**Biological, cultural, social and religious Sensitivity**	**Aquatic sensitivity**		**Management Measures**
		Sensitive zone	**Breeding & Spawning Period and grounds***	
Stretch: Buxar to Varanasi Dredged Qty: 29,00,000 cum Dredged Quality: Not contaminated Disposal Location: In river/shoals/scours	Archaeological locations- Kardmeshwar Mahadeva Mandir (240 m, W), Ramnagar, fort (40 m, E), archaeological excavation site, Varanasi (130 m, E) & Manmahal and observatory (40 m, W) Cultural locations: Ghats Fest & Festivals: Ganga Mahotsav at Varanasi (Oct-Nov) & Dhrupad Mela at Tulsi Ghat of Varanasi (Feb to March)	None	Peak spawning season for Indian Major Carps is May-August Breeding & Spawning grounds: Shallow waters and areas inundated during monsoon season	Dredging should be stopped if any dolphin or big aquatic species is sighted Dredging should be avoided during May-August Dredge disposal should be carried out at minimum distance of 100 m from bank Dredging & disposal should not be carried out during time & location of festivals
Stretch: Varanasi to Allahabad Dredged Qty: Nil Dredged Quality: NA Disposal Location: NA	Fest & Festivals: Ganga Mahotsav at Varanasi (Oct-Nov), Dhrupad Mela at Tulsi Ghat of Varanasi (Feb to March) & kumbh at Allahabad (Jan-Feb)	Kashi Turtle Sanctuary (within NW-1)	Spawning season for River Turtles: March-April Breeding & Spawning grounds: Wetlands/River banks	Dredging should be regulated during July-August Dredge disposal should not be carried out within Sanctuary area and other defined sensitive locations Dredge disposal should be carried out at minimum distance of 100 m from bank Dredging & disposal should not be carried out during time & location of festivals

*Map Showing locations of breeding & spawning grounds is given in **Figure 1.2-1.3**

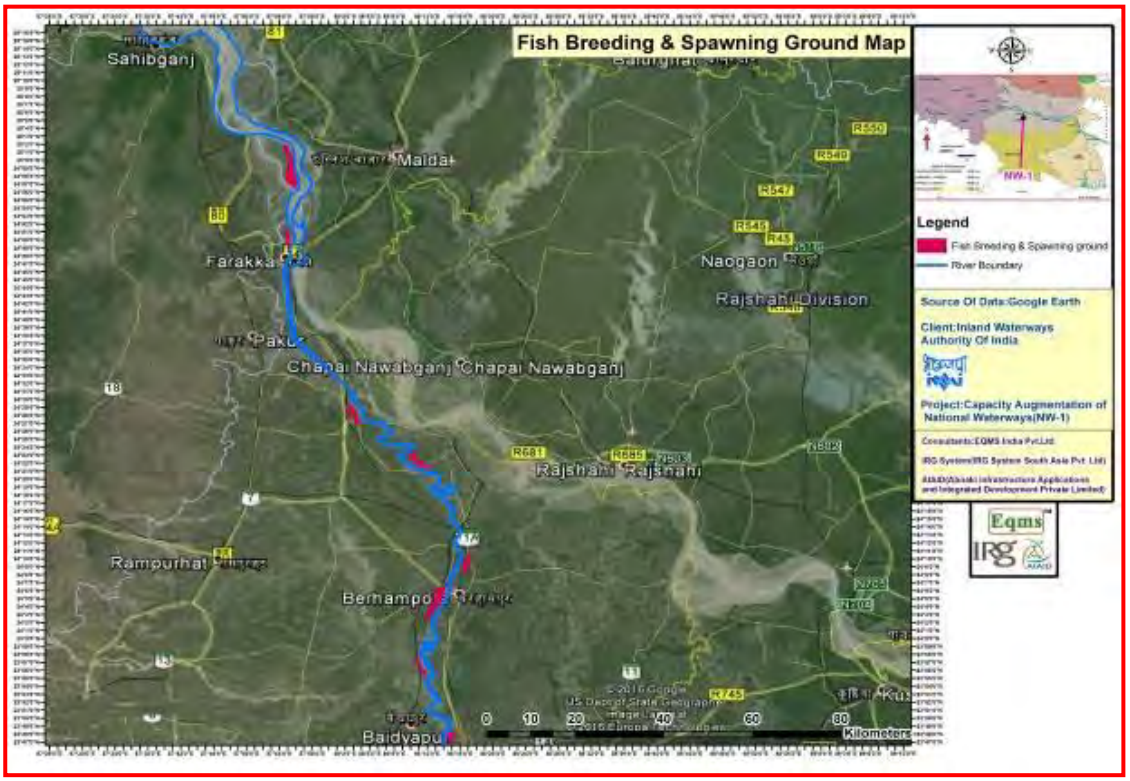


Figure 1.2 : Fish Breeding and Spawning Grounds along NW-1 (Haldia to Baidyapur Stretch)



Figure 1.3 : Fish Breeding and Spawning Grounds along NW-1 (Baidyapur to Sahibganj Stretch)

:Environmental Management Plan for Maintenance Dredging

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
1. Physical Environment							
Impact on Soil quality & River Bed sediments	• Standards should be developed by concerned authorities for onshore and off-shore dredged material disposal and development of the process to ensure its compliance • Dredged material shall be checked for toxicity and contamination prior its disposal for prevention of contamination of water and its impacts on aquatic life. International standards for judging onshore & off-shore disposal of dredged material are given in **Annexure 1.1.** • If any stage on land disposal of dredge material is planned, then dewatering of the dredged sediments should be carried out prior to on land disposal. • If dredge material is found contaminated at any particular location, then it should be disposed on land after decontamination. On land disposal of dredged material						

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	should be carried out only at approved TSDF site such as approved TSDF site of Haldia Dock Complex at Sagar. The contaminated dredge material shall be collected in the leak proof container for decontamination and disposal to the landfill site. • The disposal facilities should be designed with adequate liners to contained the leachate and also should have provision of leachate collection and testing to periodically check the functionality of the disposal site. • Dredge material should not be disposed in river banks, Disposal should be inline with the dredging sensitivity analysis defined at Table 1.2 above . • If dredged material is disposed on land, then the care should be taken that the tail water is collected and made free from sediments prior to its discharge back to surface water body.						
Water Quality	• Attempt shall be made to minimizing and optimizing the dredging requirements by effective assessment and study of the Thalweg profiles of the river. This can be achieved some of the following measures: o Increase use of bandalling which helps in diverting the flow of river towards the channel and reduces the quantity of dredging o Low draft vessels should be deployed which will reduce the requirement of dredging • Dredged material shall be checked for toxicity and contamination prior its disposal onshore for prevention of contamination of water and its impacts on aquatic life. Standards for judging onshore & off-shore disposal of dredged material are given in **Annexure 1.1.** • Dredging should not be carried out during very low flow seasons so as to minimize the dispersion of fine sediments • Usage of silt or air bubble screens/curtains should be	Water Act, 1974	Within River	During Dredging Operation	Part of Project Cost (IWAI & Contractor)	Contractor	IWAI/PMU/PMC[26]

[26] It is proposed to set up Project Unit (PMU) in IWAI to manager social and environmental aspect of NW1 augmentation. PMC (Project Management Consultants) anticipated to be appointed for project management and quality check.

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	explored to minimize the sediment release during dredging operations. Silt/air bubble screens can hang from surface floats or stands attached to the bottom and held upright by sub-surface floats (PIANC). The use of silt curtains is reported to considerably reduce the loss of suspended sediments from the dredge area, by up to 75% where current velocities are very low. However, they are generally ineffective in areas with high current velocities which exceed 0.5 m/s (UK Marine SACs Projects). • To minimize the sediment dispersal during disposal of dredge sediments, it should be place as close to the bed possible preferable at a level of 1m above the bed to minimise the dispersal of sediments. • Provision shall be made of emergency response equipment like floating blooms to deal with any emergency of oil spills or leakages. Regular servicing and maintenance of dredgers should be taken up so as to prevent any leakage of the dredged material. Leakage detection of the sediment transportation pipe shall be carried out regularly to prevent any sediment loss and water pollution at leakage location. Corrective actions should be taken immediately after detection of such leaks. • Cutter head of CSD should be selected according to material to be dredged so as to maximize the dredged material transport from dredging point to suction mouth and prevention of sediment loss and re-suspension. • Ratio of cutter revolutions and pump velocity should be adjusted to ensure that cutter advancement rate is not greater than the ability of the suction pump to remove the material that is cut. This will prevent the suspension of the dredged material. • Dredge cuts and lifts should be designed so as to prevent undercutting of material and hence a collapse of material locally at the cutter head, leading						

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	to an increase in the sediment being disturbed by dredging. • If dredge material is found contaminated at any particular location that it should be disposed off-shore. Off-shore disposal of dredged material should be carried out only at approved TSDF site such as approved TSDF site of Haldia Dock Complex at Sagar. • Dredge material if disposed on river banks or on land caution should be exercised as per the Dredging and Disposal Management Plan for NW-1 given at Table 1.2 above. • *If dredged material is disposed at land, then the care should be taken that the tail water is collected and made free from sediments prior its discharge back to surface water body. Regular monitoring of the excess water should be done in case dredged material is disposed on land. This will help in assessing the efficiency of sediment trap system provided at site and controlling contamination of water by minimizing the sediments.* • Sensitivity along NW-1 for dredge disposal is discussed in Table 1.2 above. Dredge material if disposed on river banks or on land caution should be exercised as per the Dredging and Disposal Management Plan is prepared for entire for NW-1 considering the sensitivities discussed in Table 1.2						
2. Biological Environment							
Aquatic Ecology- Removal of benthic communities, increasing underwater noise levels, increasing sediments/turbidity, release of locked pollutants in sediment, disposal of	• Dredging plan including timeframe should be prepared for each stretch prior initiating dredging activity. No dredging should be undertaken within VGDS, Turtle sanctuary. No dredging shall be carried out in winter season (November to February) along Mokama Taal to minimize impact on aquatic species and avifauna. • Dredging operations should not be carried out during the breeding and spawning season of the valued aquatic species which is from June to August (Monsoon season). Bends and meandering locations are the most potential	Wildlife Protection Act, 1972 & 1993 and Bio-diversity Act, 2002	Within River	During Dredging	Part of Project Cost (IWAI & Contractor)	Contractor	IWAI/PMU/PMC

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
dredged material, increasing depth	breeding grounds and are indicated at Figure No. 1.2-1.6 • Dredging if required to be taken at critical stretches (Turtle and Dolphin Sanctuaries) as mention above then dredgers should be provided with turtle and Dolphin deflectors. This would prevent the sucking of the animals (fish or turtle) swimming nearby. But such dredgers are inefficient and costly. • Measures like provision of bubble curtains or creation of agitation in water should be carried out prior carrying out dredging operations so as to provide avoidance time and let the species move away from drudging point. and to prevent any injury/mortality. Dredging operations should be halted in case of sighting of aquatic mammal in adjoin locations. • Contractors should submit SOPs and action time chart with risk management plan prior to any dredging work. Dredging sub-contractor should follow the defined safety procedures to avoid accidents and spills, and IWAI should ensure that other vessel users are provided with adequate information and instruction to avoid conflict with the dredgers.						
Avifauna (Migratory & water birds)	• Dredging operations should be restricted to day time only, i.e. 6:00 Am-10:00 Pm only to minimize noise impacts on the avifauna near Important Bird Areas listed at Table 1.2 and located close to river. • Dredgers should be equipped with the noise reduction/masking equipment to reduce the noise generation inside and outside water. Noise from dredgers can be reduced at source (dredger) by isolation of exhaust system, by keeping engine room doors shut and by shielding.	Wildlife Protection Act, 1972 & 1993 and Bio-diversity Act, 2002	Within River & bird areas along NW-1	During Dredging	Part of Project Cost (IWAI & Contractor)	Contractor	IWAI/PMU/PMC
3. Socio-Economic Environment							
Location of Socio-economic importance and socio-economic	• Dredging operations should be restricted to day time only, i.e. 6:00 Am-10:00 Pm only to minimize noise impacts on the residents of nearby settlements. Dredgers should be equipped with the noise reduction/masking equipment to reduce the noise generation	--	Area near the dredging operations and dredging locations	During dredging operation	Part of project cost (IWAI/Contractor)	Contractor	IWAI/PMU/P

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
environment	• Dredgers should be placed in consultation with the fishermen so as to minimize the impact on their equipment/gears and their fishing activities • Dredging should not be carried out in the areas close to Ghats in Varanasi and buffer of 2 km should be maintained for dredging during time of religious gatherings during Chat and Kumbh festivals. • In case contaminated dredged material is disposed on land, then it should be disposed at approved TSDF sites to prevent any harm to community residing in nearby areas. One of such approved TSDF site is located Sagar (Haldia Dock Complex site) • Material to be disposed on land may create nuisance odour due to exposure of anaerobic sediments with air. Thus if land disposal is involved than disposal site should not be in upwind direction of any settlement area or sensitive locations like hospitals, schools etc. • Log book should be maintained for recording the accidents at site/mortality of the any marine mammal should be maintained. Analysis shall be carried out to assess the reason for the accident/mortality and measures should be taken to prevent repetition of the event. • Contractors having experience of dredging and well trained staff should only be allowed to carry out dredging. This will help in prevention of spillage of dredged material or any accidents during the dredging operations • Dredging plan should be prepared by contractor and submitted to IWAI for approval prior to carrying out dredging operations. Dredging plan should be reviewed considering its location w.r.t environmental sensitive locations/archaeological locations/cultural festival/pollution influx in the area/dredged material quality & texture/available depth etc. as given in this EIA report and through local sources and past experience. • Contractors should submit method statement & risk assessment plan prior to carrying out any dredging work. Dredger should follow the defined safety procedures to avoid accidents and spills, and IWAI should ensure that other vessel users are provided with adequate information and instruction to avoid conflict with the dredgers. • Post-dredging monitoring of the sediment nature, rate of sedimentation shall be made part of contractor's job as best dredging						MC

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	practise. This will provide information which can be taken into consideration before the next maintenance dredge is carried out. • Re-use of dredged material should be explored if dredged material is not contaminated. Economically and environmentally feasible options can be adopted to minimize the dredge spoil burdens. Some of such measures include • Dredged sediment can be used for beach nourishment/development of artificial beach/deposition on shoal & thus enrichment of habitat o Dredged material can be explored for its usage for coast/bank protection purpose/flood protection o Use of dredged material can be explored for land filling, as construction material for road foundations, dikes, mounds, noise/wind barriers.						

Appendix 3.1 Annexure 1.1: Standards for onshore & off-shore disposal of dredged material

Criteria for Disposal of Harmful Bottom Sediments: No specific standards are defined in India for disposal of dredged material. If dredged material is toxic / harmful then these sediments should either be disposed off in landfill or in Sea. Criteria followed in Japan are given in the **Table 1**.

Table 1: Criteria for Harmful Bottom Sediments, Japan (unit: mg/l)

Contaminated Material	Dumping in Landfills (mg/l)	Dumping at sea (mg/l)
Alkyl mercuric compounds	Not detectable	Not detectable
Mercury and its compounds	0.005	0.005
Cadmium and its compounds	0.1	0.1
Lead and its compounds	1	1
Organophosphorus compounds	1	1
Chromium (VI) compounds	0.5	0.5
Arsenic and its compounds	0.5	0.5
Cyanogen compounds	1	1
PCB	0.003	0.003
Copper and its compounds	-	3
Zinc and its compounds	-	5
Fluoride	-	15

Note: Criteria are based on the examination of dissolution of contaminated materials

Source: Assessment of the Environmental Impact of Port Development, United Nations, New York, 1992

Criteria for Off-shore dumping of Dredged material: No criteria are defined for off-shore disposal of dredged material in India, thus reference to the UN standards can be made and is given in **Table 2**.

Table 2: Criteria for Off-Shore Dumping of Dredged Material (unit: ppm or ppb)

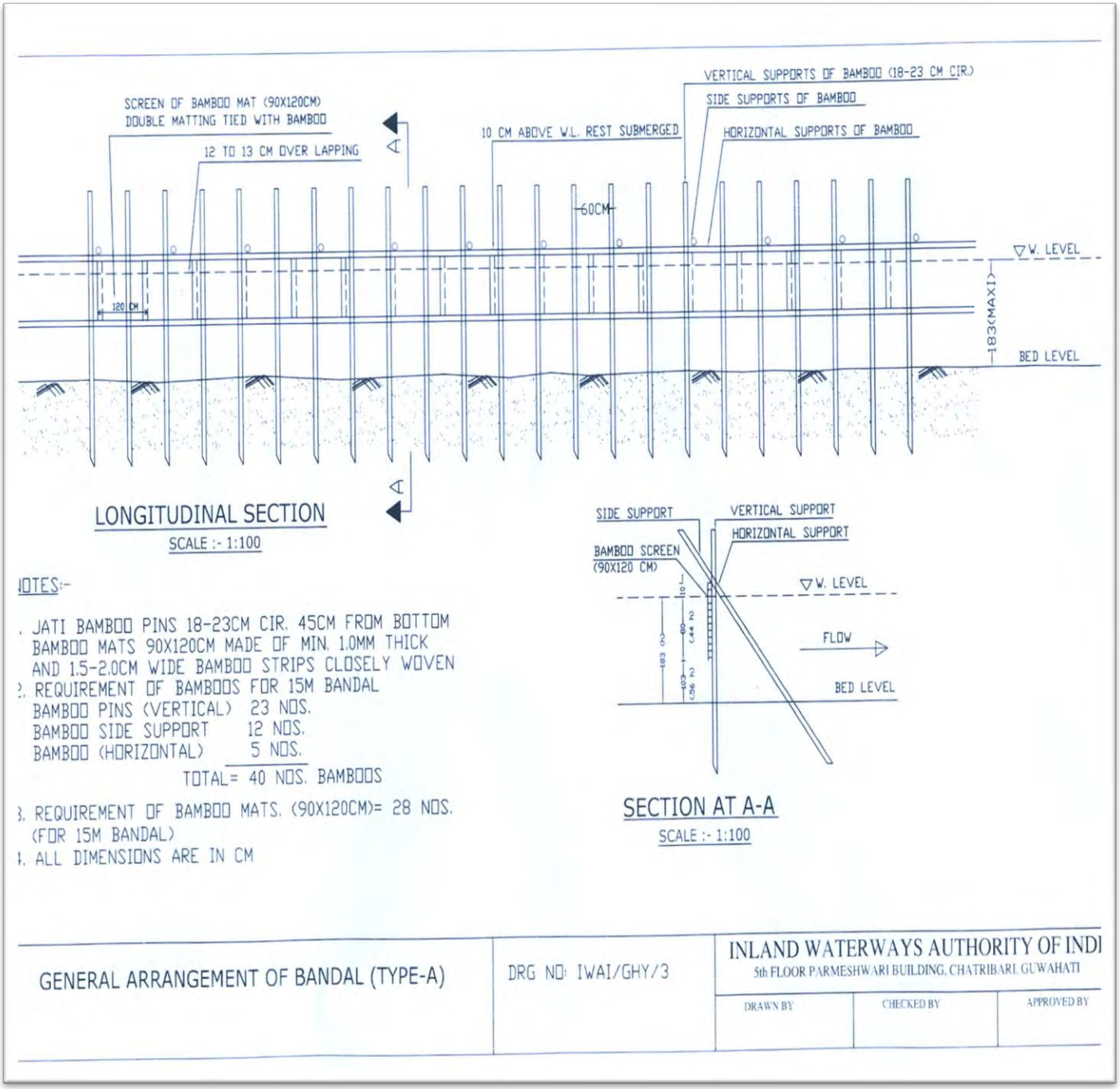
Substance	Canada	USA
PCB (ppb)	100	380

Substance	Canada	USA
Hg (ppm)	0.5	0.15
Cd (ppm)	0.60	0.7
Zn (ppm)	169	105
Cu (ppm)	45	68
As (ppm)	(5 – 25)	12.5
Pb (ppm)	45	33
Organochlorine pesticide (ppb)	10 for any compound	5.0 Sum of DDT, DDE and DDD
Polyaromatic hydrocarbon (ppb)	(1,000) Sum of 16 compounds	680 Sum of six low mol. Wt. compounds 2,690 Sum of 10 high mol. Wt. compounds

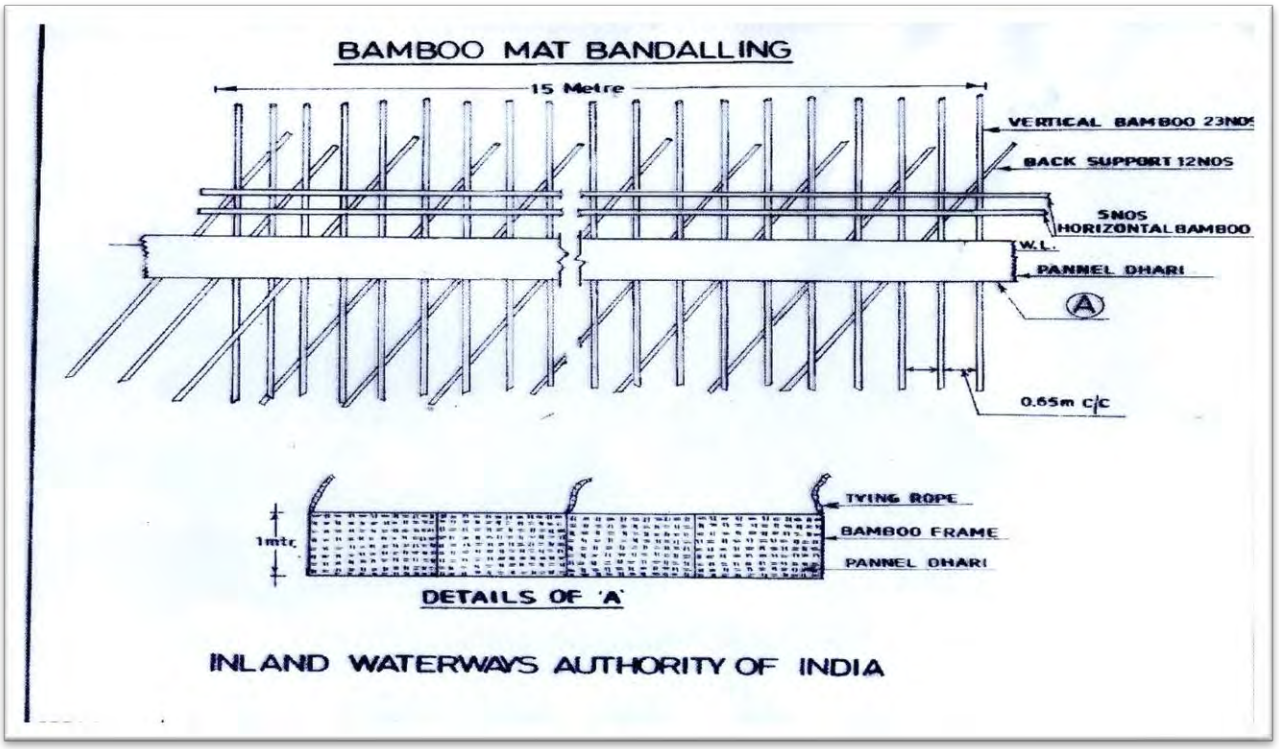
Source: Assessment of the Environmental Impact of Port Development, United Nations, New York, 1992

Enclosure-1

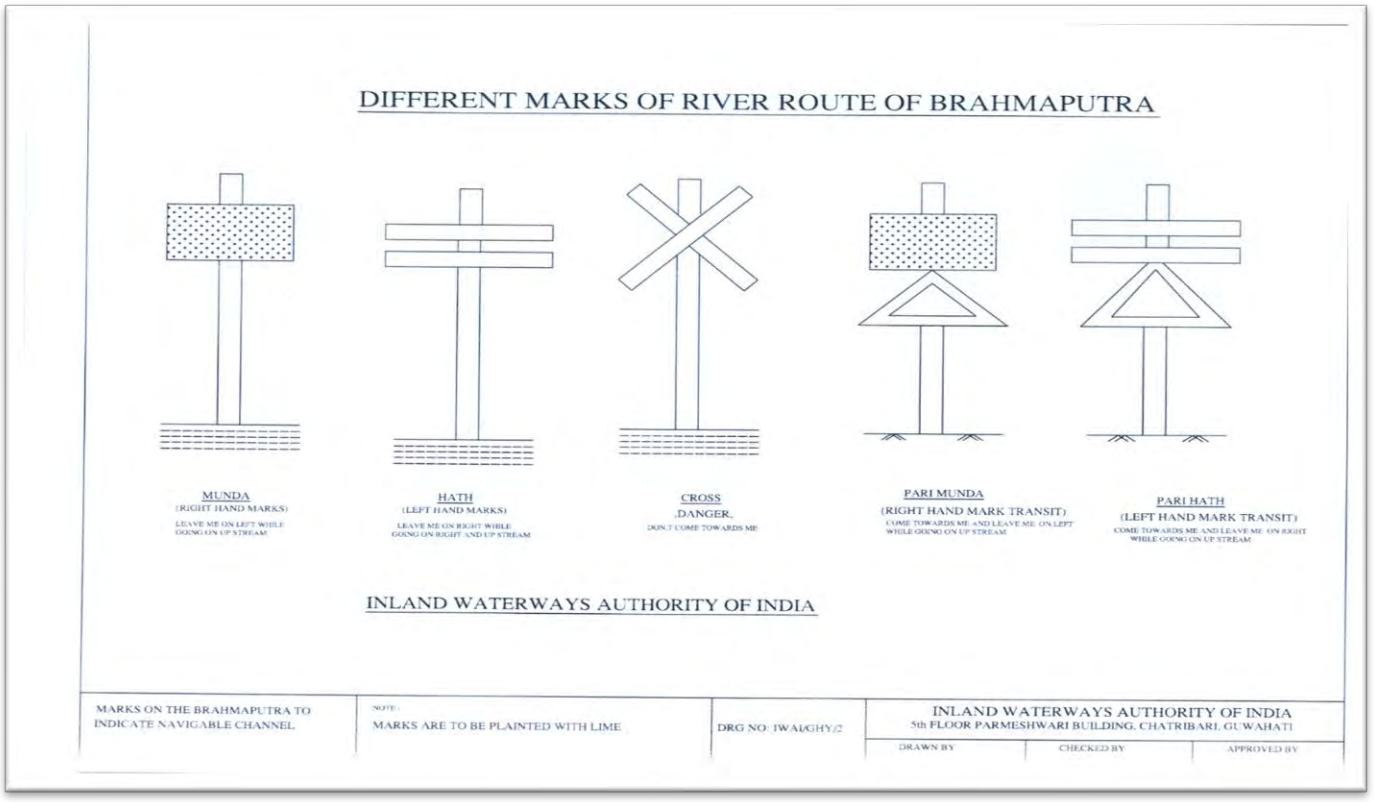
General Arrangement of Bandal



Enclosure-2 Bamboo Mat Bandalling



Enclosure-3 Various typical Navigational Channel Markers



Part 3 – Conditions of Contract and Contract Forms

Section - VIII General Conditions of Contract

General Conditions of Contract
A. General

1. Definitions	1.1 Boldface type is used to identify defined terms. (a) The Accepted Contract Amount means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects. (b) Not used. (c) The Adjudicator is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in GCC 23. (d) Bank means the financing institution **named in the PCC**. (e) Bill of Quantities means the priced and completed Bill of Quantities forming part of the Bid. (f) Compensation Events are those defined in GCC Clause 42 hereunder. (g) The Completion Date is the date of completion of the Works as certified by the Project Manager, in accordance with GCC Sub-Clause 53.1. (h) The Contract is the Contract between the Employer and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in GCC Sub-Clause 2.3 below. (i) The Contractor is the party whose Bid to carry out the Works has been accepted by the Employer. (j) The Contractor's Bid is the completed bidding document submitted by the Contractor to the Employer. (k) The Contract Price is the Accepted Contract Amount stated in the Letter of Acceptance and thereafter as adjusted in accordance with the Contract. (l) Days are calendar days; months are calendar months. (m) Not used. (n) A Defect is any part of the Works not completed in accordance with the Contract. (o) The Defects Liability Certificate is the certificate issued by Project Manager upon correction of defects by the Contractor. (p) The Defects Liability Period is the period named in the PCC pursuant to Sub-Clause 34.3 and calculated from the Completion Date. (q) Drawings means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract, include calculations and other information provided or approved by the Project Manager for the execution of the Contract. (r) The Employer is the party who employs the Contractor to carry out the Works, **as specified in the PCC**.

	(s) Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works. (t) "In writing" or "written" means hand-written, type-written, printed or electronically made, and resulting in a permanent record; (u) The Initial Contract Price is the Contract Price listed in the Employer's Letter of Acceptance. (v) The Intended Completion Date is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is **specified in the PCC**. The Intended Completion Date may be revised only by the Project Manager by issuing an extension of time or an acceleration order. (w) Materials are all supplies, including consumables, used by the Contractor for incorporation in the Works. (x) Plant is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function. (y) The Project Manager is the person **named in the PCC** (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract. (z) PCC means Particular Conditions of Contract. (aa) The Site is the area defined **as such in the PCC**. (bb) Site Investigation Reports are those that were included in the bidding documents and are factual and interpretative reports about the surface and subsurface conditions at the Site. (cc) Specification means the Specification of the Works included in the Contract and any modification or addition made or approved by the Project Manager. (dd) The Start Date is **given in the PCC**. It is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates. (ee) A Subcontractor is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site. (ff) Temporary Works are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works. (gg) A Variation is an instruction given by the Project Manager which varies the Works. (hh) The Works are what the Contract requires the Contractor to construct, install, and turn over to the Employer, **as defined in the PCC**.
2. Interpretation	2.1 In interpreting these GCC, words indicating one gender include all genders. Words indicating the singular also include the plural and words indicating the plural also include the singular. Headings have no significance. Words have their normal

	meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC. 2.2 If sectional completion is **specified in the PCC**, references in the GCC to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works). 2.3 The documents forming the Contract shall be interpreted in the following order of priority: (a) Agreement, (b) Letter of Acceptance, (c) Contractor's Bid& Priced Bill of Quantities, (d) Particular Conditions of Contract, (e) General Conditions of Contract including Appendices, (f) Specifications, (g) Drawings, (h) Joint Venture Agreement [where applicable], and (i) any other document **listed in the PCC** as forming part of the Contract.
3. Language and Law	3.1 The language of the Contract and the law governing the Contract are **stated in the PCC**. Salient features of major labour and other laws that are applicable to construction industry in India are given as Appendix 1 to these General Conditions of Contract. 3.2 Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in India when (a) as a matter of law or official regulations, India prohibits commercial relations with that country; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, India prohibits any import of goods from that country or any payments to any country, person, or entity in that country.
4. Project Manager's Decisions	4.1 Except where otherwise specifically stated, the Project Manager shall decide contractual matters between the Employer and the Contractor in the role representing the Employer. However, if the Project Manager is required, under the rules and regulations and orders of the Employer, to obtain approval

	of some other authorities for specific actions, he will so obtain the approval. Provided further that any requisite approval shall be deemed to have been given by the Employer for any such authority exercised by the Project Manager.
5. Delegation	5.1 Unless otherwise **specified in the PCC**, the Project Manager may delegate any of his duties and responsibilities to other people, except to the Adjudicator, after notifying the Contractor, and may revoke any delegation after notifying the Contractor.
6. Communications	6.1 Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered. All oral instructions shall be confirmed in writing in seven working days.
7. Subcontracting	7.1 The Contractor may subcontract with the approval of the Project Manager up to a ceiling **specified in PCC**, but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations. 7.2 The Project Manager should satisfy himself before recommending to the Employer whether: a) the circumstances warrant such sub-contracting; and, b) the sub-Contractor so proposed for the Work possesses the experience, qualifications and equipment necessary for the job proposed to be entrusted to him in proportion to the quantum of Works to be sub-contracted. 7.3 If payments are proposed to be made directly to that sub-contractor, this should be subject to specific authorization by the prime contractor so that his arrangement does not alter the contractor's liability or obligations under the contract. 7.4 The Contractor shall not be required to obtain any consent from the Employer for: (a) the sub-contracting of any part of the Works for which the Sub-Contractor is already named in the contract; (b) the provision for labour, or labour component, and, (c) the purchase of materials which are in accordance with the standards specified in the contract. *(Note:* *1. All bidders are expected to indicate clearly in the bid, if they proposed sub-contracting elements of the works amounting to more than 10 percent of the Bid Price. For each such proposal the qualification and the experience of the identified sub-contractor in the relevant field should be furnished alongwith the bid to enable the Employer to satisfy*

	himself about their qualifications before agreeing for such sub-contracting and include it in the contract. In view of the above, normally no additional sub-contracting should arise during execution of the contract. *2. However, [a] sub-contracting for certain specialized elements of the work is not unusual and acceptable for carrying out the works more effectively; but vertical splitting of the works for sub-contracting is not acceptable. [b] in any case, proposal for sub-contracting in addition to what was specified in bid and stated in contract agreement will not be acceptable if the value of such additional sub-contracting exceeds 25% of value of work which was to be executed by Contractor without sub-contracting.* *3. Assignment of the contract may be acceptable only under exceptional circumstances such as insolvencies/liquidation or merger of companies etc.)*
8. Other Contractors	8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors, as **referred to in the PCC**. The Contractor shall also provide facilities and services for them as described in the Schedule. The Employer may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification.
9. Personnel and Equipment	9.1 The Contractor shall employ the key personnel and use the equipment identified in its Bid and **referred to in the PCC**, to carry out the Works or other personnel and equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid. 9.2 The Project Manager may require the Contractor to remove from the Site of Works, a member of the Contractor's staff or his work force, who: (a) persists in any misconduct or lack of care, (b) carries out duties incompetently or negligently, (c) fails to conform with any provisions of the Contract, or (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment. 9.3 If the Employer, Project Manager or Contractor determines, that any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the Works, then that employee shall be removed in accordance with Clause 9.2 above

Compliance with Labour Regulations	9.4 In all the above cases, the contractor shall ensure that the person leaves the site within seven days and has no further connection with the work in the contract. The Contractor shall appoint a suitable replacement within 28 days or earlier as may be agreed to between the Project manager and the Contractor. 9.5 The Contractor shall not employ any retired Gazetted officer who has either not completed two years after the date of retirement or has not obtained permission from the Government authorities for employment with the Contractor[27]. 9.6 The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport. The Contractor shall, if required by the Project Manager, deliver to the Project Manager a return in detail, in such form and at such intervals as the Project Manager may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Project Manager may require. 9.7 During continuance of the Contract, the Contractor and his Sub-Contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour laws (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law prevailing on the Base Date either by the State or the Central Government or the local authority. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contraventions including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, the Project Manager/ Employer shall have the right to deduct any money due to the Contractor including his amount of performance security and if applicable, the Environmental, Social, Health and Safety (ESHS) Performance Security. The Employer/ Project Manager shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

27Based on Government Directives.

	9.8 The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time. 9.9 The Contractor shall duly comply with the provisions of the Apprentices Act 1961 (III of 1961) and the rules made there under, and comply, failure or neglect to shall be subject to all liabilities and penalties provided in the said Act and Rules.
10. Employer's and Contractor's Risks	10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.
11.Employer's Risks	11.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Employer's risks: a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to (i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works or (ii) negligence, breach of statutory duty, or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor. b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in the Employer's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed. 11.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is an Employer's risk except loss or damage due to (a) a Defect which existed on the Completion Date, (b) an event occurring before the Completion Date, which was not itself an Employer's risk, or (c)the activities of the Contractor on the Site after the Completion Date.
12. Contractor's Risks	12.1 From the Starting Date until the Defects Liability Certificate has been issued, the risks of personal injury, death, and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer's risks are Contractor's risks.

13. Insurance	13.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles **stated in the PCC** for the following events which are due to the Contractor's risks: a) loss of or damage to the Works, Plant, and Materials [which are incorporated in works]; b) loss of or damage to Construction Equipment; c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and d) personal injury or death. 13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred. 13.3 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.
	13.4 Alterations to the terms of insurance shall not be made without the approval of the Project Manager. 13.5 Both parties shall comply with any conditions of the insurance policies.
14.Site Data	14.1 The Contractor shall be deemed to have examined any Site Data **referred to in the PCC**, supplemented by any information available to the Contractor.
15. Contractor to Construct the Works including protection of environment, and assurance of public health and safety	15.1The Contractor shall construct and install the Works in accordance with the Specifications and Drawings and as per instructions of Project Manager. 15.2.1 The Contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other cause arising as a consequence of his methods of operation. 15.2.2 During continuance of the contract, the contractor and his sub-contractors shall abide at all times by all existing enactments on environmental protection and rules made thereunder, regulations, notifications and by-laws of the Sate or Central Government, or local authorities and other law, bye-

	law, regulations that may be passed or notification that may be issued in this respect in future by the State or Central Government or the local authority. Salient features of the major laws are given in Appendix 1 to the General Conditions of Contract.
16. The Works to Be Completed by the Intended Completion Date	16.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.
17. Approval by the Project Manager	17.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, for his approval. 17.2 The Contractor shall be responsible for design of Temporary Works. 17.3 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works. 17.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required. 17.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before this use.
18. Safety	18.1 The Contractor shall be responsible for the safety of all activities on the Site.
19.Discoveries	19.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Project Manager of such discoveries and carry out the Project Manager's instructions for dealing with them.
20. Possession of the Site	20.1 The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date **stated in the PCC**, the Employer shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.
21.Access to the Site	21.1 The Contractor shall allow the Project Manager and any person authorized by the Project Manager access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

22. Instructions, Inspections and Audits	22.1 The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the Site is located. 22.2 The Contractor shall keep, and shall make all reasonable efforts to cause its Subcontractors and sub-consultants to keep, accurate and systematic accounts and records in respect of the Works in such form and details as will clearly identify relevant time changes and costs. 22.3 The Contractor shall permit and shall cause its Subcontractors and sub-consultants to permit, the Bank and/or persons appointed by the Bank to inspect the Site and/or the accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the Bank if requested by the Bank. The Contractor's and its Subcontractors' and sub-consultants' attention is drawn to Sub-Clause 25.1 which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under Sub-Clause 22.2 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures).
23. Appointment of the Adjudicator	23.1 The Adjudicator named in PCC shall be appointed jointly by the Employer and the Contractor, at the time of the Employer's issuance of the Letter of Acceptance. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority **designated in the PCC**, to appoint the Adjudicator within 14 days of receipt of such request. 23.1.1 The Adjudicator should be in position before "notice to proceed with work" is issued to the Contractor and an agreement should be signed with the Adjudicator jointly by the Employer and the Contractor in the form attached – Appendix 3. 23.2 Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract; a new Adjudicator shall be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority **designated in the PCC** at the request of either party, within 14 days of receipt of such request.

24.Procedure for Disputes	24.1 If the Contractor believes that a decision taken by the Project Manager was either outside the authority given to the Project Manager by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 14 days of the notification of the Project Manager's decision. 24.2 The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute. 24.3 The Adjudicator shall be paid daily at the rate **specified in the PCC**, together with reimbursable expenses of the types **specified in the PCC**, and the cost shall be divided equally between the Employer and the Contractor. Whatever decision is reached by the Adjudicator, either party may refer that decision to an Arbitrator within 28 days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above 28 days, the Adjudicator's decision shall be final and binding. 24.4 The arbitration shall be conducted in accordance with the arbitration procedures published by the institution named and in the place **specified in the PCC**. The Arbitrator(s) shall give a decision in writing within 120 days of start of the proceedings unless otherwise agreed to by the Parties. The Arbitrators shall entertain only those issues which have been earlier referred to the Adjudicator and either party is dissatisfied with the decision given by the Adjudicator.
25. Corrupt and Fraudulent Practices	25.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Appendix A to the GCC. 25.2 The Employer requires the Contractor to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information shall be disclosed as and when such payments are made or agreed to, and compliance with the disclosure requirement shall be furnished, while submitting each monthly statement for payments; such disclosure must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

B. Time Control

26. Program	26.1 Within the time **stated in the PCC**, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a revised Program showing the general methods,

	arrangements, order, and timing for all the activities in the Works alongwith monthly cash flow forecasts. 26.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities. 26.3 The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period **stated in the PCC**. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount **stated in the PCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. 26.4 The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.
27. Extension of the Intended Completion Date	27.1 The Project Manager shall extend the Intended Completion Date including milestones if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date as per agreed milestones without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost. 27.2 The Project Manager shall decide whether and by how much to extend the Intended Completion Date/milestones within 21 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date/milestones.
28. Acceleration	28.1 When the Employer wants the Contractor to finish before the Intended Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Employer accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both the Employer and the Contractor.

	28.2 If the Contractor's priced proposals for acceleration are accepted by the Employer, they are incorporated in the Contract Price and treated as a Variation.
29. Delays Ordered by the Project Manager	29.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.
30. Management Meetings	30.1 Either the Project Manager or the Contractor may require the other to attend a management meeting. (Which will be held at the place indicated in PCC. The periodicity to be fixed by Project Manager / Contractor jointly). The business of a management meeting shall be to review the progress of construction with reference to the construction program given in accordance with GCC 26.1, the plans for remaining work and to deal with matters raised in accordance with the early warning procedure. 30.2 The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.
31. Early Warning	31.1 The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible. 31.2 The Contractor shall cooperate with the Project Manager in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Project Manager.

C. Quality Control

32. Quality Assurance	32.1 The Contractor shall institute Quality Assurance (QA) and Quality Control (QC) systems in accordance with Quality Assurance Plan to demonstrate compliance with the requirements of the Contract as approved by the Project Manager.

	32.2 Compliance with the QA/QC systems shall not relieve the Contractor of any of his duties obligations or responsibilities under the Contract.
33. Tests	33.1 The Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labour, materials, and suitably qualified and experienced staff, as are necessary to carry out the specified tests efficiently. 33.2 If the Project Manager instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event.
34. Identifying and Correction of Defects	34.1. The Project Manager shall check the Contractor's work and notify the Contractor of any defects that are found specifying a time by which it should be corrected. Such checking shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect. 34.2 The contractor shall permit the Employer's Technical auditor to check the contractor's work and notify the Project Manager and Contractor of any defects that are found. Such a check shall not affect the Contractor's or the Project Manager's responsibility as defined in the Contract Agreement 34.3 The Project Manager shall give notice to the Contractor of any Defects [specifying a time limit by which it should be corrected] before the end of the Defects Liability Period, which begins at Completion, and is **defined in the PCC**. The Defects Liability Period shall be extended for as long as Defects remain to be corrected. 34.4 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice.
35. Uncorrected Defects	35.1 If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected and the Contractor shall pay this amount. ***Note: 1. Where in certain cases, the technical specifications provide for acceptance of works within specified tolerance limits***

	at reduced rates, Project Manager will certify payments to Contractor accordingly. ***2. Where the failure to correct a particular defect within the specified time is considered as a fundamental breach of contract a notice should be given to the contractor as stated in GCC 57.2(e).***

D. Cost Control

36. Contract Price	36.1 The Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.
37. Changes in the Contract Price	37.1 If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1 percent of the Initial Contract Price, the Project Manager shall adjust the rate to allow for the change. (a) If the quantity of work executed exceeds the quantity of the item in BOQ beyond the higher specified limit the Project Manager shall fix the rate to be applied for the additional quantity of the work executed. (b) If the quantity of work executed less than the quantity of the item in BOQ lesser than the lower specified limit, the Project Manager shall fix the rate to be applied for whole of the quantity of the work so executed. 37.2. The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the prior approval of the Employer. 37.3 If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.
38. Variations	38.1 All Variations shall be included in updated Programs, produced by the Contractor. 38.2 The Contractor shall provide the Project Manager with a quotation (with breakdown of unit rates) for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.

	38.3 If the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in Sub-Clause 37.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work. 38.4 If the Contractor's quotation is unreasonable, [*or if contractor fails to provide the Project Manager with a quotation within a reasonable time specified by Project Manager in accordance with GCC 38.2*] the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs 38.5 If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event. 38.6 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.
39. Cash Flow Forecasts	39.1 When the Program, is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast. The cash flow forecast shall be in Indian Rupees.
40. Payment Certificates	40.1 The Contractor shall submit to the Project Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously alongwith details of measurement of the quantity of works executed in a tabular form approved by the Project Manager. 40.2 The Project Manager shall check the details given in the Contractor's monthly statement and within 14 days certify the amounts to be paid to the Contractor after taking into account any credit or debit for the month in question in respect of materials for the works in the relevant amount and under conditions set forth in GCC Sub-Clause 49.4 [*Secured Advance*] 40.3 The value of work executed shall be determined by the Project Manager after due check and measurement of the quantities claimed as executed by the contractor

	40.4 The value of work executed shall comprise of the value of the quantities of work in the Bill of Quantities that have been completed; 40.5 The value of work executed shall include the valuation of Variations and Compensation Events. 40.6 The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.
41. Payments	41.1 Payments shall be adjusted for deductions for advance payments, retention, other recoveries in terms of contract & taxes to be deducted at source [TDS] as per applicable law. The Employer shall pay the Contractor the amounts certified by the Project Manager within 28 days of the date of each certificate. If the Employer makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at the rate **stated in the PCC**. 41.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated at the rate stated in GCC 41.1 above, from the date upon which the increased amount would have been certified in the absence of dispute. 41.3 Items of the Works for which no rate or price has been entered in shall not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.
42. Compensation Events	42.1 The following shall be Compensation Events: a) The Employer does not give access to a part of the Site by the Site Possession Date pursuant to GCC Sub-Clause 20.1. b) The Employer modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract. c) The Project Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time. d) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects. e) The Project Manager unreasonably does not approve a subcontract to be let.

	f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site. g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons. h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor. i) The advance payment is delayed. j) The effects on the Contractor of any of the Employer's Risks. k) The Project Manager unreasonably delays issuing a Certificate of Completion. 42.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Project Manager shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended. 42.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager's own forecast. The Project Manager shall assume that the Contractor shall react competently and promptly to the event. 42.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor's not having given early warning or not having cooperated with the Project Manager.
43. Tax	43.1 The rates quoted by the Contractor shall be deemed to be inclusive of the VAT, Sales and other taxes that the Contractor will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at source [TDS] as per applicable law. 43.2 The Project Manager shall adjust the Contract Price if taxes, duties, and other levies are changed between the deadline for the submission of bids for the Contract and the date of the last Completion certificate. The adjustment shall be the change in the

	amount of tax payable by the Contractor, provided such changes are not already reflected in the Contract Price.
44. Currencies	44.1 All payments shall be made in Indian Rupees.
45. Price Adjustment	45.1 Contract price shall be adjusted for increase or decrease in rates and price of labour, materials, fuels and lubricants and other inputs to the works in accordance with the principles and procedures outlined below. A table of adjustment data is **included in the PCC** which indicates the coefficients of various inputs and the sources of indices for various schedules of BOQ. If the PCC does not include a table of adjustment data this sub clause shall not apply and there shall be no price adjustment. (a) The price adjustment according to sub para (d) below, shall apply for the work done from the start date given in the PCC up to the end of the Intended Completion Date. If there is delay in completion beyond such date for reasons attributable to the contractor, the Price Adjustment for the work carried out during such period, for reasons attributable to the Contractor, shall be regulated by sub-para (g) below. (b) The Contract Price shall be adjusted to take account of any increase or decrease in cost after the base date, which affect the Contractor in performance of obligations under the Contract. (c) The total value (R) of the work done during the specified period [GCC 40.1] shall be as under: R= SUM (RS1 + RS2 + RS3 + …….RSn), Where, 'Rsn' is the value of work done during the specified period to which the price adjustment shall be applied for the relevant schedule of Bill of Quantities (BOQ) specified in P.C.C during the specified period, and represented as under: Rsn = (Vsn + Ssn) minus (amount of secured advance recovered in the same period + value of works executed under variations for which price adjustments will be worked separately based on terms mutually agreed between the Project Manager and the Contractor). where, Vsn is the total value of work done during the specified period for the respective schedule of BOQ, and Ssn is the secured advance paid during the specified period for the respective schedule of BOQ,

(d) The adjustment to be applied to the amount otherwise payable to the Contractor, as valued in accordance with the appropriate schedule of BOQ and certified in Payment Certificates, shall be determined from formulae which shall be of the following general type:

Pn = a + b Ln/Lo +c En/Eo + d Mn/Mo+ …….

where,

"Pn" is the adjustment multiplier to be applied to the value of the work done during the period "n", this period being a month unless otherwise stated in the PCC.

"a" is a fixed coefficient, stated in the relevant table of adjustment data, representing the non-adjustable portion in contractual payments;

"b", "c", "d",… are coefficients representing the estimated proportion of each cost element related to the execution of the Works, as stated in the relevant table of adjustment data; such tabulated cost elements may be indicative of resources such as labour, equipment and materials;

"Ln"[Labour], "En"[Equipment], "Mn"[Material], …. are the current cost indices or reference prices for period "n", each of which is applicable to the relevant tabulated cost element [Labour, Equipment, Steel, Cement, Fuel/Lubricants, Bitumen, others] on the date, specified in the Table-2 of Adjustment Data, prior to the last day of the period (to which the particular Payment Certificate relates); and

"Lo", "Eo", "Mo", ….are the base cost indices or reference prices, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the Base Date.

(e) The cost indices or reference prices stated in the tables of adjustment data given in PCC shall be used. The base date shall be the deadline for the submission of bids.

(f) If the Contractor fails to complete the Works within the Intended Completion date, adjustment of prices thereafter shall be made using either:

(i) index or price applicable for each cost element tabulated in the tables of adjustment data on the specified date prior to the expiry of the Intended Completion Date, or

(ii) the current index or price applicable for the period in question whichever is more favourable to the Employer.

(g) The weightings (coefficients) for each of the factors of cost stated in the table(s) of adjustment data shall only be varied by the Project

	Manager if they have been rendered unreasonable, unbalanced or inapplicable, as a result of Variations. (h) Unless otherwise stated in the P.C.C., the Price adjustment shall be done in each monthly Interim Payment Certificate [IPC]. The coefficients and indices are given in the Tables of Adjustment Data in Contract data. 45.2 To the extent that full compensation for any rise or fall in costs to the contractor is not covered by the provisions of this or other clauses in the contract, the unit rates and prices included in the contract shall be deemed to include amounts to cover the contingency of such other rise or fall in costs
46. Retention	46.1 The Employer shall retain from each payment due to the Contractor the proportion **stated in the PCC** until Completion of the whole of the Works 46.2 Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with GCC 53.1, half the total amount retained shall be repaid to the Contractor and half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected. On completion of the whole works the Contractor may substitute the balance retention money with an "on demand" Bank guarantee.
47. Liquidated Damages	47.1 The Contractor shall pay liquidated damages to the Employer at the rate per day **stated in the PCC** for each day that the Completion Date is later than the Intended Completion Date (for the whole of the works or the milestones as **stated in the PCC**). The total amount of liquidated damages shall not exceed the amount defined in the PCC. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities. Time is the essence of the contract and payment or deduction of liquidated damages shall not relieve the contractor from his obligation to complete the work as per agreed construction program and milestones, or from any of the Contractor's other obligations and liabilities under the contract. 47.2 If the Intended Completion Date including milestones is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC Sub-Clause 41.1.

48. Bonus	48.1	The Contractor shall be paid a Bonus calculated at the rate per calendar day stated in the PCC for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete.
49. Advance Payment Secured Advances	49.1	The Employer shall make advance payment to the Contractor of the amounts **stated in the PCC** by the date **stated in the PCC**, against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a bank acceptable to the Employer in amounts in Indian Rupees equal to the advance payment. The Guarantee shall remain effective until the advance payment has been repaid, but the amount of the Guarantee shall be progressively (each instalment not less than Rs. 500,000) reduced by the amounts repaid by the Contractor. Interest shall not be charged on the advance payment.
	49.2	The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager.
	49.3	The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, Liquidated Damages.
	49.4	The Project Manager shall make advance payment in respect of materials intended for but not yet incorporated in the Works in accordance with conditions **stipulated in the PCC**.
50. Securities	50.1	The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount **specified in the PCC**, by a Nationalized or Schedule bank in India. The Bank Guarantee for Performance Security including additional security for unbalanced bids shall be valid until a date 28 days from the date of issue of the Certificate of Completion.
51. Dayworks	51.1	Not used.
52. Cost of Repairs	52.1	Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. Finishing the Contract

53. Completion	53.1 The Contractor shall request the Project Manager to issue a Certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the whole of the Works is completed.
54. Taking Over	54.1 The Employer shall take over the Site and the Works within seven days of the Project Manager's issuing a certificate of Completion.
55. Final Account	55.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract at the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate within 56 days of receiving the contractor's revised account.
56. Operating and Maintenance Manuals	56.1 If "as built" Drawings [including a compact disk containing digitized drawings] and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated **in the PCC**. 56.2 If the Contractor does not supply the Drawings [including a compact disk containing digitized drawings] and/or manuals by the dates **stated in the PCC** pursuant to GCC Sub-Clause 56.1, or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount **stated in the PCC** from payments due to the Contractor.
57. Termination	57.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract after giving fourteen (14) days written notice. 57.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following: a) the Contractor stops work for 28 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Project Manager; b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 28 days; c) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation; d) a payment certified by the Project Manager is not paid by the Employer to the Contractor within 84 days of the date of the Project Manager's certificate; e) the Project Manager gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to

	correct it within a reasonable period of time determined by the Project Manager; f) the Contractor does not maintain a Security, which is required; g) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in the PCC; or h) if the Contractor, in the judgment of the Employer, has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for or in executing the Contract, then the Client may, after giving fourteen (14) days written notice to the Contractor, terminate the Contract and expel him from the Site. i) The contractor has contravened Clauses 7 and 9 of GCC. j) The contractor does not adhere to the agreed construction program, agreed ESHS-MSIP [Clause 26 of GCC] and also fails to take satisfactory remedial action as per agreements reached in the management meetings [Clause 30 of GCC] for a period of 60 days. k) The contractor fails to carry out of the instructions of the Project Manager within a reasonable time determined by the Project Manager in accordance with GCC Clause 15.1 and 22. l) The contractor (in case of Joint Venture) has modified the composition of the joint venture and/or the responsibility of each member of the joint venture from what is stated in joint venture agreement without the prior approval of the Employer. 57.3 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under GCC Sub-Clause 57.2 above, the Project Manager shall decide whether the breach is fundamental or not. 57.4 Notwithstanding the above, the Employer may terminate the Contract for convenience. 57.5 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.
58. Payment upon Termination	58.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate less other recoveries due in terms of contract, less taxes to be deducted at source [TDS] as per applicable law, and less the percentage to apply to the value of the work not completed, as **indicated in the PCC**. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer. 58.2 If the Contract is terminated for the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works,

		and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate less other recoveries due in terms of the contract and less taxes due to be deducted at source [TDS] as per applicable law.
59. Property	59.1	All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Employer if the Contract is terminated because of the Contractor's default.
60. Release from Performance	60.1	If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.
61. Suspension of Bank Loan or Credit	61.1	In the event that the Bank suspends the Loan or Credit to the Employer, from which part of the payments to the Contractor are being made: a) The Employer is obligated to notify the Contractor of such suspension within 7 days of having received the Bank's suspension notice. b) If the Contractor has not received sums due it within the 28 days for payment provided for in Sub-Clause 40.1, the Contractor may immediately issue a 14-day termination notice.

APPENDIX A TO GENERAL CONDITIONS
Bank's Policy- Corrupt and Fraudulent Practices

Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011 Revised July 2014:

"**Fraud and Corruption:**

1.16 It is the Bank's policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.[28] In pursuance of this policy, the Bank:

(a) defines, for the purposes of this provision, the terms set forth below as follows:

(i) "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;[29];

(ii) "fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;[30]

(i) "Collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;[31]

(ii) "Coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;[32]

(v) "obstructive practice" is

(aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent

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[28] In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

[29] For the purpose of this sub-paragraph, "*another party*" refers to a public official acting in relation to the procurement process or contract execution. In this context, "*public official*" includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

[30] For the purpose of this sub-paragraph, "party" refers to a public official; the terms "benefit" and "obligation" relate to the procurement process or contract execution; and the "act or omission" is intended to influence the procurement process or contract execution.

[31] For the purpose of this sub-paragraph, "parties" refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other's bid prices or other conditions.

[32] For the purpose of this sub-paragraph, "party" refers to a participant in the procurement process or contract execution.

it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or

(bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 1.16(e) below.

(b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

(c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;

(d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,[33] including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated[34];

(e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank."

[33] A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

[34] A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

APPENDIX B
Environmental, Social, Health and Safety (ESHS) Metrics for Progress Reports

[Note to Employer: the following metrics may be amended to reflect the Employer's environmental, social, health and safety policies and/or the ESHS requirements of the project. The metrics that are required should be determined by the ESHS risks of the Works and not necessarily by the scale of the Works]

Metrics for regular reporting:

a. **environmental incidents or non-compliances with contract requirements, including contamination, pollution or damage to ground or water supplies;**
b. **health and safety incidents, accidents, injuries and all fatalities that require treatment;**
c. **interactions with regulators: identify agency, dates, subjects, outcomes (report the negative if none);**
d. **status of all permits and agreements:**
    1) work permits: number required, number received,
    2) actions taken for those not received;
    3) status of permits and consents:
    - *list areas/facilities with permits required (quarries, asphalt & batch plants), dates of application, dates issued (actions to follow up if not issued), dates submitted to resident engineer (or equivalent), status of area (waiting for permits, working, abandoned without reclamation, decommissioning plan being implemented, etc.);*
    - *list areas with landowner agreements required (borrow and spoil areas, camp sites), dates of agreements, dates submitted to resident engineer (or equivalent);*
    - *identify major activities undertaken in each area in the reporting period and highlights of environmental and social protection (land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation);*
    - *for quarries: status of relocation and compensation (completed, or details of activities and current status in the reporting period).*
e. **health and safety supervision:**
    - safety officer: number days worked, number of full inspections & partial inspections, reports to construction/project management;
    - number of workers, work hours, metric of PPE use (percentage of workers with full personal protection equipment (PPE), partial, etc.), worker violations observed (by type of violation, PPE or otherwise), warnings given, repeat warnings given, follow-up actions taken (if any);
f. **worker accommodations:**
    - number of expats housed in accommodations, number of locals;
    - date of last inspection, and highlights of inspection including status of accommodations'' compliance with national and local law and good practice, including sanitation, space, etc.;
    - actions taken to recommend/require improved conditions, or to improve conditions.

g**. HIV/AIDS: provider** of health services, information and/or training, location of clinic, number of non-safety disease or illness treatments and diagnoses (no names to be provided);

h. gender (for expats and locals separately): number of female workers, percentage of workforce, gender issues raised and dealt with (cross-reference grievances or other sections as needed);

i. training:

- number of new workers, number receiving induction training, dates of induction training;
- number and dates of toolbox talks, number of workers receiving Occupational Health and Safety (OHS), environmental and social training;
- number and dates of HIV/AIDS sensitization and/or training, no. workers receiving training (this reporting period and in the past); same questions for gender sensitization, flag person training.
- number and date of GBV /SEA sensitization and/or training, number of workers receiving training on code of conduct (in the reporting period and in the past), etc.

j. environmental and social supervision:

- environmentalist: days worked, areas inspected and numbers of inspections of each (road section, work camp, accommodations, quarries, borrow areas, spoil areas, swamps, forest crossings, etc.), highlights of activities/findings (including violations of environmental and/or social best practices, actions taken), reports to environmental and/or social specialist/construction/site management;
- sociologist: days worked, number of partial and full site inspections (by area: road section, work camp, accommodations, quarries, borrow areas, spoil areas, clinic, HIV/AIDS center, community centers, etc.), highlights of activities (including violations of environmental and/or social requirements observed, actions taken), reports to environmental and/or social specialist/construction/site management; and
- community liaison person(s): days worked (hours community center open), number of people met, highlights of activities (issues raised, etc.), reports to environmental and/or social specialist /construction/site management.

k. Grievances: list new grievances (e.g., allegations of GBV / SEA) received in the reporting period and unresolved past grievances by date received, complainant, how received, to whom referred to for action, resolution and date (if completed), data resolution reported to complainant, any required follow-up (Cross-reference other sections as needed):

i. Worker grievances; ii. Community grievances

l. Traffic and vehicles/equipment:

- traffic accidents involving project vehicles & equipment: provide date, location, damage, cause, follow-up;
- accidents involving non-project vehicles or property (also reported under immediate metrics): provide date, location, damage, cause, follow-up;
- overall condition of vehicles/equipment (subjective judgment by environmentalist); non-routine repairs and maintenance needed to improve safety and/or environmental performance (to control smoke, etc.).

m. Environmental mitigations and issues (what has been done):

i. dust: number of working bowsers, number of waterings/day, number of complaints, warnings given by environmentalist, actions taken to resolve; highlights of quarry dust control (covers, sprays, operational status); % of rock/spoil lorries with covers, actions taken for uncovered vehicles;

ii. erosion control: controls implemented by location, status of water crossings, environmentalist inspections and results, actions taken to resolve issues, emergency repairs needed to control erosion/sedimentation;

iii. quarries, borrow areas, spoil areas, asphalt plants, batch plants: identify major activities undertaken in the reporting period at each, and highlights of environmental and social protection: land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation;

iv. blasting: number of blasts (and locations), status of implementation of blasting plan (including notices, evacuations, etc.), incidents of off-site damage or complaints (cross-reference other sections as needed);

v. spill clean-ups, if any: material spilled, location, amount, actions taken, material disposal (report all spills that result in water or soil contamination;

vi. waste management: types and quantities generated and managed, including amount taken offsite (and by whom) or reused/recycled/disposed on-site;

vii. details of tree plantings and other mitigations required undertaken in the reporting period;

viii. details of water and swamp protection mitigations required undertaken in the reporting period.

n. compliance:

i. compliance status for conditions of all relevant consents/permits, for the Work, including quarries, etc.): statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance;

ii. compliance status of C-ESMP/ESIP requirements: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance

iii. compliance status of GBV/SEA prevention and response action plan: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance

iv. compliance status of Health and Safety Management Plan re: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance

v. other unresolved issues from previous reporting periods related to environmental and social: continued violations, continued failure of equipment, continued lack of vehicle covers, spills not dealt with, continued compensation or blasting issues, etc. Cross-reference other sections as needed.

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Appendix – C

Following Environmental Safety Measures to be implemented by Contractor:

28. Sl. No.	**Environmental Safety measures to be implemented**	**Responsibility**
i.	'Consent to Establish' and 'Consent to Operate' shall be obtained from State Pollution Control Board under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.	Contractor
ii	The Project authority shall ensure that no rivers or tributaries are blocked due to any activities at the project site and free flow of water is maintained.	Contractor should ensure the same
iii	Shoreline shall not be disturbed due to dumping. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary.	Contractor should ensure the same.
iv	Dredging shall not be carried out during the fish/turtle breeding seasons.	Contractor
v	All vessels used in the river will be fitted with noise control and animal exclusion devices so that aquatic life is not unduly disturbed.	Contractor should ensure.
vi	Spillage of fuel / engine oil and lubricants from the construction site are a source of organic pollution which impacts aquatic life, particularly benthos. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.	Contractor
vii	Construction waste including debris shall be disposed safely in the designated areas and in no case shall be disposed in the aquatic environment.	Contractor
viii	Vessels shall not discharge oil or oily water such as oily bilge water containing more than 15ppm of oil.	Contractor shall ensure and maintain record
ix	The project authority shall ensure that water traffic does not impact the aquatic wildlife sanctuaries that fall along the stretch of the river.	Contractor should ensure compliance of provisions for movement of vessel in the Wildlife Sanctuary as per statutory clearances
x	All Vessels will also have to comply with 'Zero discharge' standards to prevent solid or liquid waste from flowing into the river and affecting its biodiversity.	Contractor
xi	The Dredging shall be carried by integrated and systematic planning by selective grid method by allowing migratory movement of Benthic fauna.	Contractor
xii	All required noise and vibration control measures are to be adopted in Dredgers. Cutter suction Dredgers should be avoided as much as possible which produces more noise and vibration. No Drilling and Blasting is to be carried out.	Contractor
xiii	Pre geo-tectonic studies has to be completed and the strata to be dredged is predetermined with complete data pertaining to hardness, compressive and tensile strengths.	Contractor
xiv	Dredger type and other strata loosening methods shall be preconceived.	Contractor
xv	Staggered dredging shall be carried based on turbidity monitoring to minimize the impact of turbidity.	Contractor should comply and maintain record
xvi	Threshold level of turbidity, which has a minimal effect on fauna, has to be predetermined and Dredging planned accordingly.	Contractor

Appendix – C

Following Environmental Safety Measures to be implemented by Contractor:

28. Sl. No.	Environmental Safety measures to be implemented	Responsibility
xvii	Further silt screens needs to be used for minimizing the spread of Turbidity.	Contractor
xviii	Disposal places of Dredged sediments needs to be predetermined, along the shore by assessment of suitability, which will not affect the shoreline (erosion) and also causing impacts during monsoon and flooding.	Contractor
xix	As much as possible, it shall not be disposed off in the river itself, and the site should be such that the dispersion is quicker by undertaking modelling studied.	Contractor
xx	Ballast water control and management measures shall be implemented.	Contractor
xxi	Waste and waste water reception facilities in Jetty shall be implemented.	Contractor should dispose the waste and wastewater at designated disposal place authorized by SPCB
xxii	The Risk and Disaster Management Plan has been prepared in consonance with the manual of terminals and harbours issued by the Ministry of Environmental and Forests dated 5th May 2010.	Contractor should follow the risk and disaster management plan for the purpose of dredging in river accordance with the Statutory/regulatory guidelines.
xxiii	Standard Operating Procedures (SOP) and Emergency Response Plan (ERP) for onsite and offsite emergencies shall be prepared and implemented based on Hazard Identification and Risk Assessment to handle, process, store and transport of hazardous substances.	Contractor should prepare and follow the Standard Operating Procedures (SOP) and Emergency Response Plan (ERP) for onsite and offsite emergencies for dredging in river accordance with Statutory/regulatory guidelines and IWAI consent
xxiv	Oil spill contingency plan shall be prepared and part of DMP to tackle emergencies. The equipment and recovery of oil from a spill shall be assessed. Guidelines given in MARPOL and shipping Acts for oil spill management shall be followed.	Contractor should implement the Oil Spill Contingency Plan for dredging in river accordance with Statutory/regulatory guidelines.
xxv	No diversion of the natural course of the river shall be made without prior permission from the Ministry of Water resources.	Contractor should ensure the same.
xxvi	All the erosion control measures shall be taken at water front facilities.	Contractor should ensure the same.
xxvii	Necessary Air Pollution Control measures shall be taken during loading, unloading, handling, transport of the material at the Berthing and water front facilities.	Contractor
xxviii	The Vessels shall comply the emission norms prescribed from time to time.	Contractor
xxiv	All safety measures are to be implemented in coordination with the respective state government departments such as State Forest Department, Public Works Department, State Pollution Control Board etc.	Contractor

Section IX. Particular Conditions of Contract

Except where otherwise indicated, all PCC should be filled in by the Employer prior to issuance of the Bidding Documents. Schedules and reports to be provided by the Employer should be annexed.

A. General

GCC 1.1 (d)	The financing institution is: IBRD by The World Bank Loan agreement number is 8752-IN
GCC 1.1 (r)	The Employer is **Vice Chairman & Project Director** **Inland Waterways Authority of India,** **Ministry of Ports, Shipping & Waterways** **Government of India** **A-13, Sector-1, Noida – 201301**
GCC 1.1 (v)	The Intended Completion Date is ***3 years from the Date of Commencement of Services.***
GCC 1.1 (y)	The Project Manager / Engineer-In-Charge for this contract is Director, IWAI, Kolkata. The Authorized Representatives are: **For the Employer:** Engineer in Charge & Director, IWAI, Kolkata Inland Waterways Authority of India **For the Contractor:** **(From successful Bidder)**
GCC 1.1 (aa)	Site is stretch between Farakka - Katwa (199 km) stretch of National Waterway-1.
GCC 1.1 (dd)	**Date of commencement of services / work:** (i) Within 28 days from the date of signing of the Contract, the Employer shall issue a Notice to the Contractor for commencing operations to meet the requirements of Works and Services stipulated in Section – VII (Description of the Works / Work's requirement).

(ii) The Contractor shall commence its activities immediately on receipt of the said Notice and notify the Employer within a period not exceeding 30 days from the date of receipt of said Notice that the Assured Least Available depth (LAD) of 3.0 m and channel bottom width of 45 m have been fully complied along with other related activities including provision of navigational aids.

(iii) The date on which the Engineer-in-charge or his representative, after receiving notification of readiness of Navigation Channel from the Contractor and after joint inspection of the channel with the Contractor, confirms that the entire stretch of the channel **Farakka - Katwa satisfies** the requirement of LAD of 3.0 m and channel bottom width of 45 m shall be referred to as the **"Date of Commencement of Services".**

(iv) Engineer-in-charge shall inspect jointly with Contractor within a week of the said notification to confirm that the entire stretch of the channel **Farakka - Katwa** satisfies the requirement of LAD of 3.0 m and Channel bottom width of 45 m.

(v) If the outcome of joint inspection is not satisfactory, Contractor will commence the required further activities immediately on receipt of Engineer-in-charge's intimation to this effect to meet the specified requirements. Within a period not exceeding 30 days from the date of receipt of said intimation from the Engineer- in-charge, or 60 days from the date of Employer's Notice to the Contractor for commencing operations, whichever is later,

The Contractor shall complete the required activities for making the Navigation Channel ready as specified. The Contractor shall then issue a revised Notification of readiness of Navigation Channel with LAD of 3.0 m and Channel bottom width of 45 m to the Engineer-in-charge.

(vi) The date of revised Notification referred to above will count as the **"Date of Commencement of Services"** (in supersession of the date arrived at earlier) provided joint inspection by the Engineer-in-charge with the Contractor confirms that the entire stretch of the channel **Farakka - Katwa** satisfies the requirement of LAD of 3.0 m and Channel bottom width of 45 m.

(vii) Contractor's failure to achieve LAD of 3.0 m and Channel bottom width of 45 m within the time limit prescribed in the paragraph (v) above shall be treated as breach of the contract, requiring re-determining of the Date of Commencement of Services based on the third round of Joint Survey.

	(viii) In such an event, the Contractor shall submit a proposal to the Employer with justification seeking additional time for carrying out further activities to achieve the specified LAD of 3.0 m and Channel width of 45 m. Based on Engineer-in-charge's recommendation, the Employer will consider the proposal and if extension of time is considered justified (ix) The Employer may allow Contractor further time as may be considered reasonable under the circumstances, provided, however, that no further extension shall be considered. If the Joint Survey done on Contractor's Notification of readiness of the Navigation Channel, establishes that that the entire stretch of the channel **Farakka - Katwa** satisfies the requirement of LAD of 3.0 m and Channel bottom width of 45 m, the date of Notification referred to herein shall be counted as the **Date of Commencement of Services.** (x) If the Joint Survey referred to in (vii) above reveals that the contractor has failed to achieve the specified LAD of 3.0 m and channel bottom width of 45m then in such case, the employer may consider LAD of 2.7 m depth and width has been of 45 m and the day when such LAD and width has been achieved shall be considered as **"Date of Commencement of Services".** (xi) It is clarified that LAD of 2.7 m may be considered only after 3rd joint survey for the purpose of defining "date of commencement of services", the overall LAD to be maintained by the contractor as per contract still remains 3.0 m during the contract period of 3 years.
GCC 1.1 (hh)	The Works consist of ***Fairway Maintenance of Farakka - Katwa (199 km) stretch of National Waterway -1 (River Ganga)*** **The identification number of the Contract is *IN-IWAI-400747-CW-RFB*** **Obligation of the contractor: -** The Contractor shall carry out the following Dredging /Bandalling Works, which are detailed in the Section VII – Description of services: - • To Provide and maintain assured LAD of 3.0 m and Channel bottom width of 45 m with naturally side slopes during the entire Contract period of 3 years from the date of commencement of services. • To install and maintain the Day Channel Marking (Navigational Aids) throughout the Contract Period. • Assistance to Normal barge and vessels / crafts movement in the channel during dredging operation.

GCC 1.1 (ii)	The following is added as GCC 1.1. (ii) "ESHS" means environmental, social (including sexual exploitation and abuse (SEA) and gender-based violence (GBV)), health and safety.
GCC 1.1 (jj)	The following is added as GCC 1.1. (jj) "Sexual Exploitation and Assault" "(SEA)" stands for the following: Sexual exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. In Bank financed operations/projects, sexual exploitation occurs when access to or benefit from a Bank financed Goods, Works, Non-consulting Services or Consulting Services is used to extract sexual gain. Sexual assault is defined as sexual activity with another person who does not consent. It is a violation of bodily integrity and sexual autonomy and is broader than narrower conceptions of "rape", especially because (a) it may be committed by other means than force or violence, and (b) it does not necessarily entail penetration.
GCC 2.2	Sectional Completions are: **NOT Applicable / Not Allowed**
GCC 2.3 (i)	The following documents also form part of the contract:

S. No.	Document	Description of the Document
1.	Dredging Methodology	Dredging methodology given in bid and amended as per comments of Employer given in letter of acceptance.
2.	Quality Control	Quality control procedures and assurance plans given in the bid and amended as per comments of Employer given in letter of acceptance.
3.	ESHS Management Strategies	ESHS Management Strategies and Implementation Plans and EMP (Environment Management Plan)
4.	Environmental and Social	Appendix B - Environmental and Social (ES) Metrics for Progress Reports
5.	Work Requirement	Description of Services
6.	Post Bid Correspondence	Correspondence post-bid between Employer & Successful Bidder
7.	Worker's Camp Management Plan	Labour Influx and Worker's Camp Management Plan including the process

	<table><tr><td></td><td></td><td>for mitigating construction related impacts on local community.</td></tr><tr><td>8.</td><td>Code of Conduct (ESHS)</td><td>Code of Conduct of Successful Bidder's personnel on site with respect to ESHS aspects of work</td></tr></table>
GCC 3.1	The language of the contract is ***English***. The law that applies to the Contract is the laws of Union of India.
GCC 5.1	The EIC / Project Manager **may** delegate any of his duties and responsibilities to other suitably qualified and experienced personnel, after notifying the Contractor, and may cancel any delegation after notifying the Contractor.
GCC 7.1	The ceiling for sub-contracting is 25%. Hiding information about any sub-contracting not authorized by the Employer shall be treated as violation of Appendix A to General Conditions (Fraud and Corruption). The Contractor is specifically allowed to subcontract the following activities: (a) 20% of all dredging work; (b) Bandalling & Channel Marking works (c) Environmental and Social monitoring
GCC 8.1	Schedule of other contractors: - The Contractor shall not subcontract more than 10% under his own responsibility and without prior approval of the Employer the following Works and Services defined at GCC 7.1 For the Subcontracts beyond 10 %, the prior approval of the Employer shall be obtained.
GCC 9.1	GCC 9.1 is replaced with the following: Key Personnel are the Contractor's personnel named in this GCC 9.1 of the Particular Conditions of Contract. The Contractor shall employ the Key Personnel identified in its Bid, to carry out the Works. The contractor shall not change Key personnel indicated in their bid. If, for any reason beyond the reasonable control of the contractor, it becomes necessary to replace any of the key personnel, the contractor shall provide a replacement a person of equivalent or better qualification and experience with the approval of EIC / Project Manager. The Contractor shall have a Code of Conduct for the Contractor's Personnel, and shall ensure that each Contractor's Personnel is provided a copy of this

	Code of Conduct, written in a language comprehensible to that person, and shall seek to obtain that person's signature acknowledging receipt of the same. The Contractor shall also ensure that the Code of Conduct is visibly displayed in multiple locations on the Site and any other place where the Works will be carried out, as well as in areas outside the Site accessible to the local community and project affected people. The posted Code of Conduct shall be provided in languages comprehensible to Contractor's Personnel, Employer's Personnel and the local community. [insert the name/s of each Key Personnel agreed by the Employer prior to Contract signature, Schedule of Key Personnel and equipment as indicated in accepted bid & construction methodology].
GCC 9.2	The following is inserted as GCC 9.2 (e), (f), and (g): "(e) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Works; (f) has been recruited from the Employer's Personnel without due clearance; (g) breaches the Code of Conduct for the Contractor's Personnel (ES)."
GCC 9.10	The following is inserted as GCC 9.10: "The Contractor shall provide the Contractor's Personnel information and documentation that are clear and understandable regarding their terms and conditions of employment. The information and documentation shall set out their rights under relevant labour Laws applicable to the Contractor's Personnel (which will include any applicable collective agreements), including their rights related to hours of work, wages, overtime, compensation and benefits, as well as those arising from any requirements in the Specification; and shall also include the Code of Conduct for Contractor's Personnel. The Contractor's Personnel shall be informed when any material changes to their terms or conditions of employment occur."
GCC 9.11	The following is inserted as GCC 9.11: "The Contractor shall provide appropriate training to relevant Contractor's Personnel on ES aspects of the Contract, including appropriate sensitization on prohibition of SEA, and health and safety training. As stated in the Specification or as instructed by the Project Manager, the Contractor shall also allow appropriate opportunities for the relevant Contractor's Personnel to be trained on ES aspects of the Contract by the Employer's Personnel. The Contractor shall provide training on SEA, including its prevention, to any of its personnel who has a role to supervise other Contractor's Personnel.

GCC 13.1	The Contractor shall take out and maintain in effect the following insurances in the sums and deductibles shown below: (i) Third Party motor vehicle: As per MV Act (ii) Third Party liability: as per Inland Vessel Act 2021 (iii) Group Insurance Cover for the persons on Vessel / Board. (iii) Employer's liability and workers' compensation: Nil (iv) Professional liability: Twice the value of contract for the entire period of the contract (v) Loss or damage to equipment and property: Minimum INR 10,000,000/- for each accident for the currency of the contract
GCC 13.6	**Following is inserted after GCC 13.5** **1. Insurance of Works** Contractor is required to take Contractor's All Risk Policy or erection all risk policy (as the case may be) from an approved insurance company in the joint name with the Employer and bear all costs towards the same for the full period of execution of works including the defect liability period for the full amount of contract against all loss of damage from whatever cause arising other than excepted risks for which he is responsible under the terms of the contract and in such manner that the Employer and the contractor are covered during the period of construction of works and/or also covered during the period of defect liability for loss or damage A. The work and the temporary works to the full value of such works. B. All materials, plants and other things brought to the site for their full value Whenever required by the Employer, the contractor shall produce the policy or the policies of insurance and the receipts for payment of the current premium. **2. Insurance under Workmen Compensation Act** Contractor is required to take insurance cover under the Workman Compensation Act, 1923 as amended from time to time from an approved insurance company and pay premium charges thereof. Wherever required by the Employer the contractor shall produce the policy or the policies of Insurance and the receipt of payment of the current premiums. **3. Third Party Insurance** Contractor is required to take third party insurance cover for an amount of 5% (five percent) of contract value from an approved insurance company for

insurance against any damage, injury or loss which may occur to any person or property including that of the Employer, arising out of the execution of the works or temporary works. Wherever required by the Employer the contractor shall produce the policy or the policies of Insurance and the receipt of payment of the current premiums. In case of failure of the contractor to obtain contractors all risk policy, insurance under workman compensation act and third-party insurance as described above within one month from the date of commencement of work, running account payments of the contractor shall be withheld till such time the aforesaid insurance covers are obtained by the contractor. If the Contractor could not effect a comprehensive insurance cover against risks which he may be required to effect under the terms of the contract, then he shall give his attention to get the best insurance cover available and even in case of effecting a wider insurance cover than the one which the subsidiary of the General Insurance Company could offer, such an insurance is ought to be done after the Employers approval, by or through the subsidiary of the General Insurance Company.

4. Indemnify the Employer

The Contractor shall at all times indemnify the Employer against all claims, damages or compensation under the provision of Payment of Wages Act-1936, Minimum Wages Act-1948, Employer's liability Act-1938, the Workmen's Compensation Act-1947, Industrial Disputes Act-1947 and Maternity Benefit Act-1961 or any modifications thereof or any other law in force or as consequence of any accident or injury to any workman or other persons in or about the works, whether in the employment of the contractor or not, against all costs, charges and expenses of any suit, action or proceedings arising out of such incident or injury and against all sum or sums which may with the consent of the contractor be paid to compromise or compound any such claim. Without limiting his obligations and liabilities as above provided, the contractor shall insure against all claims, damages or compensation payable under the Workmen's Compensation Act 1923 or any modification thereof or any other law relating thereto."

5. Damage to Persons and Property

The Contractor shall, except if and so far as the Contract provides otherwise, indemnify the Employer against all losses and claims in respect of:
(a) death of or injury to any person, or
(b) loss of or damage to any property (other than the Works), which may arise out of or in consequence of the execution and completion of the Works and the remedying of any defects therein, and against all claims, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto, subject to the exceptions defined in Sub-Clause 6.

6. Exceptions

The "exceptions" referred to in Sub-Clause 5 are:
(a) the permanent use or occupation of land by the Works, or any part thereof,
(b) the right of the Employer to execute the Works, or any part thereof, on, over, under, in or through any land,
(c) damage to property which is the unavoidable result of the execution and completion of the Works, or the remedying of any defects therein, in accordance with the Contract, and
(d) death of or injury to persons or loss of or damage to property resulting from any act or neglect of the Employer, his agents, servants or other contractors, not being employed by the Contractor, or in respect of any claims, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto or, where the injury or damage was contributed to by the Contractor, his servants or agents, such part of the said injury or damage as may be just and equitable having regard to the extent of the responsibility of the Employer, his servants or agents or other contractors for the injury or damage.

7. Indemnity by Employer

The Employer shall indemnify the Contractor against all claims, proceedings, damages, costs, charges and expenses in respect of the matters referred to in the exceptions defined in Sub-Clause.6.

8. Cross Liabilities

The insurance policy shall include a cross liability clause such that the insurance shall apply to the Contractor and to the Employer as separate insured.

9. Accident or Injury to Workmen

The Employer shall not be liable for in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or any Subcontractor, other than death or injury resulting from any act or default of the Employer, his agents or servants. The Contractor shall indemnify and keep indemnified the Employer against all such damages and compensation, other than those for which the Employer is liable as aforesaid, and against all claims, proceedings, damages, costs, charges, and expenses whatsoever in respect thereof or in relation thereto.

10. Evidence and Terms of Insurances

	The Contractor shall provide evidence to the Employer as soon as practicable after the respective insurances have been taken out but, in any case, prior to the start of work at the Site that the insurances required under the Contract have been effected and shall, within 84 days of the Commencement Date, provide the insurance policies to the Employer. When providing such evidence and such policies to the Employer, the Contractor shall notify the Engineer of so doing. Such insurance policies shall be consistent with the general terms agreed prior to the issue of the Letter of Award. The Contractor shall effect all insurances for which he is responsible with insurers and in terms approved by the Employer. **11. Adequacy of Insurances** The Contractor shall notify the insurers of changes in the nature, extent or programme for the execution of the Works and ensure the adequacy of the insurances at all times in accordance with the terms of the Contract and shall, when required, produce to the Employer the insurance policies in force and the receipts for payment of the current premiums. **12. Remedy on Contractor's Failure to Insure** If the Contractor fails to effect and keep in force any of the insurances required under the Contract, or fails to provide the policies to the Employer within the period required by Sub-Clause 13.2, then and in any such case the Employer may effect and keep in force any such insurances and pay any premium as may be necessary for that purpose and from time to time deduct the amount so paid from any monies due or to become due to the Contractor, or recover the same as a debt due from the Contractor. **13. Compliance with Policy Conditions** In the event that the Contractor or the Employer fails to comply with conditions imposed by the insurance policies effected pursuant to the Contract, each shall indemnify the other against all losses and claims arising from such failure. **14. Source of Insurance** The Contractor shall place all insurance relating to the Contract (including, but not limited to, the insurance referred to 13.2 with insurers from India.
GCC 14.1	Site Data are: The relevant drawings and data of Farakka - Katwa stretch with chainages are provided in the bid document.

GCC 15.2	The following is added as sub-clause 15.2: "If so, instructed by Project Manager, the Contractor shall submit to the Project Manager for review, a health and safety manual, specifically prepared for the Works, the Site and other places (if any) where the Contractor intends to execute the Works. The manual shall be in addition to any other similar document required under applicable health and safety regulations and Laws. The health and safety manual and its updates shall be reviewed along with the Contractor's Environmental and Social Management Plan (C-ESMP) described in sub-clause 16.2."
GCC 16.2	The following is inserted as a new sub-clause 16.2: **ES Management Strategies and Implementation Plans** "The Contractor shall not carry out mobilization to Site (e.g. limited clearance for haul roads, site accesses and work site establishment, geotechnical investigations or investigations to select ancillary features such as quarries and borrow pits) unless the Project manager gives consent, a consent that shall not be unreasonably delayed, that appropriate measures are in place to address environmental and social risks and impacts, which at a minimum shall include applying the Management Strategies and Implementation Plans (MSIPs) and Code of Conduct for Contractor's Personnel submitted as part of the Bid and agreed as part of the Contract. The Contractor shall submit, to the Project manager for Review any additional MSIPs as are necessary to manage the ES risks and impacts of ongoing Works (e.g., excavation, earth works, bridge and structure works, stream and road diversions, quarrying or extraction of materials, concrete batching and asphalt manufacture). These MSIPs collectively comprise the Contractor's Environmental and Social Management Plan (C-ESMP). The Contractor shall review the C-ESMP, periodically (but not less than every six (6) months), and update it as required to ensure that it contains measures appropriate to the Works. The updated C-ESMP shall be submitted to the Project manager for Review."
GCC 20.1	**The Site Possession Date / Mobilization** shall not be later than 45 days after the issuance of the Letter of Award / Acceptance by the Employer. The Site Possession Date(s) shall be: Date on which Contractor mobilizes at site.
GCC 22.4	The following is inserted as new Sub-clause 22.4: The LADs shall be measured on weekly basis by conducting the joint weekly surveys. The employer has engaged a third-party Supervision agency (TSSC-III) who shall be participating in the Joint Surveys along with the Employer's

	personnel. The LADs, Channel width and Day channel marks shall be certified by TSSC-III for further submission to EIC & Employer.
GCC 23.1	Name of the agreed Adjudicator …….. *(insert name before signing contract)*.
GCC 23.2	Appointing Authority for the Adjudicator: **Indian Council of Arbitration**
GCC 24.3	Daily rate and types of reimbursable expenses to be paid to the Adjudicator: Rs. 10,000 per day and reimbursable expenses – boarding/lodging/travel etc.
GCC 24.4	**The procedure for ad hoc arbitration will be as under:** a) In case of Dispute or difference arising between the Employer and a Contractor relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996. The arbitral tribunal shall consist of 3 Arbitrators one each to be appointed by the Employer and the Contractor. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties and shall act as Presiding Arbitrator. In case of failure of the two Arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the Arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the Indian Council of Arbitration b) If one of the parties fails to appoint its Arbitrator in pursuance of sub-clause (a) above within 30 days after receipt of the notice of the appointment of its Arbitrator by the other party, then the Indian Council of Arbitration, shall appoint the Arbitrator. A certified copy of the order of the Indian Council of Arbitration, making such an appointment shall be furnished to each of the parties. c) Arbitration may be commenced prior to or after completion of the Works, provided that the obligations of the Employer, the Project Manager, the Contractor and the Adjudicator shall not be altered by reason of the arbitration being conducted during the progress of the Works. d) Arbitration proceedings shall be held at New Delhi and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English. e) The decision of the majority of Arbitrators shall be final and binding upon both parties. The cost and expenses of Arbitration proceedings will be paid as determined by the arbitral tribunal. However, the expenses incurred by each party in connection with the preparation, presentation,

	etc. of its proceedings as also the fees and expenses paid to the Arbitrator appointed by such party or on its behalf shall be borne by each party itself. f) Deleted. g) The Arbitrator should give final award within 180 days of starting of the proceedings h) Performance under the contract shall continue during the arbitration proceedings and payments due to the contractor by the Employer shall not be withheld, unless they are the subject matter of the arbitration proceedings.
B. Time Control	
GCC 26.1	The Contractor shall submit a Program for the Works within 14 days of delivery of the Letter of Acceptance.
GCC 26.2	Inserted at the end of GCC 26.2: **ES Reporting** "In addition to the progress report, the Contractor shall also provide a report on the Environmental and Social (ES) metrics set out in Appendix B. In addition to Appendix B reports, the Contractor shall inform the Project Manager immediately of any allegation, incident or accident in the Site, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel or Contractor's Personnel. This includes, but is not limited to, any incident or accident-causing fatality or serious injury; significant adverse effects or damage to private property; or any allegation of SEA. In case of SEA, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, or sexual assault), gender and age of the person who experienced the alleged incident should be included in the information. The Contractor, upon becoming aware of the allegation, incident or accident, shall also immediately inform the Project Manager of any such incident or accident on the Subcontractors' or suppliers' premises relating to the Works which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel or Contractor's, its Subcontractors' and suppliers' personnel. The notification shall provide sufficient detail regarding such incidents or accidents. The Contractor shall provide full details of such incidents or accidents to the Project Manager within the timeframe agreed with the Project Manager.

	The Contractor shall require its Subcontractors to immediately notify the Contractor of any incidents or accidents referred to in this Sub-clause."
GCC 26.3	The period between Program updates is *90* days. The amount to be withheld for late submission of an updated Program is Rs. 500,000.
GCC 26.4	Add this after the clause GG 26.4: Any revision in Program should only be agreed in writing.
GCC 27.1	Intended Completion Date: The Intended Completion Date is **Three years** from the "Date of Commencement of Services".
GCC 27.2	**Extension of Contract beyond 3 years:** The Contract is extendable for further period of 2 Years based on satisfactory performance of the contractor. For the purpose of rates, the same shall be worked out based on the average of the lump sum quoted amounts for three years in the awarded cost (their bid) with existing Terms and Conditions. Price Adjustment shall be payable as per existing Terms & Conditions for this extended period.
GCC 30.1	Venue of management meeting will be IWAI - NOIDA
C. Quality Control	
GCC 34.3	The Defects Liability Period is: NIL days. i.e., Not Applicable
D. Cost Control	
GCC 37	The payment will be based on assured LAD of 3.0 m and 45 m channel width and sufficient day channel marks ascertained during 4-weekly Joint surveys in a month and as certified by TSSC-III & EIC.
GCC 38.2	In GCC 38.2, add the following after the first sentence: "The Contractor shall also provide a description of the varied work performed or to be performed, including details of the resources and methods adopted or to be adopted by the Contractor, and sufficient ES information to enable an evaluation of ES risks and impacts of the Variation."
GCC 40.1	GCC 40.1 to be read as: **Inspections during weekly Joint Survey**

Services provided by the Contractor during contract period of 3 years shall be checked every week through a Joint Survey (4 weekly joint surveys in a month) by Engineer–in-Charge / EIC Representative, TSSC-III and Contractor in the manner tabulated below:

SN	Inspection schedule	Employer's representative	Contractor's Representative
1.	1st Week of every month	JHS / TA / SUPERVISOR	One Hydrographic Surveyor & one supervisor / Engineer
2.	2nd Week of every month	AD / AHS / TA / JHS	One Hydrographic Surveyor & One Engineer
3.	3rd Week of every month	JHS / TA / SUPERVISOR / FA	One Hydrographic Surveyor & One supervisor / Engineer
4.	4th Week of every month	DD / AHS / AD / JHS / One Officer from HQ	One Hydrographic Surveyor & One senior level officer by the Project Manager

TA - Technical Assistant, JHS - Junior Hydrographic Surveyor,
FA - Field Assistant, DD - Deputy Director,
AHS - Assistant Hydrographic Surveyor, AD - Assistant Director

GCC 40.3

GCC 40.3 to be read as:

Measurements during weekly joint surveys: -

Works & Services provided by the Contractor shall be checked every week through a Joint Survey by Engineer–in-Charge / Employer's Representative, Technical Support Services Consultant – III and Contractor in the manner tabulated at 40.1 above.

The scale of surveys should be 1:5000 for all four weekly surveys in the month. Contractor will prepare the survey charts and submit to Employer for approval along with soft copy, Measurement Book etc. related to the measurement. Employer will issue the approved charts to the Contractor.

The measurement of depth in the navigation channel shall be carried out by conducting bathymetric survey every week jointly & its chart should be plotted by the Contractor in presence of Employer's representative. *However, Contractor shall also ensure measurement of width in each survey and shall carry out the surveys in order to define the minimum width of 45 m as specified in Scope.*

	In case shortcomings in maintaining the specified LAD and width of channel are observed by the Employer's representative, the cross-sectional survey shall be carried out and the cross-sectional interval shall be 10 m apart and soundings shall be taken continuously and plotted at 4 m interval on the cross section The cross-section shall be extended, if necessary, up to 20 m beyond the limits of the channel on each side with a view to determining the remedial measures to be taken by the Contractor. Sounding vessel/ boat, equipment, personal & other logistics required for conducting surveys/ inspection shall be arranged by the Contractor at his cost. Recording type multi-beam echo-sounder with digital output shall be used in all survey work. However, keeping in view the site conditions and practicability/prevailing weather conditions, the Engineer-in-Charge shall after consulting with the Contractor, decide and advise the Contractor as to the method of measurement to be adopted. Joint surveys shall be conducted in Automatic Hydrographic Survey System (HYPACK) and recorded data in soft copy shall be submitted to the Employer.
GCC 40.7	Add new GCC 40.7: "40.7 if the Contractor was, or is, failing to perform any ES obligations or work under the Contract, the value of this work or obligation, as determined by the Project Manager, may be withheld until the work or obligation has been performed, and/or the cost of rectification or replacement, as determined by the Project Manager, may be withheld until rectification or replacement has been completed. Failure to perform includes, but is not limited to the following: (i) failure to comply with any ES obligations or work described in the Works' Requirements which may include: working outside site boundaries, excessive dust, damage to offsite vegetation, pollution of water courses from oils or sedimentation, contamination of land e.g., from oils, human waste, damage to archaeology or cultural heritage features, air pollution as a result of unauthorized and/or inefficient combustion; (ii) failure to regularly review C-ESMP and/or update it in a timely manner to address emerging ES issues, or anticipated risks or impacts; (iii) failure to implement the C-ESMP e.g., failure to provide required training or sensitization;

<table>
<tr><td></td><td>(iv) failing to have appropriate consents/permits prior to undertaking Works or related activities;

(v) failure to submit ES report/s (as described in Appendix B), or failure to submit such reports in a timely manner;

(vi) failure to implement remediation as instructed by the Project Manager within the specified timeframe (e.g., remediation addressing non-compliance/s).</td></tr>
<tr><td>GCC 41.1</td><td>Interest Rate for delayed payment is SBI Prime Lending Rate + 2% per annum.</td></tr>
<tr><td>GCC 41.1.1</td><td>New Clause added.

The amount, exclusive of GST which will be payable by the Employer as legally applicable, in INR.

Payment shall be made monthly to the contractor.

The Contractor shall be eligible to claim payments for services rendered by him during contract period of 3 years as a percentage of the value of the works for the respective month of the year of operation (subject to deductions as per PCC 47.1) in accordance with the details tabulated below:
<table>
<tr><th>S. No.</th><th>Month</th><th>% Applicable for the relevant month of service during contract period</th></tr>
<tr><td>1.</td><td>January</td><td>10.0</td></tr>
<tr><td>2.</td><td>February</td><td>10.0</td></tr>
<tr><td>3.</td><td>March</td><td>10.0</td></tr>
<tr><td>4.</td><td>April</td><td>10.0</td></tr>
<tr><td>5.</td><td>May</td><td>10.0</td></tr>
<tr><td>6.</td><td>June</td><td>7.50</td></tr>
<tr><td>7.</td><td>July</td><td>5.0</td></tr>
<tr><td>8.</td><td>August</td><td>5.0</td></tr>
<tr><td>9.</td><td>September</td><td>5.0</td></tr>
<tr><td>10.</td><td>October</td><td>7.5</td></tr>
<tr><td>11.</td><td>November</td><td>10.0</td></tr>
<tr><td>12.</td><td>December</td><td>10.0</td></tr>
<tr><td></td><td></td><td>100.0</td></tr>
</table></td></tr>
<tr><td>GCC 45.1</td><td>GCC 45.1 to be read as:</td></tr>
</table>

The contract is subject to price adjustment in accordance with GCC Clause 45 and following information regarding coefficients.

The Price Adjustment will be done on monthly basis.

The amounts certified in each Running Account Bill/payment certificate, after deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the amounts due to the Operator.

The Price adjustment factor for the Works & Services rendered in a month shall be determined using the coefficients/weightings of relevant Indices as under:

Index	Index Description	Source of Index	Weightage
L	**Labour –** All India (CPI) Consumer Price Index for Industrial Workers	Labour Bureau, Ministry & Employment, Government of India	**0.278**
F	**High Speed Diesel** -All India Wholesale Price Index	Office of the Economic Advisor to the Govt. of India. Ministry of Commerce & Industry	**0.50**

Price Adjustment Factor $Pc = 0.222 + 0.278 \times L_m/L_0 + 0.50 \times F_m/F_0$

Price Adjustment for Works & Services rendered in a month = **R x (Pc – 1)**

where,

L_m = CPI for the month in which the Works & Services have been provided

L_0 = CPI for the month preceding the deadline for bid submission

F_m = WPI for the month in which the Works & Services have been provided

F_0 = WPI for the month preceding the deadline for bid submission

R = Running Account Bill amount for Works & Services rendered in a month after making deductions (a) as stipulated in PC 47.1 for failure to achieve LAD and Channel Bottom Width, and (b) towards repayment of Advance Payment.

GCC 46.1

Retention Money – Not Applicable.

GCC 47.1

GCC 47.1 to be read as:

The Liquidated Damages (LD) / Deductions is applicable.

If in any section of the channel, available depth or width of channel is found to be less than that specified in Section VII, Work Requirements / Description of Services, as determined during the course of weekly joint surveys conducted in accordance with GCC 40.1, deduction shall be made from the Contractor's monthly bills as following:

S No.	Deductions for the Assured Depth Period of services from the Date of Commencement of Service LAD – 3.0 m & Channel Width - 45 m	Deduction to be applied as percentage of monthly bill for each non-compliance found in a joint weekly survey during the month
1.	On achieving the assured depth of 3.0 m & width of 45 m	Nil
2.	On achieving the assured depth of 2.9 m & width of 45 m	20 % for each weekly default
3.	On achieving the assured depth of 2.8 m & width of 45 m	30 % for each weekly default
4.	On achieving the assured depth of 2.7 m & width of 45 m	50 % for each weekly default
5.	For a depth less than 2.7 m & width of 45 m	100% for each weekly default
6.	a) If a weekly joint survey establishes that the Contractor failed to maintain the navigational marks according to stipulations in Section VII, Description of Services to the Contract, deductions shall also be made from the respective monthly bill @ **5 %** of the verified payable amount for each such weekly default.	
	b) If the contractor consistently fails to provide requisite deliverables during contract period, and total amount of payment deduction and liquidated damages applied under this contract reaches ten percent (**10%**) of total contract price, then it will be considered as fundamental breach of contract under GCC 57.2.	
	c) In the event, if the Dredging Contractor does not provide the minimum 2.7 m LAD & 45 m channel bottom width (CBW) in all four weeks in a month then, apart from the above deductions as per PCC 47.1, an additional penalty @ 1% of the maximum bill that would have been claimed in that month (i.e., in no default condition) shall be recovered in next RA bill of the dredging contractor.	
	d) In the event, the above condition persists continuously for three months, then, penalty applicable shall be @ 2% of the maximum	

	bill that would have been claimed in that month (i.e., in no default condition) shall be recovered in next RA bill of the dredging contractor and this shall be continued to be deducted until the default condition persists. The penalty effected & deduction made on account of Lack of Performance shall not be refundable.

The operation of the above Table shall be as under:

Monthly payment in No-default condition (Mp) = Per Month Amount Quoted by the contractor.
Weekly Amount Payable in No-default condition (Wp) = MP/4
Weekly Default Deductions (Wd)1,2,3,4 = [Mp/4) * % age] where % age of default as per table mentioned above
Monthly Amount to be paid to contractor (Map) = Mp - [Wd1+Wd2+Wd3+Wd4]

Example: ... Suppose,

a. Per Month Amount quoted by the contractor is 1 crore (Mp) and
b. LADs given by contractor in four weekly surveys of December is 2.7 m, 2.9 m, 2.6 m and 3.2 m respectively

Then,

Week 1 deduction amount (Wd1) = Mp/4 X 50% = 12.5 Lakhs
Week 2 deduction amount (Wd2) = Mp/4 X 20% =-5 Lakhs
Week 3 deduction amount (Wd3) = Mp/4 X 100% = 25 Lakhs
Week 4 deduction amount (Wd4) = Mp/4 X 0% = 0

Actual Monthly Amount Payable to contractor, Map = Mp - [Wd1 + Wd2 + Wd3 + Wd4]
=100 Lakhs – [12.5 Lakhs + 5 Lakhs + 25 Lakhs + 0]
= **57.5 Lakhs**

Deduction for not providing sufficient day channel marks-

In case of no default in providing day channel marks (min 220 nos. Day channel marks provided in December)

Monthly Due to Contractor
(Md) = Map = **57.5 Lakhs**

In case of default in providing day channel marks (Less than 220 nos. Day channel marks provided in any week of December)

	Monthly Due to Contractor: (Md) = [Map – 5% of Map] = [57.5 Lakh – 5% of 57.5 Lakhs] = **54.625 Lakhs**
GCC 48.1	Deleted
GCC 49.1	GC 49.1 to be read as: The amount of the Advance Payment is ten (10) percent of the Contract Price. The Advance payment will be made after successful verification of the submitted unconditional Advance Bank Guarantee. **Repayment of Advance Payment**: The advance shall be recovered in 24 months (in equal tranches) from the monthly Running Account bills submitted from the 6th RA Bill from the Date of Commencement of Works irrespective of the RA bill amount. In case, the monthly RA bill for any month is less than the advance amount to be recovered, then the balance amount recoverable for this month shall be recovered from the subsequent RA bill along with the recovery of advance for that month. If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination of the Contract, the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Employer. The advance payment security (demand guarantee) shall be issued by a reputable bank or financial institution selected by the Contractor and shall be in the Advance Payment Security Form included in Contract Forms, or in another form approved by the Employer. The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been fully repaid. The amount of the security shall be reduced in proportion to the value of the Works and Services executed by and paid to the Contractor yearly, and shall automatically become null and void when the full amount of the advance payment has been recovered by the Employer. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid. The security shall be returned to the Contractor immediately after full amount of Advance Payment has been repaid.

GCC 50.1	GCC 50.1 is replaced with the following: Environmental, Social, Safety and Health (ESHS) Performance Security The contractor shall within twenty-eight (28) days of the notification of contract award, provide a Performance Security and an Environmental, Social, Safety and Health (ESHS) Performance Security for the due performance of the Contract. • The Performance Security will be in the form of a 'demand guarantee' in the amount of 5% of the contract amount in the types and proportions of the currencies in which the Contract Price is payable, or in a freely convertible currency acceptable to the Employer • The ESHS Performance Security will be in the form of a "demand guarantee" in the amount(s) of 1.5% of the Contract Amount and in the same currency(ies) of the Accepted Contract Amount. • Plus, additional security for unbalanced bids (if any) to be decided during evaluation of bids and informed to Bidders at the time of Pre-award discussions The Bank Guarantee issued in paper shall become operative only when the Bank Guarantee advice transmitted through SFMS is advised to the Beneficiary by the Advising Bank. **Bank details are as given below:** Advising Bank: CANARA BANK Bank Account no.: 87781010014534 IFSC Code: CNRB0018778 Name of beneficiary: IWAI FUND Jal Marg Vikas Branch name: Morna - Sector 18, NOIDA Address: B 16 /17, Ground Floor, Sector-18, NOIDA – 201301 The standard forms of Performance Security, and ESHS performance security, acceptable to the Employer shall be unconditional Bank Guarantees from Scheduled or Nationalized banks in India of the types as presented in Section X of the Bidding Documents. Throughout this bidding document the term 'performance security', unless the context clearly indicates otherwise, means and includes both 'the performance security and the ESHS performance security' to be submitted by the successful bidder in the amounts specified above.

	The Performance Security shall be issued by a reputable bank or financial institution selected by the Contractor, and shall be in the Performance Security Form included in Section IX, Annex to the Particular Conditions – Contract Forms, or in another form approved by the Employer. The ESHS Performance Security shall be issued by a reputable bank selected by the Contractor, and shall be in the ESHS Performance Security Form included in Section IX, Annex to the Particular Conditions – Contract Forms, or in another form approved by the Employer. A foreign institution providing a Performance Security or ESHS Performance Security shall have a correspondent financial institution located in the Employer's Country. The performance security and the ESHS performance security, of a Joint Venture shall be in the name of the Joint Venture specifying the names of all the members. The Contractor shall ensure that the Performance Security and the ESHS Performance Security are valid and enforceable until the Contractor has executed and completed the Works and Services and other obligations (including defect liability and satisfactory performance of the ESHS obligations) under the Contract. If the terms of the Performance Security and ESHS Performance Security specify expiry dates, and the Contractor has not yet executed and completed the Works and Services and other obligations under the Contract, by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security and the ESHS Performance Security until the Works and Services and all other obligations under the Contract have been completed. In case of any dispute with State Govts. (Forest / Mining / Revenue etc.) regarding selling of dredged material, IWAI may forfeit the Performance Security of the contractor.
GCC 54.1	Taking over - Not Applicable Partial completion shall not be accepted, and no partial completion certificate shall be issued.
GCC 56.1	Not Applicable
GCC 56.2	Not Applicable
GCC 57.2 (g)	Not Applicable
GCC 57.2 (l)	Hiding any information regarding changes in roles and responsibilities of JV members, which is not authorized by the Employer, shall also be treated as violation of Appendix A to General Conditions (Fraud and Corruption).
GCC 57.2 (m)	New Clause added:

	The contractor consistently fails to execute the contract and the total amount of payment deductions and liquidated damages applied under this contract as per PC 47.1 reaches Ten percent (**10%**) of total contract amount.
GCC 57.6	**Foreclosure of Contract – New Clause Added** If at any time after acceptance of the tender the Authority decides to abandon or reduce the scope of the works for reasons whatsoever and hence does not require the whole or any part of the works to be carried out, the Engineer-in-Charge (with the prior approval of competent authority) shall give notice in writing to that effect to the contractor. However, pro-rata payment shall be made for the completed works, as agreed mutually
GCC 58.1	The percentage to apply to the value of the work not completed, representing the Employer's additional cost for completing the Works, is 20% if the work is terminated on account of default of the contractor.
GCC 59.1	Not Applicable.
In addition to be above, the following shall also form part of GCC / SCC	
GCC 62.0 Force Majeure (New Clause added)	New Clause added. 62.1 "**Force Majeure**" shall mean any event beyond the reasonable control of the Employer or of the Contractor, as the case may be, insofar as they directly affect the execution of the Services and Works included in this Contract and which is unavoidable notwithstanding the reasonable care of the party affected, and shall include, without limitation, the following: (a) war, hostilities or warlike operations (whether a state of war be declared or not), invasion, act of foreign enemy and civil war; (b) rebellion, revolution, insurrection, mutiny, usurpation of civil or military government, conspiracy, riot, civil commotion and terrorist acts; (c) confiscation, nationalization, mobilization, commandeering, requisition by or under the order of any government or de jure or de facto authority or ruler or any other act or failure to act of any local state or national government authority; (d) strike, sabotage, lockout, embargo, import restriction, port congestion, lack of usual means of public transportation and communication, industrial dispute, shipwreck, shortage or restriction of power supply, epidemics, quarantine and plague; (e) earthquake, landslide, volcanic activity, fire, flood or inundation, tidal wave, typhoon or cyclone, hurricane, storm, lightning, or other inclement weather condition, nuclear and pressure waves or other natural or physical disaster;

(f) Shortage of labor, materials or utilities were caused by circumstances that are themselves Force Majeure.

(g) It is clarified that during the water sharing period (March-May), in the event water level falling below 17.75 m recoded at CWC gauge station at Farakka down-stream, then in that particular week default will not be considered and payment will be based on the achieved LAD during previous week joint survey. Further during water sharing period, the LAD at Baghmari syphon shall not be considered as default

62.2 If either party is prevented, hindered or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances thereof within fourteen (14) days after the occurrence of such event.

62.3 The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or delayed. The Time for Completion shall be extended in accordance with GC Clause 64.

62.4 The party or parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect thereof upon its or their performance of the Contract and to fulfil its or their obligations under the Contract, but without prejudice to either party's right to terminate the Contract under GC Sub-Clause 38.6.

62.5 No delay or non-performance by either party hereto caused by the occurrence of any event of Force Majeure shall

(a) constitute a default or breach of the Contract;

(b) give rise to any claim for damages or additional cost or expense occasioned thereby;

if and to the extent that such delay or non-performance is caused by the occurrence of an event of Force Majeure.

62.6 If the performance of the Contract is substantially prevented, hindered or delayed for a single period of more than sixty (60) days or an aggregate period of more than one hundred and twenty (120) days on account of one or more events of Force Majeure during the currency of the Contract, the parties will attempt to develop a mutually satisfactory solution, failing which either party may terminate the Contract by giving a notice to the other, but without prejudice to either party's right to terminate the Contract under GC Clause 59.

62.7 In the event of termination pursuant to GC Sub-Clause 38.6, the rights and obligations of the Employer and the Contractor shall be as specified in GC Sub-Clauses 59.1.2 and 59.1.3.

	62.8 Notwithstanding GC Sub-Clause 38.5, Force Majeure shall not apply to any obligation of the Employer to make payments to the Contractor herein.
GCC 63 Surveys and Levels	**Surveys and Levels** Before the works of any part thereof begin, the Contractor shall survey and take levels of the site of the works both above and below water level and agree all particulars on which the measurements of the works are to be based. Such particulars shall be recorded and after agreement; the drawings shall be signed by the Employer / Engineer-In-Charge and the Contractor. Similar procedure is to be followed in post dredging survey. Failing such surveys and agreements being prepared and/or signed by the Contractor, the survey carried out by the Engineer shall be final and binding on the Contractor.
GCC 64 Setting out the works (New clause added)	**Setting out the Works (New Clause added):** The Employer shall furnish the relevant existing grid points with bench Mark with reference to permanent bench marks. It shall be Contractor's responsibility to the set out the necessary central points on land and to set out alignment. The Contractor shall have in his employees, an efficient survey team for this purpose and the accuracy of such setting out works shall be Contractor's sole responsibility. Before beginning the work, the Contractor shall work out the control points on ground which, are pre requisite for carrying out hydrographic surveys, accurately, with suitable markers as approved by Employer. All these points and markings shall be checked and approved by Employer's Representative before starting the work. The Contractor shall also provide necessary equipment, labour and other facilities for proper checking of triangulation / bench mark stations and inspection of the points during the survey and dredging operations at no cost to the Employer. The Contractor shall give Engineer-in Charge not less than 24 hours' notice in writing of his intention to set out or give levels for any part of the works so that arrangements may be made for checking the work. Work shall be suspended for such times as necessary for checking lines and levels on any part of the works.

	The Contractor shall at his own expense provide all assistance which Engineer-in Charge may require for checking the setting out.
GCC 65 Conditions for Dredging Operations (New clause added)	**Conditions for Dredging Operations (New Clause added):** 1) No shifting charges will be paid to the contractor for shifting the dredger and its accessories from one shoal to another shoal or from one area / canal to another area / canal specified above. 2) Normal barge and vessels / crafts movement in the channel shall not be interrupted by the dredging operation. 3) The decision of EIC to accept the work done with or without the Liquidated damages shall be final and binding. 4) The measurement of depth in the navigation channel shall be carried out by conducting bathymetric surveys every week, jointly by the Contractor and the representative of IWAI under the supervision of Engineer-in-charge or his nominee & its chart should be plotted by the contractor in presence of Engineer representatives. In case of shortcomings observed by the Engineer-in-charge or his nominee, the cross-sectional survey is to be carried out and the cross-sectional interval shall be 10 m apart and soundings shall be taken continuously and plotted at 4 m interval on the cross-section. The cross-section shall be extended up to 20 m beyond the limits of the channel on either side. 5) No idle time charges will be paid to the contractor on any account. Local issues / hindrances, if any, would be addressed by the Contractor. IWAI would facilitate with local/govt. agencies. 6) The Contractor shall arrange the transits, buoys, lights, mooring etc. at their own cost as required for dredging and also for cautioning other vessels in the waterway. 7) The Employer / Engineer-in-charge or his representative will inspect, co-ordinate, measure and certify the dredging work. He has the right to inspect at any time during the contract period for which contractor's authorized agent shall be available at site during such inspection. 8) The Contractor shall provide the boat from shore to dredger and back to shore during inspection & supervision by the Employer / Engineer-in-Charge or his representative.

9) The Contractor may execute the work round the clock and on all days including Sundays and Public Holidays except National Holidays subject to such restriction as may be imposed by State Govt./local body.

10) If the Contractor's personnel or any outside labour employed to work during execution of Contract, breaks or damages / destroys any vessel, craft, net, fishing stakes etc. building, road, kerb, water pipe, fence, bund, wires, trees, crop, fruit or cultivated ground during the period of agreement, the same shall be made good by the Contractor at his own expenses or in default the IWAI may cause the same to be made good by other sources and deduct the expenses from any sums that may be then or at any time thereafter may become due to the contractor.

11) The Contractor is fully responsible for solving the disputes with the local fishermen w.r.t. removal of fishing nets, stakes, from the dredged channel. Similarly, all disputes with regard to the dumping of dredge spoil, any prior permission or arrangement on deemed fit for avoiding bank erosion or damage to any property or agriculture would be handled by contractor. The Authority shall not be responsible for solving the disputes related to execution of the dredging. However, on request IWAI may extend the assistance for solving the issues only through the concerned official/dept. of the state or local bodies.

12) The Contractor shall be responsible for dumping of the dredged materials. Any arrangement with respect to the bund around the identified dumping area is to be made by the Contractor at his cost. Any dispute with local, land owner on the dumping of dredging spoil to be sorted out by the Contractor.

13) The Employer may engage the agency on behalf of the Contractor as per the state/central Govt organization on pollution or coastal management authority to carry out the test of the dredged material at regular interval for the regulating the dumping activities. In case of any adverse report, the Contractor shall comply the instruction of EIC.

14) During execution of the work, if any environmental degradation occurs, consequent on dumping of dredged material, re-conveyance of the material shall be done by the Contractor at his cost, without claiming additional payment from IWAI.

15) If the dredging is stopped continuously for more than 3 days due to law and order, the Contractor has to report to EIC the same and take actions mutually in accordance with prevailing local laws for removal of such problem and proceeding further with the work to mutual benefit.

	16) Any charge incurred on testing of the dredged material, testing / analysing the quality of water for adopting environmental safe guards, minimizing detrimental impacts, enhancing the beneficial aspects of the project and for effective management of the environmental resources affected by the project shall be met by the Contractor. No additional charges on any account shall be payable by IWAI. 17) In case of any anomaly with reference to interfacing chainage and interfacing of the issues relating to execution amongst the adjacent contractors, decision of EIC would be final and binding on both the adjacent contractors executing the project. 18) The Contractor will also be required to deploy its own pilots for assisting cargo and passenger / tourist vessels for their movement based on written request by the end users. For this, the Contractors can charge the fee from the users as per IWAI's regulation. 19) In case any cargo vessel is grounded due to inadequacy of depths or channel marking, the Contractor shall make arrangement for rescue of the vessels by providing rescue tugs at his own cost.
Appendix -1	**Salient features of Labour & Environment Protection Laws.**
Appendix -2	**Salient features of some of the Major Laws that are Applicable for Protection of Environment.**
Appendix -3	**Appointment of Adjudicator.**

Appendix 1
Salient Features of Labour & Environment Protection Laws[35]

SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK

(a) Employees Compensation Act 1923: The Act provides for compensation in case of injury, disease or death arising out of and during the course of employment.

(b) Payment of Gratuity Act 1972: gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years' service or more or on death at the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.

(c) Employees P.F. and Miscellaneous Provision Act 1952 (*since amended*): The Act provides for monthly contribution by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are:

(i) Pension or family pension on retirement or death, as the case may be.
(ii) Deposit linked insurance on the death in harness of the worker.
(iii) Payment of P.F. accumulation on retirement/death etc.

(d) Maternity Benefit Act 1961: The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.

(e) Sexual Harassment of Women at the Workplace (Prevention, Prohibition and Redressal) Act, 2013: This Act defines sexual harassment in the workplace, provides for an enquiry procedure in case of complaints and mandates the setting up of an Internal Complaints Committee or a Local Complaints Committee

(f) Contract Labour (Regulation & Abolition) Act 1970: The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labour.

(g) Minimum Wages Act 1948: The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employments.

(h) Payment of Wages Act 1936: It lays down the mode, manner and by what date the wages are to be paid, what deductions can be made from the wages of the workers.

[35] This list is only illustrative and not exhaustive. Bidders and Contractors are responsible for checking the correctness and completeness of the list. The law as current on the date of bid opening will apply.

(i) Equal Remuneration Act 1976: The Act provides for payment of equal wages for work of equal nature to male and female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.

(j) Payment of Bonus Act 1965: The Act is applicable to all establishments employing 20 or more employees. Some of the State Governments have reduced this requirement from 20 to 10. The Act provides for payments of annual bonus subject to a minimum of 8.33% of the wages drawn in the relevant year. It applies to skilled or unskilled manual, supervisory, managerial, administrative, technical or clerical work for hire or reward to employees who draw a salary of Rs. 10,000/- per month or less. To be eligible for bonus, the employee should have worked in the establishment for not less than 30 working days in the relevant year. The Act does not apply to certain establishments.

(k) Industrial Disputes Act 1947: the Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations, a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.

(l) Trade Unions Act 1926: The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.

(m) Child Labour (Prohibition & Regulation) Act 1986: The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in the Building and Construction Industry.

(n) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979: The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home up to the establishment and back, etc.

(o) The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and the Building and Other Construction Workers Welfare Cess Act, 1996 (BOCWW Cess Act): All the establishments who carry on any building or other construction work and employ 10 or more workers are covered under these Acts. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be notified by the Government. The Employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as Canteens, First – Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

(p) Factories Act 1948: the Act lays down the procedure for approval of plans before setting up a factory engaged in manufacturing processes, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering

information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power.

(q) Weekly Holidays Act -1942

(r) Bonded Labour System (Abolition) Act, 1976: The Act provides for the abolition of bonded labour system with a view to preventing the economic and physical exploitation of weaker sections of society. Bonded labour covers all forms of forced labour, including that arising out of a loan, debt or advance.

(s) Employer's Liability Act, 1938: This Act protects workmen who bring suits for damages against employers in case of injuries endured in the course of employment. Such injuries could be on account of negligence on the part of the employer or persons employed by them in maintenance of all machinery, equipment etc. in healthy and sound condition.

(t) Employees State Insurance Act 1948: The Act provides for certain benefits to insured employees and their families in case of sickness, maternity and disablement arising out of an employment injury. The Act applies to all employees in factories (as defined) or establishments which may be so notified by the appropriate Government. The Act provides for the setting up of an Employees' State Insurance Fund, which is to be administered by the Employees State Insurance Corporation. Contributions to the Fund are paid by the employer and the employee at rates as prescribed by the Central Government. The Act also provides for benefits to dependents of insured persons in case of death as a result of an employment injury.

(u) The Personal Injuries (Compensation Insurance) Act, 1963: This Act provides for the employer's liability and responsibility to pay compensation to employees where workmen sustain personal injuries in the course of employment.

(v) Industrial Employment (Standing Order) Act 1946: It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.

Appendix -2
Major Laws that are applicable for Protection of Environment

SALIENT FEATURES OF SOME OF THE MAJOR LAWS THAT ARE APPLICABLE FOR PROTECTION OF ENVIRONMENT.

1. The Environment (Protection) Act, 1986 and as amended: This provides for the protection and improvement of environment and for matters connected therewith, and the prevention of hazards to human beings, other living creatures, plants and property. 'Environment' includes water, air and land and the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property.

2. The Forest Conservation Act, 1980, as amended, and Forest (Conservation) Rules, 1981 as amended: These provides for protection of forests by restricting conversion of forested areas into non- forested areas and prevention of deforestation, and stipulates the procedures for cutting any trees that might be required by the applicable rules. Permissions under the Act also stipulates the norms and compliance requirements of the employer and any contractor on behalf of the employer.

3. State Tree Preservation Acts as may be in force: These provide for protection of trees of important species. Contractors will be required to obtain prior permission for full or partial cutting, uprooting, or pruning of any such trees.

4. The Wildlife (Protection) Act, 1972, and as amended: This provides for protection of wildlife through notifying National Parks and Sanctuaries and buffer areas around these zones; and to protect individuals of nationally important species listed in the Annex of the Act.

5. The Biological Diversity Act, 2002: This provides for conservation of biological diversity, sustainable use of components of biological diversity, and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and for matters connected therewith or incidental thereto.

6. The Public Liability Insurance Act, 1991 as amended and The Public Liability Insurance Rules, 1991 as amended: These provide for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for mattes connected herewith or incidental thereto. Hazardous substance means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act 1986, and exceeding such quantity as may be specified by notification by the Central Government.

7. The Ancient Monuments and Archaeological Sites and Remains Act, 1958 and the Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, 2010, the Ancient Monuments and Archaeological Sites and Remains Rules, 1959 amended 2011, the National Monuments Authority Rules, 2011 and the similar State Acts: These provide for conservation of cultural and historical remains found in India. Accordingly, area within the radii of 100m and 300m from the "protected property" are

designated as “protected area” and “controlled area” respectively. No development activity (including building, mining, excavating, blasting) is permitted in the “protected area” and development activities likely to damage the protected property is not permitted in the “controlled area” without prior permission of the Archaeological Survey of India (ASI) or the State Departments of Art and Culture or Archaeology as applicable.

8. The Environmental Impact Assessment Notification, 2006 and as amended: This provides for prior environmental clearance for new, modernization and expansion projects listed in Schedule 1 of the Notification. Contractors will be required to ensure that no work starts until applicable clearances under the Notification is not available. Contractors will be responsible for implementation of any environmental management plan stipulated as per the permission under this Notification; and will be required to prepare and submit to the employer and compliance report stipulated in the permission under the Notification.

9. The Water (Prevention and Control of Pollution) Act, 1974 as amended, and the Water (Prevention and Control of Pollution) Rules, 1975 as amended: These provide for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of water. ‘Pollution’ means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water(whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms. Contractors will need to obtain consent for establishment and consent for operation of any item of work or installation of equipment that generates waste water, and observe the required standards of establishment and operation of these items of work or installations; as well as install and operate all required waste water treatment facilities.

10. The Water (Prevention and Control of Pollution) Cess Act, 1977 and The Water (Prevention and Control of Pollution) Cess Rules, 1978: These provide for the levy and collection of a cess on water consumed by persons carrying on certain industries and by local authorities, with a view to augment the resources of the Central Board and the State Boards for the prevention and control of water pollution under the Water (Prevention and Control of Pollution) Act, 1974.

11. The Air (Prevention and Control of Pollution) Act, 1981 as amended, and the Air (Prevention and Control of Pollution) Rules, 1982: These provides for prevention, control and abatement of air pollution. ‘Air Pollution’ means the presence in the atmosphere of any ‘air pollutant’, which means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment. Contractors will need to obtain consent for establishment and consent for operation of any item of work or installation of equipment that generates air pollution such as batching plants, hot mix plants, power generators, backup power generation, material handling processes, and observe the required standards of establishment and operation of these items of work or installations.

12. Noise Pollution (Control and Regulation) Rules, 2000, and as amended: This provides for standards for noise for day and night for various land uses and specifies special standards in and around sensitive receptors of noise such as schools and hospitals. Contractors will need to ensure compliance to the applicable standards, and install and operate all required noise control devices as may be required for all plants and work processes.

13. Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996: This provides for Requirement of preparation of on-site and off-site Disaster Management Plans for accident-prone areas.

14. The Explosives Act 1884 and the Explosives Rules, 2008: These provide for safe manufacture, possession, sale, use, transportation and import of explosive materials such as diesel, Oil and lubricants etc.; and also for regulating the use of any explosives used in blasting and/or demolition. All applicable provisions will need compliance by the contractors.

15. The Petroleum Rules, 2002: This provides for safe use and storage of petroleum products, and will need to be complied by the contractors.

16. The Gas Cylinder Rules 2004 and amendments: This provides for regulations related to storage of gas, and possession of gas cylinder more than the exempted quantity. Contractors should comply with all the requirements of this Rule.

17. Manufacture, Storage and Import of Hazardous Chemical Rules of 1989 and as amended: These provide for use and storage of hazardous material such as highly inflammable liquids like HSD/LPG. Contractors will need to ensure compliance to the Rules; and in the event where the storage quantity exceeds the regulated threshold limit, the contractors will be responsible for regular safety audits and other reporting requirements as prescribed in the Rules.

18. Hazardous & Other Wastes (Management and Transboundary Movement) Rules, 2016: These provide for protection of general public from improper handling storage and disposal of hazardous waste. The rules prescribe the management requirement of hazardous wastes from its generation to final disposal. Contractors will need to obtain permission from the State Pollution Control Boards and other designated authorities for storage and handling of any hazardous material; and will to ensure full compliance to these rules and any conditions imposed in the permit.

19. The Bio Medical Waste Management Rules, 2016: This provides for control, storage, transportation and disposal of bio-medical wastes. As and where the contractor has any first aid facility and dispensaries, established in either temporary or permanent manner, compliance to these Rules are mandatory.

20. Construction and Demolition Waste Management Rules, 2016: This provides for management of construction and demolition waste (such as building materials possible to be reused, rubble and debris or the like); and applies to all those waste resulting from construction, re-modelling, repair or demolition of any civil structure. Contractor will need to prepare a waste disposal plan and obtain required approval from local authorities, if

waste generation is more than 20 tons in any day or 300 tons in any month during the contract period; and ensure full compliance to these rules and any conditions imposed in the regulatory approval.

21. The E-Waste (Management) Rules, 2016: This provides for management of E-wastes (but not covering lead acid batteries and radio-active wastes) aiming to enable the recovery and/or reuse of useful material from e-waste, thereby reducing the hazardous wastes destined for disposal and to ensure the environmentally sound management of all types of waste of electrical and electronic equipment. This Rule applies to every manufacturer, producer, consumer, bulk consumer, collection centers, dealers, e-retailer, refurbisher, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment listed in Schedule I, including their components, consumables, parts and spares which make the product operational.

22. Plastic waste Management Rules, 2016: This provides for control and management of the plastic waste generated from any activity. Contractors will ensure compliance to this Rule.

23. The Batteries (Management and Handling) Rules 2001: This provides for ensuring safe disposal and recycling of discarded lead acid batteries likely to be used in any equipment during construction and operation stage. Rules require proper control and record keeping on the sale or import of lead acid batteries and recollection of the used batteries by registered recyclers to ensure environmentally sound recycling of used batteries. Contractors will ensure compliance to this Rule.

24. The Ozone Depleting Substances (Regulation and Control) Rules, 2000 and as amended: This provides for regulation of production and consumption of ozone depleting substances in the country, and specifically prohibits export to or import from countries not specified in the Rules, and prohibits unless specifically permitted, any use of ozone depleting substance.

25. The Coastal Regulation Zone Notifications, 1991 and as amended: This provides for regulation of development activities within the 500m of high tide line in coastal zone and 100m of stretches of rivers and estuaries influenced by tides. Contractors will be required to ensure that no work starts until applicable clearances under the Notification is not available. Contractors will be responsible for implementation of any plan stipulated as per the permission under this Notification; and will be required to prepare and submit to the employer and compliance report stipulated in the permission under the Notification.

26. The Motor Vehicle Act 1988 as amended (and State Motor Vehicle Acts as may be in force) and the Motor Vehicle Rules, 1989, and as amended (and State Motor Vehicle Rules as may be in force): To minimize the road accidents, penalizing the guilty, provision of compensation to victim and family and check vehicular air and noise pollution. Contractors will be required to ensure full compliance to these rules.

27. Easement Act, 1882: This provides for the rights of landowners on groundwater. Contractors will need to ensure that other landowners' rights under the Act is not affected by any groundwater abstraction by the contractors.

28. State Groundwater Acts and Rules as may be in force and the Guidelines for Groundwater Abstraction for drinking and domestic purposes in Notified Areas and Industry/Infrastructure project proposals in non-Notified areas, 2012: These provide for regulating extraction of ground water for construction/industrial and drinking and domestic purposes. Contractors will need to obtain permission from Central/State Groundwater Boards prior to groundwater abstraction through digging any bore well or through any other means; and will to ensure full compliance to these rules and any conditions imposed in the permit.

29. The Mines Act, 1952 as amended; the Minor Mineral and concession Rules as amended; and the State Mineral (Rights and Taxation) Acts as may be in force: These provide for for safe and sound mining activity. The contractors will procure aggregates and other building materials from quarries and borrow areas approved under such Acts. In the event the contractors open any new quarry and/or borrow areas, appropriate prior permission from the State Departments of Minerals and Geology will need to be obtained. Contractors will also need to ensure full compliance to these rules and any conditions imposed in the permit.

30. The Insecticides Act, 1968 and Insecticides Rules, 1971 and as amended: These provide for regulates the manufacture, sale, transport, distribution, export, import and use of pesticides to prevent risk to human beings or animals, and for matters connected therewith. No one should import or manufacture; sell, stock or exhibit foe sale; distribute, transport, use: (i) any misbranded insecticides, (ii) any insecticide the sale, distribution or use of which is for the time being prohibited under the Act; and (iii) any insecticide except in accordance with the condition on which it was registered under the Act.

31. National Building Codes of India, 2005 and as amended: This provides guidelines for regulating the building construction activities in India. The code mainly contains administrative regulations, development control rules and general building requirements; stipulations regarding materials, structural design and construction; and building and plumbing services. Contractors will be required to comply with all Bureau of Indian Standards Codes dealing with: (i) use and disposal of asbestos containing materials in construction; (ii) paints containing lead; (iii) permanent and temporary ventilations in workplace; (iv) safety, and hygiene at the workplace; (v) prevention of fire; (vi) prevention of accidents from faulty electrical gadgets, equipment and accessories; and all other such codes incidental to the Contract.

Appendix -3[36]

Appointment of Adjudicator

Suggested Draft of **Letter of Appointment of Adjudicators** in civil works contracts

Sub:_____(Name of the Contract)

To
Name and address of the Adjudicator

We hereby confirm your appointment as Adjudicator for the above contract to carry out the assignment specified in this Letter of Appointment.

For administrative purpose_____(*name of the officer representing the Employer*) has been assigned to administer the assignment and to provide the Adjudicator with all relevant information needed to carry out the assignment on behalf of both the Employer and the contractor. The services will be required during the period of contract for the work of (Name of the Contract) _____.

The Adjudicator shall visit the worksite once in 3 (three) months till the completion of the work indicated above or as specifically requested by Employer/ Contractor for the period up to the end of defects liability period with prior intimation to the Employer and the contractor. The duration of each visit shall ordinarily be for one day only. These durations are approximate and (*Name of the Employer and Name of the Contractor*) may find it necessary to postpone or cancel the assignment and/or shorten or extend the duration.

The appointment will become effective upon confirmation of letter by you. The appointment of Adjudicator shall be liable for termination under 30 (thirty) days written notice from the date of issue of the notice, if both Employer and the Contractor so desire. Also, the appointment shall automatically stand terminated 14 days after the defect notice / correction period as stated in Clauses 23 and 24 of the Conditions of Contract is over.

The Adjudicator will be paid a fee of Rs. _____ (Rupees _____only) per each day of visit at the worksite. The actual expenses for boarding and traveling in connection with the assignment will be reimbursed to the Adjudicator. The Adjudicator will submit a pre-receipted bill in triplicate to the Employer indicating the date of the visit, fees for the visit and a proof in support of the actual expenditure [only for items valued above Rs. 200 each] incurred by him against boarding, lodging and traveling expenses after performing the visit on each occasion. The Employer will make the admissible payment (both the Employer's and the Contractor's share) to the Adjudicator within 30 days of the receipt of the bill. The Contractor's share on this account (half the paid amount) will be recovered by the Employer from the Contractor's bills against the work.

[36] If ITB 46 makes provision of an Adjudicator from list provided by an institution, kindly modify Appendix 3 to state that the fee and reimbursable payable to the adjudicator shall be as per the rules of the Institution.

In accepting this assignment, the Adjudicator should understand and agree that he is responsible for any liabilities and costs arising out of risks associated with travel to and from the place of emergency repatriation, loss or damage to personal/professional effects and property. The Adjudicator is advised to effect personal insurance cover in respect of such risks if he does not already have such cover in place. In this regard, the Adjudicator shall maintain appropriate medical, travel, accident and third-party liability insurance. The obligation under this paragraph will survive till termination of this appointment.

Procedures for resolution of disputes by the Adjudicator is described in the contract of _____ (name of the contract) between the Employer and the contractor vide clause no.24 of the General Conditions of Contract. Your recommendation should be given in the format attached, within 28 days of receipt of a notification of dispute.

The Adjudicator will carry out the assignment in accordance with the highest standard of professional and ethical competence and integrity, having due regard to the nature and purpose of the assignment, and will conduct himself in a manner consistent herewith. After visiting the worksite, the Adjudicator will discuss the matter with the Employer and if necessary, with the Contractor before arriving at any decision.

The Adjudicator will agree that all knowledge and information not within the public domain, which may be acquired while carrying out this service shall be all time and for all purpose, regarded as strictly confidential and held in confidence, and shall not be directly or indirectly disclosed to any party whatsoever, except with the permission of the Employer and the contractor. The Adjudicator's decision should be communicated in the form of a speaking order specifying the reasons.

The Adjudicator will agree that any manufacturing or construction firm with which he might be associated with, will not be eligible to participate in bidding for any goods or works resulting from or associated with the project of which this consulting assignment forms a part

Read and Agreed

Name of Adjudicator
Signature

Place:
Date:

Name of Employer
Signature of authorized representative of Employer

Name of the Contractor

Signature of authorized representative of Contractor

Attachment: Copy of contract document between the Employer and contractor and format for recommendation.

SUMMARY OF AJUDICATIOR'S RESPONSIBILITIES

The Adjudicator has the following principal responsibilities:

1. Visit the site periodically.
2. Keep abreast of job activities and developments.
3. Encourage the resolution of disputes by the parties.
4. When a dispute is referred to it, conduct a hearing (no legal presentation), complete its deliberations, and prepare a recommendation in a professional and timely manner (as per sample format)

Sample Format of Adjudicator's Recommendation

[Project Name]
Recommendation of Adjudicator

Dispute No. XX [*NAME OF DISPUTE*]

Hearing Date: _____

Dispute
Description of dispute. A one or two sentence summation of the dispute.

Contractor's Position
A short summation of the contractor's position as understood by the Adjudicator.

Employer's Position
A short summation of the Employer's position as understood by the Adjudicator.

Recommendation
The Adjudicator's specific recommendation for settlement of the dispute. (*The recommended course is consistent with the explanation*).

Explanation
(*This section could also be called Considerations, Rationale, Findings, Discussion, and so on.*)

The Adjudicator's description of how each recommendation was reached.

Respectfully submitted,

Date: _____ _____
Date: _____ _____

Section X - Contract Forms

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security, ES performance security if applicable, and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

Letter of Acceptance

[letterhead paper of the Employer]

[The Letter of Acceptance shall be the basis for formation of the Contract as described in ITB Clause 43. This Standard Form of Letter of Acceptance shall be filled in and sent to the successful Bidder only after evaluation of bids has been completed, subject to any review by the World Bank required under the Loan Agreement.]

[insert date]

Identification No and Title of Contract: *[insert identification number and title of the Contract]*

To: *[insert name and address of the Contractor]*

This is to notify you that your Bid dated *[insert date]* for execution of the *[insert name of the Contract and identification number, as given in the PCC]* for the Contract Price ……. *[insert amount in numbers and words]* as corrected and modified[37] in accordance with the Instructions to Bidders is hereby accepted by our Agency.

[insert one of the following (a) or (b) options]

(a) We accept that *[insert name proposed by bidder]* be appointed as the Adjudicator.[38]

(b) We do not accept that *[insert name proposed by bidder]* be appointed as Adjudicator, and by sending a copy of this Letter of Acceptance to *[insert name of the Appointing Authority]*, we are hereby requesting *[insert name]*, the Appointing Authority, to appoint the Adjudicator in accordance with GCC 23.[39]

We note that as per your bid, you do not intend to subcontract any component of work.

[OR]

We note that as per your bid, you propose to employ M/s. ……. as sub-contractor for executing ……..

[*Delete whatever is inapplicable*]

You are hereby requested to furnish Performance Security, plus additional security for unbalanced bids in terms of ITB clause 40, and ESHS Performance Security ***[Delete ESHS Performance Security if it is not required under the contract]*** in the form detailed

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[37] *Delete "corrected and" or "and modified" if not applicable. See Notes on Standard Form of Agreement, next page.*

[38] *To be used only if the Contractor disagrees in the Bid with the Adjudicator proposed by the Employer in the Instructions to Bidders, and has accordingly offered another candidate.*

[39] *To be used only if the Contractor disagrees in the Bid with the Adjudicator proposed by the Employer in the ITB, has accordingly offered another candidate, and the Employer does not accept the counterproposal.*

in ITB Clause 45 for amounts[40] of Rs. ____ and Rs. _____ within 21 days of the receipt of this letter of acceptance, and visit this office to sign the contract, failing which action as stated in ITB Clause 45.2 will be taken. The securities shall be valid upto 28 days from the date of completion i.e. upto ……. and shall be as per the Performance Security Form and the ESHS Performance Security Form ***[Delete reference to the ESHS Performance Security Form if it is not required under the contract]***, included in Section X - Contract Forms, of the bidding document.

We have reviewed the construction methodology submitted by you alongwith the bid in response to ITB Clause 16 and our comments are given in the attachment. You are requested to submit a revised Program including ESHS requirements as per Clause 26 of General Conditions of Contract within 14 days of receipt of this letter of acceptance.

Yours faithfully,

Authorized Signature……..

Name and Title of Signatory……

Name of Agency……..

[40] *Insert amounts for (i) Performance Security, plus additional security for unbalanced bids; and (ii) ESHS Performance Security respectively.*

Issue of Notice to proceed with the work

(Letterhead of the Employer)

_____ (*date*)

To

_____ (*name and address of the Contractor)*

_____

_____

Dear Sirs:

Pursuant to your furnishing the requisite securities as stipulated in ITB clause 45.1, insurance policy as per GCC 13, construction methodology as stated in letter of acceptance and signing of the contract agreement for the construction of_____@ a Bid Price of Rs._____, you are hereby instructed to proceed with the execution of the said works in accordance with the contract documents.

Yours faithfully,

(Signature, name and title of signatory authorized to sign on behalf of Employer)

Attachment: Contract Agreement

Contract Agreement

THIS AGREEMENT made the . . . . . day of . . . . . ., ..., between . . . . . ***[name of the*** Employer***]***. . . . . (hereinafter "the Employer"), of the one part, and . . . . . ***[name of the Contractor]***. . . . .(hereinafter "the Contractor"), of the other part:

WHEREAS the Employer desires that the Works known as . . . . . ***[name of the Contract]***. . . . .should be executed by the Contractor, and has accepted a Bid by the Contractor for the execution and completion of these Works and the remedying of any defects therein,

The Employer and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.

(a) this Agreement
(b) the Letter of Acceptance
(c) the Contractor's Bid including completed schedules and priced bill of quantities,
(d) the Addenda No's . . . . . ***[insert addenda numbers if any]***. . . . .
(e) the Particular Conditions of contract
(f) the General Conditions of contract;
(g) the Specifications
(h) the Drawings; and
(i) Construction Program, Methodology, Quality Assurance Program, ESHS Management Strategies and Implementation Plans, and Code of Conduct (ESHS)
(j) Joint Venture Agreement [for JVs only]
(k) Post bid correspondences and any other document listed in the contract data as forming part of the contract
(l) Any other document listed in PCC as forming part of the Contract

3. In consideration of the payments to be made by the Employer to the Contractor as indicated in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of India on the day, month and year indicated above.

Signed by:
for and on behalf of the Employer
in the presence of:
Witness, Name, Signature, Address, Date

Signed by:
for and on behalf the Contractor
in the presence of:
Witness, Name, Signature, Address, Date

Performance Security - Bank Guarantee
[including Additional Performance Security for unbalanced bids]

[Guarantor letterhead or SWIFT identifier code]

Performance Guarantee No……*[insert guarantee reference number]*
Date……*[insert date of issue of the guarantee]*

To: _____ *[name of Employer]*
_____ *[address of Employer]*

WHEREAS _____ *[name and address of Contractor[41]]* (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. _____ dated _____ to execute _____ *[name of Contract and brief description of Works]* (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, upto a total of _____ *[amount of guarantee[42]]* _____ *[in words]*, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ *[amount of guarantee]* as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until …… [43], and any demand for payment under it must be received by us at this office on or before that date.

Signature and seal of the guarantor _____
Name of Bank _____
Address _____Date ……

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[41] *In the case of a JV, insert the name of the Joint Venture*

[42] *An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract less provisional sum if any, plus additional performance security for unbalanced bids if any, and denominated in Indian Rupees.*

[43] *Insert the date twenty-eight days after the expected completion date as described in GC Clause 53.1. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee*

Environmental, Social, Health and Safety (ESHS) Performance Security - Bank Guarantee

[Guarantor letterhead or SWIFT identifier code]

ESHS Performance Guarantee No……*[insert guarantee reference number]*
Date……*[insert date of issue of the guarantee]*
To: _____ *[name of Employer]*
_____ *[address of Employer]*

WHEREAS _____ *[name and address of Contractor[44]]* (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. _____ dated _____ to execute _____ *[name of Contract and brief description of Works]* (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with Environmental, Social, Health and/or Safety (ESHS) obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, upto a total of _____ *[amount of guarantee[45]]* _____ *[in words]*, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ *[amount of guarantee]* as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until …… [46], and any demand for payment under it must be received by us at this office on or before that date.

Signature and seal of the guarantor _____
Name of Bank _____
Address _____Date ……

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[44] *In the case of a JV, insert the name of the Joint Venture*

[45] *An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract less provisional sum if any, and denominated in Indian Rupees.*

[46] *Insert the date twenty-eight days after the expected completion date as described in GC Clause 53.1. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee*

Advance Payment Security -- Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

Advance Payment Guarantee No……*[insert guarantee reference number]*
Date……*[insert date of issue of the guarantee]*

To: _____ *[name of Employer]*
_____ *[address of Employer]*
_____*[name of Contract]*

Gentlemen:

In accordance with the provisions of the Conditions of Contract, Sub-clause 49.1 ("Advance Payment") of the above-mentioned Contract, _____ *[name and address of Contractor*[47]*]* (hereinafter called "the Contractor") shall deposit with _____ *[name of Employer]* a bank guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of _____ *[amount of guarantee*[48]*]* _____ *[in words]*.

We, the _____ *[bank or financial institution]*, as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to _____ *[name of Employer]* on his first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding _____ [amount of guarantee] _____ *[in words]*.

We further agree that no change or addition to or other modification of the terms of the Contract or of Works to be performed thereunder or of any of the Contract documents which may be made between _____ *[name of Employer]* and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until _____ *[name of Employer]* receives full repayment of the same amount from the Contractor. Consequently any demand for payment under this guarantee must be received by us at this office on or before that date.

Yours truly,
Signature and seal: _____
Name of Bank: _____
Address: _____
Date: _____

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[47] In the case of a JV, insert the name of the Joint Venture
[48] An amount shall be inserted by the bank representing the amount of the Advance Payment, and denominated in Indian Rupees.

Retention Money Security – NOT APPLICABLE

Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

_____ *[Ba*
cnk's name and address of issuing branch or office]
Beneficiary: _____ *[Name and Address of Employer]*
Date: _____

RETENTION MONEY GUARANTEE NO.: _____

We have been informed that _____ *[name of contractor[49]]* (hereinafter called "the Contractor") has entered into Contract No. _____ *[reference number of the contract]* dated _____ with you, for the execution of _____ *[name of contract and brief description of Works]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, when the Taking-Over Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment, payment of _____ *[insert* the second half of the Retention Money*]* is to be made against a Retention Money guarantee.

At the request of the contractor, we _____*[name of Bank]* hereby irrevocably undertake to pay you the sum or sums not exceeding in total an amount of _____ *[amount in Rupees]* (_____) *[amount in words[50]]* upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract without cavil or argument.
It is a condition for any claim and payment under this guarantee to be made that the payment of the second half of the Retention Money referred to above must have been received by the Contractor on its account number _____ at _____ *[name and address of Bank].*
This guarantee shall expire, at the latest, 21 days after the date when the Employer has received a copy of the Defects Liability Certificate issued by the Project Manager. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

_____
[Signature(s) and seal of the guarantor]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[49] *In the case of a JV, insert the name of the Joint Venture*
[50] *The Guarantor shall insert an amount representing the amount of the second half of the Retention Money or if the amount guaranteed under the Performance Guarantee when the Taking-Over Certificate is issued is less than half of the Retention Money, the difference between half of the Retention Money and the amount guaranteed under the Performance Security.*

Annexure 'C'

Fairway Maintenance of Farakka – Kahalgaon (146 km) stretch of National Waterway -1 (River Ganga)

Contract Package no: IN-IWAI-400748-CW-RFB

JAN, 2024

Project Management Unit (PMU)
Capacity Augmentation of the National Waterway – 1 project (Jal Marg Vikas)
INLAND WATERWAYS AUTHORITY OF INDIA
(Ministry of Ports, Shipping and Waterways, Government of India)
Head Office: A-13, Sector–1, Noida - 201301

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INLAND WATERWAYS AUTHORITY OF INDIA

(Ministry of Ports, Shipping and Waterways, Government of India)

PROJECT: Capacity Augmentation of National Waterway–1

.

NATIONAL COMPETITIVE BIDDING

(Two-Envelope Bidding Process with e-Procurement)

File No.: IWAI / WB / NW-1 /14 /19 / 2023

Bid no: IN-IWAI-400748-CW-RFB

NAME OF WORK: **Fairway Maintenance of Farakka - Kahalgaon (146 km) stretch of National Waterway -1 (River Ganga)**

PERIOD OF SALE OF BIDDING DOCUMENT	FROM 03.01.2024 onwards
TIME AND DATE OF PRE-BID MEETING	DATE: 10.01.2024; TIME 1500 HOURS
LAST DATE AND TIME FOR RECEIPT OF BIDS	DATE: 24.01.2024; TIME 1500 HOURS
TIME AND DATE OF OPENING	DATE: 24.01.2024; TIME 1530 HOURS OF BID – Technical Part
The firms that qualify technically shall be notified subsequently for opening of the financial part of their bids.	
PLACE OF OPENING OF BIDS	IWAI, A-13 Sector-1; Noida
OFFICER INVITING BIDS: - Vice Chairman & Project Director (JMVP) Inland Waterways Authority of India, A – 13, Sector – 1, Noida – 201301, Uttar Pradesh – INDIA Telephone No.: (91) 0120-2424544 Email.: vc.iwai@nic.in;	

INLAND WATERWAYS AUTHORITY OF INDIA

(Ministry of Ports, Shipping and Waterways, Government of India)

PROJECT: *Capacity Augmentation of National Waterway – 1*

INVITATIONS FOR BIDS (IFB)
E-Procurement Notice
(Two-Envelope Bidding Process with e-Procurement)

NATIONAL COMPETITIVE BIDDING

Name of Project: Capacity Augmentation of National Waterway – 1

Contract Title: Fairway Maintenance of **Farakka - Kahalgaon** (146 km) stretch of National Waterway -1 (River Ganga)

Loan No: 8752 – IN

Bid No.: IN-IWAI-400748-CW-RFB **Date**: 03.01.2024

File no: - IWAI /WB / NW-1 / 14 / 19/ 2023

Estimated Cost: Rs. 95,55,08,400/- excluding taxes

1. The Government of India has received a loan from the World Bank towards the cost of Capacity Augmentation of National Waterway – 1 Project and intends to apply a part of the funds to cover eligible payments under the contract for construction of works as detailed below.

   Fairway Maintenance of Farakka - Kahalgaon (146 km) stretch of National Waterway -1 (River Ganga)

2. Bidding will be conducted through National Competitive Bidding procedures agreed with the World Bank. Bidding is open to all eligible bidders as defined in the World Bank's Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, January 2011_Revised July 2014.

3. Bidders from India should, however, be registered with the Government of India or other State Governments / Government of India, or State / Central Government Undertakings. Bidders from India, who are not registered as above, on the date of bidding, can also participate provided they get themselves registered by the time of contract signing, if they become successful bidders. Bidders are advised to note the clauses on eligibility (Section I Clause 4) and minimum qualification criteria (Section III – Evaluation and Qualification Criteria), to qualify for the award of the contract. In addition, please refer to paragraphs 1.6 and 1.7 of the World Bank's Guidelines setting forth the World Bank's policy on conflict of interest.

   1) *Average annual financial turnover during last five years ending 31st March of the previous financial year (2022-23), should be INR 28,66,52,520/- (INR Twenty eight crores Sixty six lakhs Fifty two thousand Five hundred and twenty only)*

   2) *Similar works such as those pertaining to General Dredging Experience in Ports / River / Lakes/ Canals/ Water Bodies / Wet excavation in dams /*

Management of Vessels and Manning of Vessels or Vessel related Marine Works or River Dredging and management of Dredged materials or Dredged material used in reclamation of port / harbours during last 7 years ending last day of month previous to the one in which this tender is invited should be either of following:

Three similar works each costing not less than INR 12,74,01,120/- or Dredged Quantity of 2,46,400 cum ***OR***
Two similar works each costing not less than INR 15,92,51,400/- or Dredged Quantity of 3,08,000 cum ***OR***
One similar work costing not less than INR 25,48,02,240/- or Dredged Quantity of 4,92,800 cum

3) Meets Cash Flow of INR 7,96,25,700 /- required for minimum 3 months

3) The Inland Waterways Authority of India, Ministry of Ports, Shipping and Waterways, Government of India (Implementing Agency) invites online bids for the works detailed below in the table. The bidders may submit bids for any or all of the works indicated therein. Interested bidders may obtain further information and inspect the bidding documents at the address given below during office hours.

4) Bidding Documents are available online on CPP Portal **https://eprocure.gov.in/eprocure/app** from 03.01.2024. A non-refundable fee as indicated in the table below, in the form of Demand Draft (DD) of any Scheduled/Nationalized bank payable at Noida or through RTGS in favour of **IWAI Fund Jal Marg Vikas** (Payment documents are to be submitted as per the procedure described in paragraph 9 below) shall be submitted along with the bid. Bidders will be required to register on the website. The bidders would be responsible for ensuring that any addenda available on the website is also downloaded and incorporated.

5) For submission of the bid, the bidder is required to have Digital Signature Certificate (DSC) from one of the Certifying Authorities authorised by Government of India for issuing DSC. Aspiring bidders who have not obtained the user ID and password for participating in e-procurement in this Project, may obtain the same from the website: https://eprocure.gov.in/cppp/download/disp.

6) All Bids must be accompanied by a bid security of the amount specified for the work in the table below, drawn in favour of **IWAI Fund Jal Marg Vikas**. Bid security will have to be in any one of the forms as specified in the bidding document and shall have to be valid for 45 days beyond the validity of the bid. Procedure for submission of bid security is described in Para 9.

7) Bids comprise two Parts, namely the Technical Part and the Financial Part, and both parts must be submitted simultaneously online on CPP Portal at ***https://eprocure.gov.in/eprocure/app (website) on or before 15.00 hours on 24.01.2024 and the 'Technical Part' of the bids will be publicly opened online on the same day at 15.30 hours***, in the presence of the bidder's designated representatives who wish to attend. The "Financial Part" shall remain unopened in the e-procurement system until the second public Bid opening for the financial part. Any bid or modifications to bid (including discount) received outside e-procurement

system will not be considered. If the office happens to be closed on the date of opening of the bids as specified, the bids will be opened on the next working day at the same time and venue. The electronic bidding system would not allow any late submission of bids.

8) The bidders are required to submit (a) Original payment documents towards the cost of bid document; (b) Original bid security in approved form and (c) Original affidavit regarding correctness of information furnished with bidding document with Vice Chairman & Project Director (JMVP), A-13, Sector-1, NOIDA, Gautam Buddha Nagar – 201301, UP before the bid submission deadline, either by registered post/speed post/courier or by hand, failing which the bids will be declared non-responsive and will not be opened.

9) ***A pre-bid meeting in hybrid mode will be held on 10.01.2024*** at 1500 hours at the office of Inland Waterways Authority of India, NOIDA to clarify the issues and to answer questions on any matter that may be raised at that stage as stated in ITB Clause 7.4 of 'Instructions to Bidders' of the bidding document. Bidders are advised to download the bidding document prior to the pre-bid meeting in order for bidders to have a good understanding of the scope of work under this contract for discussion and clarification at the pre-bid meeting.

10) Other details can be seen in the bidding documents. The Employer shall not be held liable for any delays due to system failure beyond its control. Even though the system will attempt to notify the bidders of any bid updates, the Employer shall not be liable for any information not received by the bidder. It is the bidders' responsibility to verify the website for the latest information related to this bid.

11) The address for communication is as under:

Vice Chairman & Project Director, Jal Marg Vikas Project (JMVP)
Inland Waterways Authority of India
A-13, Sector-1, Noida, Gautam Buddha Nagar, UP - 201301
+91 120 2424544
Email: vc.iwai@nic.in

TABLE

Package No	Name of Work	Bid Security * Rs.	Cost of Document Rs	Period of Completion
1	2	3	4	5
IN - IWAI-400748-CW- RFB	Fairway Maintenance of Farakka - Kahalgaon (146 km) stretch of National Waterway -1 (River Ganga)	INR 1,91,10,168.00	INR 6,000/- incl. of GST @ 18%	3 years

Seal of office

Part I – Bidding Procedures

TABLE OF CONTENTS	
VOLUME–1: BIDDING DOCUMENT	
Descriptions	**Page No.**
Part 1 – Bidding Procedures	**3**
Section I. Instructions to Bidders	**5**
Section II. Bid Data Sheet	**33**
Section III. Evaluation and Qualification Criteria	**45**
Section IV. Bidding Forms & Bill of Quantity	**97**
Section V. Eligible Countries	**104**
Section VI. Bank Policy - Corrupt and Fraudulent Practices	**114**
Part 2 - Section-VII Works Requirements	
Part -I – Scope of work	**116**
Part -II - TECHNICAL SPECIFICATION	**130**
Section-VIII General Conditions of Contract together with Schedules	**175**
Section-IX Particular Conditions of Contract Appendixes	**205** **238**
Section-X Contract Forms	**170**
Salient Features of Labour & Environment Protection Laws	**171**

Part I – Bidding Procedures

Section I. Instructions to Bidders
Table of Clauses

A. General 11
1. Scope of Bid 11
2. Source of Funds 11
3. Corrupt and Fraudulent Practices 12
4. Eligible Bidders 12
5. Eligible Materials, Equipment and Services 15

B. Contents of Bidding Document 15
6. Sections of Bidding Document 15
7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting 16
8. Amendment of Bidding Document 17

C. Preparation of Bids 18
9. Cost of Bidding 18
10. Language of Bid 18
11. Documents Comprising the Bid 18
12. Process of Bid Submission 19
13. Alternative Bids 20
14. Bid Prices and Discounts 20
15. Currencies of Bid and Payment 22
16. Documents Comprising the Technical Proposal 22
17. Documents Establishing the Qualifications of the Bidder 22
18. Period of Validity of Bids 22
19. Bid Security 23
20. Format and Signing of Bid 25

D. Online Submission and Opening of Bids 25
21. Preparation of Bids 25
22. Deadline for Submission of Bids 26
23. Late Bids 26
24. Withdrawal, Substitution, and Modification of Bids 26
25. Public Opening of Technical Parts of Bids 27

F. Evaluation of Bids – General Provisions 27
26. Confidentiality 27
27. Clarification of Bids 28
28. Deviations, Reservations, and Omissions 28
29. Nonconformities, Errors, and Omissions 28
30. Evaluation of Technical Parts 29
31. Determination of Responsiveness 29
32. Qualification of the Bidder 30
33. Subcontractors 30

34. Public Opening of Financial Parts....30
35. Evaluation of Financial Parts....32
36. Correction of Arithmetical Errors....32
37. Conversion to Single Currency....33
38. Margin of Preference....33
39. Comparison of Financial Parts....33
40. Unbalanced or Front Loaded Bids....33
41. Employer's Right to Accept Any Bid, and to Reject Any or All Bids....33

J. Award of Contract....33
42. Award Criteria....33
43. Notification of Award....34
44. Signing of Contract, Publication of award and Recourse to unsuccessful Bidders....34
45. Performance Security....34
46. Adjudicator....35

ABBREVETIONS		
	GOI	Government of India
	MOSPW	Ministry of Ports, Shipping and Waterways
	IWA1	Inland Waterways Authority of India
	WB	World Bank
	JMVP	Jal Marg Vikas Project
	PMU / PMC	Project Management Unit. / Project Management Consultant
	NW-1	National Waterways-1 (River Ganga)
	CPPP	Central Public Procurement Portal
	INR	Indian National Rupee
	NCB	National Competitive Bid.
	ICB	International Competitive Bid
	IFB	Invitation for Bid
	QC /QR	Qualifying Criteria / Qualifying Requirements
	ATO	Annual Turn Over
	NIT	Notice Inviting Tender
	LAD	Least Available Depth
	RFB	Request for Bid
	ITB	Instruction to Bidder
	BDS	Bid Data Sheet
	EMD	Earnest Money Deposit / Bid Security
	GCC	General Condition of Contract.
	PCC	Particular Condition of Contact.
	ESHS	Environment, Social, Health & Safety
	ESIA	Environment & Social Impact Assessment.
	MSIP	Management Strategies & Implementation Plan
	C-ESMP	Contractor's Environment & Social Management Plan.
	CPG	Contract Performance Guarantee
	JV	Joint Venture
	GBV	Gender Based Violence
	SEA	Sexual Exploitation and Abuse.
	DMP	Dredging Management Plan
	IHO	International Hydrographic Organization
	OHSAS	Occupational Health & Safety Assessment Series
	EMS	Environmental Management System
	IADC	International Association of Dredging Companies
	SMC	Safety Management Certificate
	DOC	Document of Compliance
	GST	Goods & Service Tax
	BOCW	Building & Other Construction Worker
	CPI	Consumer Price Index
	WPI	Wholesale Price Index
	EIC	Engineer in charges
	TSSC	Technical Support & Supervisory Consultant.
	CSD	Cutter Suction Dredger

Section I - Instructions to Bidders

A. General	
1. Scope of Bid	1.1 The Employer, as **indicated in the BDS**, issues this Bidding Document for the procurement of the Works as specified in Section VII (Works' Requirements) & Invitation for Bids (IFB). The name, identification, and number of lots (contracts) of this bidding are **specified in the BDS**.
	1.2 Throughout this Bidding Document: (a) the term "in writing" means communicated in written form and delivered against receipt; (b) except where the context requires otherwise, words indicating the singular also include the plural and words indicating the plural also include the singular; (c) "day" means calendar day; (d) "ES" is an acronym for environmental and social (including Sexual Exploitation, and Assault (SEA)); (e) "Sexual Exploitation and Assault" "(SEA)" stands for the following: (i) Sexual exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. In Bank financed operations/projects, sexual exploitation occurs when access to or benefit from a Bank financed Goods, Works, Non-consulting Services or Consulting Services is used to extract sexual gain. (ii) Sexual assault is further defined as sexual activity with another person who does not consent. It is a violation of bodily integrity and sexual autonomy and is broader than narrower conceptions of "rape", especially because (a) it may be committed by other means than force or violence, and (b) it does not necessarily entail penetration; and (f) "Contractor's Personnel" is as defined in Sub-Clause 9.1 of the General Conditions of Contract.
2. Source of Funds	2.1 The Borrower or the Recipient (hereinafter called "Borrower") **specified in the BDS** has received/applied for financing (hereinafter called "funds") from the International Bank for

	Reconstruction and Development or the International Development Association (hereinafter called "the Bank") in an amount **specified in the BDS**, towards the cost of the project **specified in the BDS**. The Borrower intends to apply a portion of the funds to eligible payments under the contract(s) for which this Bidding Document is issued. 2.2 Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank, and will be subject, in all respects, to the terms and conditions of the Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the Loan (or other financing) account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Bank, is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the proceeds of the Loan (or other financing).
3. Corrupt and Fraudulent Practices	3.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Section VI. 3.2 In further pursuance of this policy, Bidders shall permit and shall cause their agents (whether declared or not), sub-contractors, sub-consultants, service providers, or suppliers and any personnel thereof, to permit the Bank to inspect all accounts, records and other documents relating to any prequalification process, bid submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.
4. Eligible Bidders	4.1 A Bidder may be a firm that is a private entity, a state-owned entity or institution subject to ITB 4.5, or any combination of such entities in the form of a Joint Venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent, unless otherwise **specified in the BDS**. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the Bidding process and, in the event the JV is awarded the Contract, during contract execution. This authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all members. Unless **specified in the BDS**, there is no limit on the number of members in a JV. The joint venture agreement shall be

	registered in the place **specified in BDS** so as to be legally valid and binding on members.
	4.2 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder: (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or (b) receives or has received any direct or indirect subsidy from another Bidder; or (c) has the same legal representative as another Bidder; or (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or (e) participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which such Bidder is involved. However, this does not limit the inclusion of the same subcontractor in more than one bid; or (f) any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the bid; or (g) any of its affiliates has been hired (or is proposed to be hired) by the Employer or Borrower as Project Manager (Engineer) for the Contract implementation; or (h) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or (i) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and/or the bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such

	relationship has been resolved in a manner acceptable to the Bank throughout the procurement process and execution of the contract.
	4.3 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.7. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed sub-contractors or sub-consultants for any part of the Contract including related Services.
	4.4 A Bidder that has been sanctioned by the Bank in accordance with the above ITB 3.1, including in accordance with the Bank's Guidelines on Preventing and Combating Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants ("Anti-Corruption Guidelines"), shall be ineligible to be prequalified for, bid for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available at the electronic address **specified in the BDS**.
	4.5 Bidders that are Government-owned enterprises or institutions in the Employer's Country may participate only if they can establish that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not dependent agencies of the Employer. To be eligible, a government-owned enterprise or institution shall establish to the Bank's satisfaction, through all relevant documents, including its Charter and other information the Bank may request, that it: (i) is a legal entity separate from the government (ii) does not currently receive substantial subsidies or budget support; (iii) operates like any commercial enterprise, and, inter alia, is not obliged to pass on its surplus to the government, can acquire rights and liabilities, borrow funds and be liable for repayment of its debts, and can be declared bankrupt; and (iv) is not bidding for a contract to be awarded by the department or agency of the government which under their applicable laws or regulations is the reporting or supervisory authority of the enterprise or has the ability to exercise influence or control over the enterprise or institution.
	4.6 A Bidder shall not be under suspension from bidding by the Employer as the result of the operation of a Bid–Securing Declaration.

	4.7	Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of goods or the contracting of works or services required; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country.
	4.8	Bidder shall provide such evidence of eligibility satisfactory to the Employer, as the Employer shall reasonably request.
5. Eligible Materials, Equipment and Services	5.1	The materials, equipment and services to be supplied under the Contract and financed by the Bank may have their origin in any country subject to the restrictions specified in Section V, Eligible Countries, and all expenditures under the Contract will not contravene such restrictions. At the Employer's request, Bidders may be required to provide evidence of the origin of materials, equipment and services.
B. Contents of Bidding Document		
6. Sections of Bidding Document	6.1	The Bidding Document consist of Parts *1, 2,* and *3,* which include all the Sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 8. **PART 1 Bidding Procedures** Section I - Instructions to Bidders (ITB) Section II - Bid Data Sheet (BDS) Section III - Evaluation and Qualification Criteria Section IV - Bidding Forms Section V - Eligible Countries Section VI - Bank Policy-Corrupt and Fraudulent Practices **PART 2 Works' Requirements** Section VII – Works' Requirements **PART 3 Conditions of Contract and Contract Forms** Section VIII - General Conditions of Contract (GCC) Section IX - Particular Conditions of Contract (PCC) Section X - Contract Forms

	6.2 The Invitation for Bids issued by the *Employer* is not part of the Bidding Document.
	6.3 Unless obtained directly from the Employer or downloaded from the official website specified in the 'E-Procurement Notice', the Employer is not responsible for the completeness of the Bidding Documents, responses to requests for clarification, the minutes of the pre-Bid meeting (if any), or Addenda to the Bidding Documents in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Employer or downloaded from the official website specified in the 'E-Procurement Notice' shall prevail.
	6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents and to furnish with its bid all information and documentation as required by the Bidding Documents.
7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting	7.1 The electronic bidding system **specified in the BDS** provides for online clarifications. A prospective Bidder requiring any clarification on the Bidding Document may notify the *Employer* online or raise his inquiries during the pre-bid meeting if provided for in accordance with ITB 7.4. Clarifications requested through any other mode shall not be considered by the Employer. The *Employer* will respond to any request for clarification, provided that such request is received prior to the deadline for submission of bids, within a period **specified in the BDS**. Description of clarification sought and the response of the *Employer* shall be uploaded for information of all Bidders without identifying the source of request for clarification. Should the clarification result in changes to the essential elements of the Bidding Documents, the *Employer* shall amend the Bidding Documents following the procedure under ITB 8 and ITB 22.2. It is the bidder's responsibility to check on the e-procurement system, for any addendum/ amendment/ corrigendum to the bidding document.
	7.2 The Bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself, on its own risk and responsibility, all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense.
	7.3 The Bidder and any of its personnel or agents will be granted permission by the *Employer* to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the *Employer* and its personnel and agents from and against all liability in respect thereof, and will be

		responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.
	7.4	If so, **specified in the BDS**, the Bidder's designated representative is invited to attend a pre-bid meeting and/or a Site of Works visit. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
	7.5	The Bidder is requested, to submit any questions only through the e-procurement portal, not later than one week before the meeting. Clarifications requested through any other mode shall not be considered by the Employer.
	7.6	Minutes of the pre-bid meeting, if applicable, including the text of the questions raised, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be uploaded online on e-procurement system. Any modification to the Bidding Documents that may become necessary as a result of the pre-bid meeting shall be made by the *Employer* exclusively through the issue of an addendum pursuant to ITB 8 and not through the minutes of the pre-bid meeting. It is the bidder's responsibility to check on the e- procurement system, for any addendum/ amendment/ corrigendum to the bidding documents.
	7.7	Nonattendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.
8. Amendment of Bidding Document	8.1	At any time prior to the deadline for submission of bids, the *Employer* may amend the Bidding Documents by issuing addenda.
	8.2	Any addendum thus issued shall be part of the Bidding Document and shall be deemed to have been communicated to all bidders. The addenda will appear on the e-procurement system under "Latest Corrigendum", and Email notification is also automatically sent to those bidders who have started working on the tender, unless otherwise **specified in the BDS**. The Employer shall not be liable for any information not received by the bidder. It is the bidders' responsibility to verify the website for the latest information related to this bid.
	8.3	To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the *Employer* may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB 22.2

C. Preparation of Bids

9. Cost of Bidding	9.1	The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the *Employer* shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
10. Language of Bid	10.1	The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the *Employer*, shall be written in English. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in English, in which case, for purposes of interpretation of the Bid, such translation shall govern.
11. Documents Comprising the Bid	11.1	The Bid shall comprise two Parts, namely the Technical Part and the Financial Part. These two Parts shall be submitted simultaneously.
	11.2	The Technical Part shall contain the following: (a) Letter of Bid – Technical Part in accordance with ITB 12; (b) documentary evidence in accordance with ITB 17.1 establishing the Bidder's eligibility to Bid; (c) Bid Security or Bid-Securing Declaration, in accordance with ITB 19; (d) alternative bids – technical part, if permissible, in accordance with ITB 13, the Technical Part of any Alternative Bid; (e) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.2, and in accordance with ITB 20.3 in case of a JV; (f) documentary evidence in accordance with ITB 17 establishing the Bidder's qualifications to perform the contract, if its Bid is accepted; (g) Technical Proposal in accordance with ITB 16; (h) Construction methodology proposed as detailed in Para 1.1 of Section III Evaluation Criteria; (i) Contractor Registration certificate (as per IFB); and (j) Any other document **required in the BDS**.

	11.3 The **Financial Part** shall contain the following: (a) **Letter of Bid – Financial Part:** prepared in accordance with ITB 12 and ITB 14; (b) **Completed Schedules** including priced bill of quantities in accordance with ITB 12 and ITB 14, as **specified in BDS;** (c) **Alternative Bid - Financial Part:** if permissible in accordance with ITB 13; and (d) any other document **required in the BDS.** 11.4 The Technical Part shall not include any information related to the Bid price. Where material financial information related to the Bid price is contained in the Technical Part the Bid shall be declared non-responsive. 11.5 In addition to the requirements under ITB 11.2, Bids submitted by a JV (where permitted) shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Bid shall be signed by all members and submitted with the Bid, together with a copy of the proposed Agreement. 11.6 The Bidder shall furnish in the Letter of Bid – Financial Part information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.
12. Process of Bid Submission	12.1 The Letter of Bid – Technical Part, Letter of Bid – Financial Part, Schedules including the Bill of Quantities, and all documents listed under Clause 11, shall be prepared using the relevant forms in Section *IV* (Bidding Forms), if so provided. The forms must be completed without any alterations to the text, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested. 12.2 Entire Bid including the Letters of Bid and filled-up Bill of Quantity shall be submitted online on e-procurement system specified in ITB 7.1. Details and process of online submission of the tender and relevant documents are given in the website mentioned above. Scanned copies of documents listed in ITB clauses 11 and 12.3 should also be uploaded on this website. 12.3 **Submission of Original Documents:** The bidders are required to separately submit (i) original payment documents towards the cost of bidding document; and registration on e-procurement website (if applicable); (ii) original bid security

		or Bid-Securing Declaration in approved form; and (iii) original affidavit regarding correctness of information furnished with bidding document, with the office **specified in the BDS**, before the deadline for Bid submission, either by registered/speed post/courier or by hand, failing which the bids will be declared non-responsive and will not be opened. Hard copy of rest of the bid or any other document are not to be submitted.
13. Alternative Bids	13.1	Bidders shall submit offers that comply with the requirements of the bidding documents, including the basic technical design as indicated in the drawing and specifications. Alternatives will not be considered.
14. Bid Prices and Discounts	14.1	The prices and discounts (including any price reduction) quoted by the Bidder in the Letter of Bid - Financial Part, and in the Schedules shall conform to the requirements specified below.
	14.2	The Bidder shall submit a bid for the whole of the works described in ITB 1.1 by filling in prices for all items of the Works (both in figures and words), as identified in Section IV, Bidding Forms along with the total bid price (both in figures and words). The Bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. **Items against which no rate or price is entered by the Bidder will not be paid for by the *Employer* when executed and shall be deemed covered by the rates for other items and prices in the Bill of Quantities.** Corrections if any in the bid can be carried out by editing the information before electronic submission on e-procurement portal.
	14.3	The price to be quoted in the Letter of Bid - Financial Part in accordance with ITB 12.1, shall be the total price of the Bid, excluding any discounts offered.
	14.4	Discounts, if any, and the methodology for their application shall be quoted in the Letter of Bid - Financial Part, in accordance with ITB 12.1.
	14.5	Unless otherwise **specified in the BDS** and the Conditions of Contract, the rates and prices quoted by the Bidder shall be fixed
	14.6	If so indicated in ITB 1.1, bids are invited for individual lots (contracts) or for any combination of lots/contracts (packages). Bidders wishing to offer any price reduction for the award of more than one Contract shall specify in their bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Price reductions or

	discounts shall be submitted in accordance with ITB 14.4, provided the bids for all lots/contracts are opened at the same time.
	14.7 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as applicable on the deadline for submission of Bids, shall be included in the rates and prices and the total bid price submitted by the Bidder.
	14.8 Bidders may like to ascertain availability of tax/duty exemption benefits available in India. They are solely responsible for obtaining such benefits which they have considered in their bid and in case of failure to receive such benefits for reasons whatsoever, the Employer will not compensate the bidder (Contractor). The bidder shall furnish along with his bid a declaration to this effect in the Declaration Format provided in Section IV of the bidding documents. Where the bidder has quoted taking into account such benefits, it must give all information required for issue of certificates in terms of the Government of India's relevant Notifications as per the declaration format. In case the bidder has not provided the required information or has indicated to be furnished later on in the Declaration Format, the same shall be construed that the goods/construction equipment for which certificate is required is Nil. To the extent the Employer determines the quantities indicated therein are reasonable keeping in view the quantities in bill of quantities, construction program and methodology, the certificates will be issued within 60 days of signing of the contract and no subsequent changes will be permitted. In case of materials pertaining to Variation items and quantities, the certificate shall be issued only on request from the Contractor when in need and duly certified by the Project Manager. No certificate will be issued for items where no quantity/capacity of equipment is indicated in the statement. If the bidder has considered the tax/duty exemption for materials/construction equipment to be bought for the work, the bidder shall confirm and certify that the Employer will not be required to undertake any responsibilities of the Government of India Scheme or the said exemptions being available during the contract execution, except issuing the required certificate. The bids which do not conform to the above provisions or any condition by the bidder which makes the bid subject to availability of tax/duty exemption for materials/construction equipment or compensation on

	withdrawal of any variations to the said exemptions will be treated as non-responsive and rejected. Any delay in procurement of the construction equipment/machinery/goods as a result of the above shall not be a cause for granting any extension of time.
15. Currencies of Bid and Payment	15.1 The unit rates and prices shall be quoted by the Bidder and shall be paid for, entirely in Indian Rupees.
16. Documents Comprising the Technical Proposal	16.1 The Bidder shall furnish a Technical Proposal in the Technical Part of the Bid, including a statement of work methods, equipment, personnel, schedule and any other information as per details stipulated in Section *IV* (Bidding Forms), in sufficient detail to demonstrate the adequacy of the Bidders' proposal to meet the work requirements and the completion time.
17. Documents Establishing the Qualifications of the Bidder	17.1 To establish Bidder's eligibility in accordance with ITB 4, Bidders shall complete the Letter of Bid – Technical Part, included in Section IV, Bidding Forms. 17.2 To establish its qualifications to perform the Contract in accordance with Section *III,* Evaluation and Qualification Criteria, the Bidder shall provide the complete information as requested in the corresponding information sheets included in Section *IV* (Bidding Forms).
18. Period of Validity of Bids	18.1 Bids shall remain valid for 90 days or for a period **specified in the BDS** after the bid submission deadline date prescribed by the *Employer in accordance with ITB 22.1*. A bid valid for a shorter period shall be rejected by the *Employer* as nonresponsive.
	18.2 In exceptional circumstances, prior to the expiration of the bid validity period, the *Employer* may request Bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. If a bid security is requested in accordance with ITB 19, it shall also be extended for forty-five (45) days beyond the deadline of the extended validity period. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request shall not be required or permitted to modify its bid, except as provided in ITB 18.3.
	18.3 If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial bid validity, the Contract price shall be determined as follows*:*

		(a) In the case of fixed price contracts, the Contract price shall be the bid price adjusted by the factor **specified in the BDS**. (b) In the case of adjustable price contracts, no adjustment shall be made. (c) In any case, bid evaluation shall be based on the bid price without taking into consideration the applicable correction from those indicated above.
19. Bid Security	19.1	Unless otherwise **specified in the BDS**, the Bidder shall furnish as part of the Technical Part of its bid, in original form, either a Bid-Securing Declaration or a bid security, and in the case of a Bid security, in the amount **shown in BDS,** for this particular work.
	19.2	A Bid Securing Declaration shall use the form included in Section IV, Bidding Forms.
	19.3	If a bid security is specified pursuant to ITB 19.1, the bid security shall be a demand guarantee, at the Bidder's option, in any of the following forms: (a) an unconditional bank guarantee, issued by a Nationalized/ Scheduled bank located in India; (b) an irrevocable letter of credit issued by a Nationalized or Scheduled bank located in India; (c) a cashier's or certified check; or demand draft from a Nationalized or Scheduled Bank located in India; (d) another security **indicated in the BDS.** *In case of a bank guarantee, the bid security shall be submitted using the Bid Security form included in the Section IV (Bidding Forms).* The form must include the complete name of the Bidder. The bid security shall be valid for forty-five (45) days beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 18.2.
	19.4	If a Bid Security or Bid Securing Declaration is specified pursuant to ITB 19.1, any bid not accompanied by a substantially responsive Bid Security or Bid Securing Declaration shall be rejected by the Employer as non-responsive.
	19.5	If a bid security is specified pursuant to ITB 19.1, the bid security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing

		the contract and furnishing the performance security and if required in the BDS, the Environmental and Social (ES) Performance Security pursuant to ITB 45.
	19.6	If a bid security is specified pursuant to ITB 19.1, the bid security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required performance security and if required in the BDS, the Environmental and Social (ES) Performance Security.
	19.7	The bid security may be forfeited or the Bid-Securing Declaration executed: (a) if a Bidder withdraws/modifies/substitutes its bid during the period of bid validity specified by the Bidder on the Letter of Bid - Technical Part and repeated in the Letter of Bid - Financial Part, or any extension thereto provided by the Bidder; or (b) if the Bidder does not accept the correction of its Bid Price pursuant to ITB 36; or (c) if the successful Bidder fails to: (i) sign the Contract in accordance with ITB 44; or (ii) furnish a performance security and if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with ITB 45.
	19.8	The Bid Security or the Bid-Securing Declaration of a *JV* shall be in the name of the *JV* that submits the bid. If the *JV* has not been legally constituted into a legally-enforceable *JV,* at the time of bidding, the Bid Security or the Bid-Securing Declaration shall be in the names of all future members as named in the letter of intent mentioned in ITB 4.1 and ITB 11.2.
	19.9	If a bid security is not required in the BDS pursuant to ITB 19.1, and (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid, or (b) if the successful Bidder fails to: sign the Contract in accordance with ITB 44; or furnish a performance security and if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with ITB 45;

	the Borrower may**, if provided for in the BDS,** declare the Bidder ineligible to be awarded a contract by the Employer for a period of time **as stated in the BDS**.
20. Format and Signing of Bid	20.1 The Bidder shall prepare the Bid as per details given in ITB 21. 20.2 The bid shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as **specified in the BDS,** and shall be uploaded along with the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature. 20.3 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives. 20.4 Documents establishing authority to sign the bid on behalf of the JV shall be uploaded along with the bid. 20.5 Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialled by the person signing the Bid.
D. Online Submission and Opening of Bids	
21. Preparation of Bids	21.1 Bids, both Technical and Financial Parts, shall be submitted online on the e-procurement system specified in BDS 7.1. Detailed guidelines for viewing bids and submission of online bids are given on the website. The Invitation for Bids under this Project is published on this website. Any citizen or prospective bidder can logon to this website and view the Invitation for Bids and can view the details of works for which bids are invited. A prospective bidder can submit its bid online; however, the bidder is required to have enrolment/registration in the website, and should have valid Digital Signature Certificate (DSC) in the form of smart card/e-token obtained from any certifying agency authorised by the Government of India (for class of DSC **specified in BDS**). The bidder should register in the website using the relevant option available. Then the Digital Signature registration has to be done with the e-token, after logging into the website. The bidder can then login the website through the secured login by entering the password of the e-token & the user id/ password chosen during registration. After getting the bid schedules, the Bidder should go through

	them carefully and submit the specified documents, along with the bid, otherwise the bid will be rejected.
	21.2 The completed bid comprising of documents indicated in ITB 12, should be uploaded on the e-procurement portal along with scanned copies of requisite certificates as are mentioned in different sections in the bidding document and scanned copy of the bid security.
	21.3 All the documents are required to be signed digitally by the bidder. After electronic on-line bid submission, the system generates a unique bid identification number which is time stamped as per server time. This shall be treated as acknowledgement of bid submission.
	21.4 Physical, E-mail, Telex, Cable or Facsimile bids will be rejected as non-responsive.
22. Deadline for Submission of Bids	22.1 Bids, both Technical and Financial Parts, must be uploaded online no later than the date and time **indicated in the BDS**.
	22.2 The *Employer* may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Document in accordance with ITB 8, in which case all rights and obligations of the *Employer* and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.
23. Late Bids	23.1 The electronic bidding system would not allow any late submission of bids after due date & time as per server time.
24. Withdrawal, Substitution, and Modification of Bids	24.1 Bidders may modify their bids by using the appropriate option for bid modification on e-procurement portal, before the deadline for submission of bids. For this the bidder need not make any additional payment towards the cost of bidding document. For bid modification and consequential re-submission, the bidder is not required to withdraw his bid submitted earlier. The last modified bid submitted by the bidder within the bid submission time shall be considered as the bid. For this purpose, modification/withdrawal by other means will not be accepted. In online system of bid submission, the modification and consequential re-submission of bids is allowed any number of times. A bidder may withdraw his bid by using the appropriate option for bid withdrawal, before the deadline for submission of bids, however, if the bid is withdrawn, re-submission of the bid is not allowed (or allowed **if specified in BDS).**

	24.2	Bids requested to be withdrawn in accordance with ITB 24.1 shall not be opened.
	24.3	No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Letter of Bid or any extension thereof. This will result in the forfeiture of the Bid Security pursuant to ITB 19.7.
E. Public Opening of Technical Parts of Bids		
25. Public Opening of Technical Parts of Bids	25.1	The Employer shall publicly open Technical Parts of all bids received by the deadline, at the date, time and place **specified in the BDS** in the presence of Bidders' designated representatives and anyone who chooses to attend, and this could also be viewed by the bidders online. The Financial Parts of the bids shall remain unopened in the e-procurement system, until the subsequent public opening, following the evaluation of the Technical Parts of the Bids. In all cases, original documents submitted as specified in ITB 12.3 shall be first scrutinized, and Bids that do not comply with the provisions of ITB 12.3 will be declared non-responsive and will not be opened. Thereafter bidder's names, the presence or absence of a Bid Security or Bid-Securing Declaration, if one was required, alternative bids – technical parts, if any, and such other details as the Employer may consider appropriate will be notified online by the Employer at the time of bid opening. In the event of the specified date of bid opening being declared a holiday for the Employer, the bids will be opened at the appointed time and location on the next working day.
	25.2	The electronic summary of the bid opening will be generated and uploaded online. The Employer will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. Only Technical Parts of Bids, and technical parts of Alternative Bids if any, that are opened at technical Bid opening shall be considered further for evaluation.
F. Evaluation of Bids – General Provisions		
26. Confidentiality	26.1	Information relating to the examination, evaluation, comparison, and post-qualification of bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process until information on Contract award is communicated to all Bidders in accordance with ITB 44.

	26.2	Any attempt by a Bidder to influence the Employer in the evaluation of the bids or Contract award decisions may result in the rejection of its bid.
	26.3	Notwithstanding ITB 26.2, from the time of bid opening to the time of Contract award, if any Bidder wishes to contact the *Employer* on any matter related to the bidding process, it shall do so in writing.
27. Clarification of Bids	27.1	To assist in the examination, evaluation, and comparison of the bids, and qualification of the Bidders, the *Employer* may, at its discretion, ask any Bidder for a clarification of its bid, giving a reasonable time for response. Any clarification submitted by a Bidder that is not in response to a request by the *Employer* shall not be considered. The *Employer*'s request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease in the prices or substance of the bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the *Employer* in the evaluation of the bids, in accordance with ITB 36.
	27.2	If a Bidder does not provide clarifications of its bid by the date and time set in the *Employer*'s request for clarification, its bid may be rejected.
28. Deviations, Reservations, and Omissions	28.1	During the evaluation of bids, the following definitions apply: (a) "Deviation" is a departure from the requirements specified in the Bidding Document; (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document; and (c) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Document.
29. Nonconformities, Errors, and Omissions	29.1	Provided that a bid is substantially responsive, the *Employer* may waive any non-conformities in the bid which do not constitute a material deviation, reservation or omission.
	29.2	Provided that a bid is substantially responsive, the *Employer* may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of

		the price or substance of the bid. Failure of the Bidder to comply with the request may result in the rejection of its bid.
	29.3	Provided that a bid is substantially responsive, the *Employer* shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner **specified in the BDS**.
G. Evaluation of Technical Parts of Bids		
30. Evaluation of Technical Parts	30.1	In evaluating the Technical Parts of each Bid, the Employer shall use the criteria and methodologies listed in this ITB and Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted.
31. Determination of Responsiveness	31.1	The Employer's determination of a Bid's responsiveness is to be based on the contents of the Bid itself, as defined in ITB 11.
	31.2	A substantially responsive Bid is one that meets the requirements of the bidding document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that: (a) if accepted, would: (i) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or (ii) limit in any substantial way, inconsistent with the bidding document, the Employer's rights or the Bidder's obligations under the proposed Contract; or (b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids.
	31.3	The Employer shall examine the technical aspects of the Bid submitted in accordance with ITB 16, Technical Proposal, in particular, to confirm that all requirements of Section VII (Works' Requirements) have been met without any material deviation, reservation or omission.
	31.4	If a Bid is not substantially responsive to the requirements of the bidding document, it shall be rejected by the Employer and may not subsequently be made responsive

		by correction of the material deviation, reservation, or omission.
32. Qualification of the Bidder	32.1	The Employer shall determine to its satisfaction whether the eligible Bidders that have submitted substantially responsive Bid - Technical Parts meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.
	32.2	The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17. The determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Subcontractors if permitted in the bidding document), or any other firm(s) different from the Bidder.
	32.3	If a Bidder does not meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria, its Bid shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.
	32.4	Only Bids that are both substantially responsive to the bidding document, and meet all Qualification Criteria shall have the Financial Parts of their Bids opened at the second public opening.
33. Subcontractors	33.1	Unless otherwise **stated in the BDS**, the Employer does not intend to execute any specific elements of the Works by subcontractors selected in advance by the Employer.
	33.2	The Employer may permit subcontracting for certain specialized works as indicated in Section III. When subcontracting is permitted by the Employer, the specialized sub-contractor's experience shall be considered for evaluation. Section III describes the qualification criteria for sub-contractors.
	33.3	Bidders may propose subcontracting up to the percentage of total value of contracts or the volume of works as **specified in the BDS**. Subcontractors proposed by the Bidder shall be fully qualified for their parts of the Works.
H. Public Opening of Financial Parts of Bids		
34. Public Opening of Financial Parts	34.1	Following the completion of the evaluation of the Technical Parts of the Bids, and the Bank has issued its no objection (if applicable), the Employer shall notify in writing those Bidders whose Bids were considered non-responsive to

	the bidding document or failed to meet the Qualification Criteria, advising them of the following information: (a) the grounds on which their Technical Part of Bid failed to meet the requirements of the bidding document; (b) their Financial Part of Bid shall not be opened; and (c) notify them of the date, time, and place for public opening of Financial Parts of the Bids.
	34.2 The Employer shall, simultaneously, notify in writing those Bidders whose Technical Part have been evaluated as substantially responsive to the bidding document and met all Qualifying Criteria, advising them of the following information: (a) their Bid has been evaluated as substantially responsive to the bidding document and met the Qualification Criteria; (b) their Financial Part of Bid will be opened at the public opening of the Financial Parts; and (c) notify them of the date, time, and place for public opening of Financial Parts of the Bids, **as specified in the BDS.**
	34.3 The opening date should allow Bidders sufficient time to make arrangements for attending the opening. The Financial Part of the Bids shall be opened publicly in the presence of Bidders' designated representatives and anyone who choose to attend, and this could also be viewed by the bidders online. The bidder's names, the Bid prices, per lot (contract) if applicable, including any discounts and Alternative Bid - Financial Part if any, and such other details as the Employer may consider appropriate, will be notified online by the Employer at the time of bid opening. In the event of the specified date of bid opening being declared a holiday for the Employer, the bids will be opened at the appointed time and location on the next working day.
	34.4 The electronic summary of the bid opening will be generated and uploaded online. The Employer will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. Only Financial Parts of Bids, Financial Parts of Alternative Bids, and discounts that are opened at Bid opening shall be considered further for evaluation.

I. Evaluation of Financial Parts of Bids	
35. Evaluation of Financial Parts	35.1 To evaluate the Financial Part, the Employer shall consider the following:
	(a) the Bid price, excluding Provisional Sums and the provision, if any, for contingencies in the Summary Bill of Quantities but including Daywork items, where priced competitively;
	(b) price adjustment for correction of arithmetic errors in accordance with ITB 36.1;
	(c) price adjustment due to discounts offered in accordance with ITB 14.4;
	(d) Not used;
	(e) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 29.3; and
	(f) the additional evaluation factors as specified in Section III, Evaluation and Qualification Criteria.
	35.2 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in Bid evaluation.
	35.3 If this bidding document allows Bidders to quote separate prices for different lots (contracts), and to award multiple contracts to a single Bidder, the methodology to determine the lowest evaluated price of the contract combinations, including any discounts offered in the Letter of Bid – Financial Part, is specified in Section III, Evaluation and Qualification Criteria
36. Correction of Arithmetical Errors	36.1 In evaluating the Financial Part of each Bid, the Employer shall correct arithmetical errors on the following basis: (a) only for unit price contracts, if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected; (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in

	which case the amount in figures shall prevail subject to (a) and (b) above.
	36.2 Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITB 36.1, shall result in the rejection of the Bid and the Bid Security may be forfeited in accordance with ITB Sub-Clause 19.7.
37. Conversion to Single Currency	37.1 Not used.
38. Margin of Preference	38.1 Not used.
39. Comparison of Financial Parts	39.1 The Employer shall compare the evaluated prices of all responsive and qualified bids to determine the lowest evaluated bid.
40. Unbalanced or Front-Loaded Bids	40.1 If the bid, which results in the lowest Evaluated Bid Price, is seriously unbalanced, front-loaded or substantially below updated estimates in the opinion of the Employer, the Employer may require the Bidder to produce detailed price analyses (with breakdown of unit rates) for any or all items of the Bill of Quantities, to demonstrate the internal consistency and justification of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, taking into consideration the schedule of estimated contract payments, the Employer may require that the amount of the performance security be increased at the expense of the Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.
41. Employer's Right to Accept Any Bid, and to Reject Any or All Bids	41.1 The *Employer* reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all documents submitted and specifically, bid securities, shall be promptly returned to the Bidders.
J. Award of Contract	
42. Award Criteria	42.1 Subject to ITB 41*, the* Employer shall award the Contract to the Bidder whose offer has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Document, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

43. Notification of Award	43.1 Prior to the expiration of the period of bid validity, the *Employer* shall notify the successful Bidder, in writing, via the Letter of Acceptance included in the Contract Forms, that its bid has been accepted. The Letter of Acceptance shall specify the sum that the Employer will pay the Contractor in consideration of the execution and completion of the Works (hereinafter and in the Conditions of Contract and Contract Forms called "the Contract Price").
	43.2 Until a formal contract is prepared and executed, the notification of award shall constitute a binding Contract.
44. Signing of Contract, Publication of award and Recourse to unsuccessful Bidders	44.1 The Contract Agreement shall incorporate all agreements between the Employer and the successful Bidder. It shall be kept ready in the office of the Employer for the signature of the Employer and the successful Bidder, within 21 days following the date of Letter of acceptance. Within 21 days of receipt of Letter of acceptance, the successful Bidder shall sign the Agreement and furnish the performance security and if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with ITB Clause 45 and revised construction methodology. If the successful bidder is a JV, it shall also furnish the JV agreement duly signed by all the members, if it had submitted only a letter of intent to execute the JV agreement along with the bid.
	44.2 The Employer within 3 weeks of issue of notification of award shall publish in a national website (http://tenders.gov.in or GoI Central Public Procurement Portal https://eprocure.gov.in/cppp/) or on the Employer's website, and on the e-procurement system, the results identifying the bid and lot numbers and the following information: (i) name of each bidder who submitted the bid; (ii) bid prices as read out at bid opening; (iii) name and evaluated prices of each bid that was evaluated; (iv) name of bidders whose bids were rejected and the reasons for their rejection; and (v) name of the winning bidder, and the price it offered, as well as the duration and summary scope of the contract awarded. 44.3 The Employer shall promptly respond in writing to any unsuccessful Bidder who, after publication of contract award, requests the Employer in writing to explain on which grounds its bid was not selected.
45. Performance Security	45.1 Within twenty-one (21) days of the receipt of notification of award from the *Employer*, the successful Bidder shall furnish the performance security and if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with the conditions of contract, subject to ITB

	40.1, using for that purpose the Performance Security and ES Performance Security Forms included in Section X (Contract Forms). The performance security and if required in the BDS, the Environmental and Social (ES) Performance Security of a Joint Venture shall be in the name of the Joint Venture specifying the names of all members.
	45.2 Failure of the successful Bidder to submit the above-mentioned Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security, or to sign the Contract Agreement shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security. In that event the *Employer* may award the Contract to the next lowest evaluated Bidder whose offer is substantially responsive and is determined by the *Employer* to be qualified to perform the Contract satisfactorily.
	45.3 Upon the successful Bidder's signing the Agreement and furnishing of the Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security, pursuant to ITB Clause 45.1, the Employer shall promptly notify the name of the winning bidder to each unsuccessful bidder and shall discharge the Bid Securities of the bidders pursuant to ITB Clause 19.5 and 19.6.
46. Adjudicator	46.1 The Employer proposes the person **named in the BDS** to be appointed as Adjudicator under the Contract, at the daily rate **specified in the BDS**, plus reimbursable expenses (actual boarding, lodging, travel and other incidental expenses). If the Bidder disagrees with this proposal, the Bidder should so state in Letter of Bid. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator proposed by the Bidder, the Employer will request the Appointing Authority designated in the Particular Conditions of Contract (PCC) pursuant to Clause 23.1 of the General Conditions of Contract (GCC), to appoint the Adjudicator.

Section II - Bid Data Sheet (BDS)

The following specific data for the Works to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

A. Introduction

ITB 1.1	The Employer is: ***Vice Chairman & Project Director,*** ***Inland Waterways Authority of India,*** ***Ministry of Ports, Shipping and Waterways, Government of India***
ITB 1.1	The name of the work is: Fairway Maintenance of Farakka - Kahalgaon (146 km) stretch of National Waterway -1 (River Ganga) The identification number of the work is: ***IN-IWAI-400748-CW-RFB*** The number and identification of lots comprising this bidding process is: **NA**
ITB 2.1	The Borrower is Government of India. The Employer is ***Inland Waterways Authority of India, Ministry of Ports, Shipping & Waterways, Government of India*** The name of the Project is: ***Capacity Augmentation of National Waterway – 1*** Loan or Financing Agreement amount: ***$ 317.22 Million***

ITB 4.1	Bids from consortium are acceptable and shall be treated the same way as that of JV mentioned in the bidding documents. (a) Maximum number of members in the Joint Venture (JV) shall be ***Four (4).*** (b) It is not mandatory to get the JV registered. Interested bidders are requested to submit JV Agreement duly notarized in India. However, the successful bidder (in case of JV) shall submit registered JV. (c) A statement to the effect that all members of the joint venture shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms, shall be included in the authorization nominating a Representative or member in charge, as well as in the Bid and in the Agreement [*in case of a successful bid*]. (d) The joint venture agreement should define precisely the division of assignments to each member of JV. All members of JV should have active participation in the execution during the currency of the contract. This should not be varied/ modified subsequently without prior approval of the Employer.
ITB 4.4	A list of debarred firms and individuals is available at the Bank's external website www.worldbank.org/debarr.
ITB 4.6	Deleted.
B. Contents of Bidding Documents	
ITB 7.1	**Electronic –Procurement System** The Employer shall use the following electronic-procurement system to manage this Bidding process: ***https://eprocure.gov.in/eprocure/app*** Requests for clarification should be received by the Employer before pre-bid meeting. ***The clarifications can be sought / sent by e-mail or by hard copy on the following address:*** *Vice Chairman & Project Director (JMVP)* *Inland Waterways Authority of India* *A-13, Sector-1, Noida - 201301,* *Distt. Gautam Buddha Nagar, U.P.* *Phone No.: +91 120 2424544 Email: vc.iwai@nic.in*

ITB 7.4	A Pre-Bid meeting will take place, at the following date, time and place: ***Date: 10.01.2024*** ***Time: 1500 Hrs. IST*** ***Place: IWAI, Noida or Virtual Meeting Link will be shared on CPP Portal.*** ***Pre-Bid Queries should reach the employer at the following address or by e-mail no later than Date of Pre-Bid Meeting:*** *Vice Chairman & Project Director (JMVP)* *Inland Waterways Authority of India* *A-13, Sector-1, Noida - 201301,* *Distt. Gautam Buddha Nagar, U.P.* *+91 120 2424544 Email: vc.iwai@nic.in* A site visit conducted by the Employer ***shall be*** organized on request. For site visit, bidders are advised to contact: Sh. Arvind Kumar, Director (I/c), IWAI, Kolkata Mob: +91 8902159698 E-mail: dirkol@iwai.gov.in; akumar.iwai@nic.in
ITB 8.2	Addendum to Bidding Documents will be hosted on the Employer's e-procurement portal *[GOI Central Public Procurement Portal https://eprocure.gov.in/cppp]*
	C. Preparation of Bids
ITB 11.2 (j)	(i) The Bidder shall submit with its bid the following additional documents: *(a)* Dredging Management Plan – Methodology Detailed methodology to indicate how various activities will be carried out to achieve the performance parameters laid down in **Section VII - Description of the Services.** (b) Detailed Dredger deployment plan with respect to: • Dredging Management Plan – Methodology (including disposal of dredged material) • No. of dredgers / equipment to be deployed at various points of time alongwith dredging capacities • Details of equipment to be deployed to meet the requirements of survey

(c) List of major items of equipment proposed to carry out the contracted services using the format provided in Section IV - Bidding Forms

(d) To establish its qualifications to perform the contract(s) in accordance with Section III, Qualification Criteria and Requirements, the Bidder shall provide the information requested in the corresponding Information Sheets included in Section IV, Bidding Forms.

(e) Bidder to indicate whether they are presenting
Single Entity Bid or
Joint Venture Bid

In the event of Joint Venture Bid or sub-contracting details of the Joint Venture Partner or the sub-contractor likely to be engaged to be identified & proposed in the Bid along with their credentials like (Experience, Financials & Profile) - Each of the JV member will be required to furnish legally enforceable JV Agreement along with its Techno-commercial Bid holding themselves jointly & severally responsible and liable to IWAI to perform all contractual obligations, valid for entire period of Contract.

Further,

i. No change in the composition of the JV without the written consents of the Employer after submission of Bid shall be allowed.
ii. The leader should maintain at least 51% share in the JV at all the time during the period of contract

(ii) Code of Conduct for Contractor's Personnel (ES)

The Bidder shall submit its Code of Conduct that will apply to Contractor's Personnel (as defined in Sub-Clause 9.1 of the General Conditions of Contract), to ensure compliance with the Contractor's Environmental and Social (ES) obligations under the Contract. The Bidder shall use for this purpose the Code of Conduct form provided in Section IV. No substantial modifications shall be made to this form, except that the Bidder may introduce additional requirements, including as necessary to take into account specific Contract issues/risks.

(iii) Management Strategies and Implementation Plans (MSIP) to manage the (ES) risks

The Bidder shall submit Management Strategies and Implementation Plans (MSIPs) to manage the following key Environmental and Social (ES) risks:

- *Traffic Management Plan to ensure safety of local communities from construction traffic*;
- *Water Resource Protection Plan to prevent contamination of drinking water*;

	• *Boundary Marking and Protection Strategy for mobilization and construction to prevent offsite adverse impacts*; • *Strategy for obtaining Consents/Permits prior to the start of relevant works such as opening a quarry or borrow pit;* • *Gender based violence and sexual exploitation and abuse (GBV/SEA) prevention and response action plan.* The Contractor shall be required to submit for approval, and subsequently implement, the Contractor's Environment and Social Management Plan (C-ESMP), in accordance with the Particular Conditions of Contract Sub-Clause 10.1, that includes the agreed Management Strategies and Implementation Plans described here.
ITB 11.3 (b)	The following schedules shall be submitted with the bid: ***Priced Bill of Quantities***
ITB 11.3 (d)	The Bidder shall submit the following documents in its Bid: On-line: Financial part in .xls Scanned copy of Letter of bid – Financial Part
ITB 12	**Added at the end of 12.3** **Note for Bidders:** Bidders have to submit the bids on the e-procurement portal along with the relevant required documents. For this purpose, the bidders shall fill up online, the forms that are available for online filling on the e-portal. The rest of the forms shall be download by the bidders and filled up. The filled-up pages shall then be scanned and uploaded on the e-procurement portal along with the scanned copies of the supporting documents.
ITB 12.3	**For submission of original documents, the Employer's address is:** *Vice Chairman & Project Director (JMVP)* *Inland Waterways Authority of India* *A-13, Sector-1, Noida, Gautam Buddha Nagar, UP – 201301* *Email: vc.iwai@nic.in*
ITB 13.1	Alternative bids ***shall not be*** permitted.
ITB 14.5	The prices quoted by the Bidder "**shall be**" subject to adjustment during the performance of the Contract. The adjustment of contract price, if provided, will be done in accordance with GCC Clause 45 and corresponding provisions under PCC.
ITB 14.8	Add the following as Sub Clause 14.8 – Any delay in procurement of the construction equipment / dredging equipment / machinery / goods as a result of the above shall not be a cause for granting any extension of time.

ITB 18.1	The bid validity period shall be **120 days** from the date of opening of Technical Bids.
ITB 18.3 (a)	**Not Applicable.**
ITB 19.1	The Bidder shall furnish a **Bid security** for an amount of INR 1,91,10,168.00/- **Cost of bidding Document** of Rs. 6,000/- inclusive of GST shall be submitted by Demand Draft or RTGS. *[Note: For the Two-envelope Bidding, the process requires Bid Security to be submitted in the Technical Part and also original hard copy shall be submitted separately as per ITB 12.3.]* In case, the Bid security is submitted in the form of Bank Guarantee, then it shall be as per the format attached. The Bid Security may also be submitted through e-Bank Guarantee or Demand Draft or Online Transfer. The Bank Guarantee issued in paper shall become operative only when the Bank Guarantee advice transmitted through SFMS is advised to the Beneficiary by the Advising Bank. **Bank details are as given below:** Advising Bank: CANARA BANK Bank Account no.: 87781010014534 IFSC Code: CNRB0018778 Name of beneficiary: IWAI FUND Jal Marg Vikas Branch name: Morna - Sector 18, NOIDA Address: B 16 /17, Ground Floor, Sector-18, NOIDA – 201301
ITB 19.3 (d)	Other types of acceptable securities are: NOT Applicable
ITB 19.8	The Bid Security of a JV shall be in the name of the JV that submits the bid or in the name of the Lead member if the same is not constituted.
ITB 19.9	Deleted.
ITB 20.2	The written confirmation of authorization to sign on behalf of the Bidder shall consist of: (a) Legally valid Power of Attorney is required to demonstrate the authority of the signatory to sign the Bid; and (b) In the case of Bids submitted by an existing or intended JV, if permitted as per ITB 4.1, the authorization shall be evidenced by a Power of Attorney signed by legally authorized signatories of all the members.

	Authorization for such authorized signatories shall be submitted for all the JV members.
D. Online Submission and Opening of Bids	
ITB 21.1	Class of DSC required is: **CLASS – II or above**
ITB 22.1	Both Technical and Financial Bids shall be uploaded on-line in separate electronic envelopes, **The deadline for uploading the bids is:** Date: ***24.01.2024*** Time: 1500 hrs. IST or as amended from time to time.
ITB 24.1	Re-submission of the bid is ***not allowed***, if withdrawn.
E. Public Opening of Technical Parts of Bids	
ITB 25.1	**The online Bid Opening of Technical Parts of the Bid shall take place on Date: 24.01.2024 Time: 1530 hours or as amended from time to time** *Place:* *Inland Waterways Authority of India* *A-13, Sector-1, Noida, Gautam Buddha Nagar, UP - 201301* *Email: vc.iwai@nic.in*
F. Evaluation of Bids – General Provisions	
ITB 29.3	Deleted.
G. Evaluation of Technical Parts of Bids	
ITB 30.1	The Bids shall be Technically Evaluated, Bidders have to meet the Qualifying requirements as stipulated in the documents under evaluation criteria.
ITB 33.1	At this time the Employer ***does not intend*** to execute certain specific parts of the Works by sub-contractors selected in advance.
ITB 33.2	Specialised Subcontractors: **Not Applicable**
ITB 33.3	(a) Contractor's proposed subcontracting: Maximum percentage of subcontracting permitted is: ***25% of the total contract amount*** (b) Bidders planning to subcontract more than 10 % of total volume of work shall specify, in the Bid Submission Form, the activity (ies) or parts of the works to be subcontracted along with complete details of the sub-contractors and their qualification and experience. The qualification and experience of the sub-contractors must meet the minimum criteria for the relevant work to be sub-

	contracted failing which such sub-contractors will not be permitted to participate. (c) Sub-contractors' qualification and experience will not be considered for evaluation of the Bidder. The Bidder on its own (without taking into account the qualification and experience of the sub-contractor) should meet the qualification criteria. *[Note: Work should not be split into small parts and sub-contracted].*
H. Public Opening of Financial Parts of Bids	
ITB 34.2 (c)	Following the completion of the evaluation of the Technical Parts of the Bids, the Employer will notify all Bidders of the date, time, and place of the public opening of Financial Parts. The online bid opening of Financial Parts of Bids shall take place at: *Inland Waterways Authority of India* *A-13, Sector-1, Noida, Gautam Buddha Nagar, UP - 201301* *Email: vc.iwai@nic.in* The Employer shall also publish a notice of the public opening of the Financial Parts of the Bid on its website ***www.iwai.nic.in*** In addition to the above the Employer shall publish a notice of the opening of the Financial Parts of the Bid on GoI Central Public Procurement Portal https://eprocure.gov.in/cppp
ITB 35.1 (f)	Determining aggregate of the Net Present Value (NPV) for three years prices for Services quoted in the Priced Activity Schedule, by discounting these prices to the Date of Commencement of Services, *assuming only for purpose of the evaluation* that the prices are payable at the end of the respective years. For the purpose of determining NPV, discount factor of 10 % per annum shall be applied.
J. Award of Contract	
ITB 45.1 and 45.2	The successful Bidder shall also be required to submit an Environmental and Social (ES) Performance Security. Throughout this bidding document the term 'performance security', unless the context clearly indicates otherwise, means and includes both 'the performance security and the ES performance security' to be submitted by the successful bidder in the amounts specified in GCC/ PCC 50.
ITB 46.1	The Adjudicator proposed by the Employer is***:*** Sh. S. C. Misra. The daily fee for this proposed Adjudicator is ***Rs. 10,000/- per day.*** **The CV is attached at the end of this document.**
ITB 47	**Added new ITB 47.1**

	The Tender / Bid related complaints may be submitted / addressed to: *Vice Chairman & Project Director, (JMVP)* *Inland Waterways Authority of India* *A-13, Sector-1, Noida, Gautam Buddha Nagar, UP - 201301* *Email: vc.iwai@nic.in.*

Brief Biodata of Dr Suresh Chandra Misra

1. **Name:** MISRA SURESH CHANDRA
   Date of birth: 12TH SEPTEMBER 1948

2. **Profession:** ACADEMIC and RESEARCH
   Present Position: Retired as Professor from IIT Kharagpur
   Address:

(a) Official NA	(b) Residential Plot no. 1080, Lane no. 7, Aerodrome Area, Bhubaneswar – 751020, Odisha, India
Phone: NA	Phone: +91 9437477180
	Email: misra1948@gmail.com

3. **Degrees Obtained**

Degree	Awards	University	Specialization	Hall of Residence	Year
B. Tech (Hons.)	Silver Medal	IIT Kharagpur	Design	Patel	1965-70
PhD	National Scholarship	University of Newcastle upon	Naval Architecture		1973-76

4. **Professional Achievements**

Period From To	Position Held	Organization/Institution	Role	Remarks
1970 1979	Design Engineer	Hindustan Shipyard Ltd.	Design Engineer	Sponsored for three years to do Ph.D. in UK (1973-
1979 1989 1990 till retirement	Assistant Professor Professor	IIT Kharagpur	Teaching, Research and Industrial Consultancy	On British council fellowship for 6 months in Glasgow, univ in 1984., later lien to IIT Madras and NSDRC/ IMU,
1998 2000	Visiting Professor (lien)	IIT Madras	Teaching, Research and Industrial	
2008 2013	Director (on Lien)	NSDRC and later IMU Visakhapatnam campus	Administration, Teaching, Research and Industrial Consultancy	NSDRC was subsumed to Indian Maritime University in 2009 and he was the first Director of IMU Visakhapatnam campus
2013 till date	Chairman, Naval Research Board, DRDO (an honorary position); Founder and current President, Forum for River and Ocean Scientists and Technologists (FROST), Odisha, registration no. 24010/33 of 2018-19; Visiting faculty at IMU, Visakhapatnam Campus; Advisor to General Consultants for Kochi Water Metro project under KMRL, Kochi.			

5. **Record of Contributions to:**
   (a) Intellectual Property
   (Publications/Design/Developments/Patents etc.)

(e) "Modularised Ship Hull Form", Inventors: Prof S C Misra and Prof O P Sha of IIT Kharagpur, patents rights belong to: IIT Kharagpur, Ministry of Ports, Shipping and Waterways of Govt. of India, Department of Science and Technology of Govt. of India, AAGL(Gujarat), BSL Mumbai, GSL Goa, LRS Mumbai, IRS Mumbai, Original Patent application no. 0561/Cal/2002 dt. 25.9.2002, patent no. 214274 awarded on 07/02/2008.

(f) Books:

- S. C. Misra and P. Misra (Ed.),"2020 Lockdown Effects and Future Trends in Water Body Management", LAP Publishing, Germany, October 2020.
- S. C. Misra,"Design Principles of Ships and Marine Structures", CRC Press of Tylor and Francis Group, USA, December 2015.
- S.C.Misra and O.P.Sha, editors "Computer-Aided Ship design", under assistance from CEP Cell of IIT Kharagpur, 1989(contributed as author also).
- M.R.Pranesh and S.C.Misra, "Environmental Hazards and Safety Requirement in the Port sector", under assistance from Curriculum Dev. Prog., IITMadras, 2000(contributed as author also).

(b) **Leadership** (Entrepreneurship/ Organizational Development)

(i) *Converting a ship design organisation, National Ship Design and Research Centre, to a part of a central university, Indian Maritime University, Visakhapatnam Campus*

(ii) *Academic leadership as stated below:*

- *Started a new multidisciplinary Post Graduate Diploma program in Maritime Operation and Management (PGDMOM) exclusively for professional marine engineers which started at IIT Kharagpur in the academic year 2003-2004.*
- *Started the Naval Architecture and Ocean Engineering degree programs at both UG and PG levels at IMU Visakhapatnam Campus in its first year of creation, 2009.*
- *Started a PG program in Dredging and Harbour Engineering at IMU, Visakhapatnam campus in 2010 for the first time in the country.*

(iii) *Developing strong research base at IITs, IISc and in other engineering institutions and generating multi-institutional research programs and developing strong connection between teaching institutions and research organisations in the context of naval research through NRB.*

(iv) *Setting up and establishing FROST, Odisha*

(c) **Society**

13 Invited mentor and speaker of INSPIRE program for development of science interest in school children sponsored by DST at Port Blair Campus of Pondichery University, at IMU Visakhapatnam Campus and at NIT Rourkela during 2012, 2013 and 2015.

14 Lectures at schools and colleges in Odisha regarding water awareness.

15 Safety of wooden boats moving in rivers and coastal waters for tourism and fishing is a major concern which has been a major concern for me. I have now been involved in modifying an existing wooden boat for higher safety and reduction of pollution. This activity is to continue.

(d) **Any other**: More than 50 technical papers published

6. Peer Recognition (National/International Honours, Awards, Prizes including honorary degree)

Awarded National Scholarship for Higher Study Abroad by Government of India in 1973 till 1976.

Awarded Silver Medal by IIT Kharagpur in 1970 for securing first position in B.Tech (H) course in Naval Architecture.
Awarded Marine Engineering Division Medal, Institution of Engineers (India), 2001.
Awarded Institution Medal (Col. G.N.Bajpai), Institution of Engineers (India), 2001.
H.S.Rao Memorial Award for Best paper, June 04 issue of Marine Engineers Review (India), 2005 given by Institution of Marine Engineers (India).
Rashtriya Gaurav Award presented by India International Friendship Society in 2004.

Best Citizen of India Award and Citation in the book by the same title, published by International Publishing House, New Delhi, 2004.

7. Membership/Fellowship of National/International Professional Bodies

Founder President, Forum for River and Ocean Scientists and Technologists, Odisha

Fellow of Institution of Engineers (India)

Fellow of Institution of Marine Engineers(India)
Life Member of Institution of Marine Technologists, Mumbai

Life Member of Indian Society for Technical Education
Member of Society of Naval Architects and Marine Engineers, USA.

Member, Indian technical Committee of Class NK, Nippon Kaiji Kyokai, Japan, 2012 onwards.
Member, Technical Committee of IRS, Mumbai.
Member of PMCC for acquisition of 2 coastal research vessels by NIOT funded by MoES.

8. **Specific outstanding Accomplishments meriting the award** (within 100 words): (Detailed biography may be provided as an annexure)

Apart from teaching naval Architecture to students, Prof Misra has been involved in design of ships and boats and other water based infrastructure including a 600 TEU container vessel and marine engineering laboratory *Ship in Campus*. His book *Design Principles of Ships and Marine Structures* published by Taylor and Fransis Group has been widely appreciated. After his retirement from active service, apart from being the Chairman of Naval research Board, he has formed a think tank FROST. His current interests include safety and sustainability in boats of inland water transportation, increasing water awareness in Odisha and ancient river and coastal transportation system for building shore based temples.

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	Section III - Evaluation and Qualification Criteria	
1	**Technical Part**	
1.1	**Adequacy of Technical Proposal** **a. Dredging Methodology** **b. Environmental, Social, Health and Safety (ESHS) obligation** **c. Work Program** **d. Site Organization and Communications Plans** **e. Sub-Contracting**	
1.2	**Multiple Contracts**	
1.3	**Specialised Sub- Contract**	
1.4	**Qualification Criteria**	
2	**Qualification**	
2.0	**Nature of Bidder**	
2.1	**Eligibility**	
2.2	**Historical Contract Performance**	
2.3	**Financial Situation and performance**	
2.4	**Experience**	
2.5	**Quality Requirements**	
2.6	**Contractors Representative & Key Personnel**	
2.7	**Equipment**	
3	**Financial Part**	

1. Technical Part

1.1 Adequacy of Technical Proposal

Evaluation of the Bidder's Technical Proposal will include:

i. An assessment of the Bidder's technical capacity to mobilize key equipment and personnel for the contract consistent with its proposal regarding work methods, scheduling, material sourcing and Quality Control / Assurance in sufficient detail and fully in accordance with the requirements stipulated in Section VII (Work's Requirements).

For this purpose, the Bidder should also submit:

A. Dredging Methodology:

(i) **Statement of Work Methods:** This shall demonstrate the Bidders capability to define, optimize and carry out on a timely basis the physical interventions detailed in the scope of requirements specified in Section VII (Work's Requirements).

(ii) The **Work methodology** shall include a mobilization and execution plan that details how the bidder will do the work of

Fairway Maintenance of Farakka - Kahalgaon (146 km) stretch of National Waterway -1 (River Ganga)

B. Environmental, Social, Health and Safety (ESHS) obligation:

A detailed note outlining its proposed methodology and program of dredging including compliance with the Environmental, Social, Health and Safety (ESHS) obligations

(i) An outline proposal on how the contractor shall minimize environmental impacts especially to sensitive and critical areas including but not limited to reed lands, mud flats, mangrove forests and migratory bird habitats taking into account;

(ii) The requirement for dredging sediment volumes in shallow waterways; placing dredged materials in-stream; and, early detection and quantification of hazardous sediment and its removal; and

(iii) The requirement to minimize noise, water and air pollution from its own dredging operations.

(iv) An outline Quality Assurance Plan; and

(v) A Health and Safety Plan specific to the proposed works

C. Work Program:

A Work Program compiled on a project management software (like MS Project, Primavera or similar) which must clearly show the major project works proposed and the corresponding timeline with the following characteristics:

(i) Show work stages (Mobilization, Survey, Dredging, Maintenance services, and Demobilization, etc.) and BOQ Items with the corresponding timeline;

(ii) Show the leading, lagging and critical activities, with linkages to related activities, milestones, key personnel in charge, etc.;

(iii) Resources (equipment, material, personnel, etc.) plan to achieve the Work Program.

D. Site Organization and Communications Plans that clearly provide:

(i) An overall organization chart showing the division between site offices and head office responsibilities;

(ii) A site organization chart clearly showing responsibilities and functions of key personnel. The person in-charge and the second in command for each location and their responsibilities;

(iii) The proposed layout of the Contractor's facilities and equipment, including offices and accommodation units based on the proposed sites and waterways routes;

(iv) Internal Communications Plan within the Contractor's organization and between its home office and the site offices;

(v) External Communication Plan between the Contractor, the Project Manager/Supervision & Performance Monitoring Consultant, Related Stakeholders, Users, and Employer;

(vi) Navigational protocol to assure free passage for ships during dredging or other works.

E. Sub-contracting

An assessment of the details of subcontracting elements of works amounting to more than 10% of the bid price; for each element proposed to be sub contracted furnish details whether the identified Sub-contractor possesses the required qualifications and experiences to execute that element satisfactorily.

[***Work should not be split into small parts and sub-contracted***].

1.2 Multiple Contracts if permitted under ITB 35.3, - Not Applicable

1.3 Specialised Subcontractors - Not Applicable.

1.4. Qualification Criteria

Pursuant to ITB 32.1, the Employer shall assess each Bid against the following Qualification Criteria. Requirements not included in the text below shall not be used in the evaluation of the Bidder's qualifications.

In case a contractor while working / selected for an IWAI contract, applies for another similar contract to be executed by IWAI, then to check whether the contractor meets the qualification criteria for the new contract, IWAI will calculate the bid capacity of the bidder as per the formula mentioned at 2.4.2 (d)

In case a contractor while working / selected for an IWAI contract, applies for another similar contract to be executed by IWAI, then to check whether the contractor is having adequate equipment for the new contract, IWAI will check the adequacy of the equipment as per following priority of ongoing tenders:

1) Ongoing works with IWAI

2) "Access Channel of MMT Haldia"

3) Fairway Maintenance of Farakka – Kahalgaon stretch

4) Fairway Maintenance of Tribeni – Katwa stretch

5) Fairway Maintenance of Katwa - Farakka stretch

6) Fairway Maintenance of Barh – Digha stretch

7) Fairway Maintenance of Digha – Majhaua stretch

8) Fairway Maintenance of Majhaua – Ghazipur stretch

2. Qualification

2.0 **Nature of Bidder**	**Bidder to indicate whether they are presenting a Single Entity bid** **Or Joint Venture Bid** **Or Intend to Sub-Contract**	**In the event of Subcontracting, the details of the Sub-contractor likely to be deployed be identified in the proposal (Max 25% work)** **Details & Profile of Sub-contracting firms to be submitted.**
• Format provided in Section – IV (Bidding Forms)		

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
2.1 Eligibility							
2.1.1	Nationality	Nationality in accordance with ITB Sub-Clause 4.3	Must meet requirement	Existing or intended JV must meet requirement	Must meet requirement	N / A	Forms ELI – 1.1 and ELI - 1.2 with attachments
2.1.2	Conflict of Interest	No conflicts of interest in accordance with ITB Sub - Clause 4.2	Must meet requirement	Existing or intended JV must meet requirement	Must meet requirement	N / A	Letter of Bid
2.1.3	Bank Eligibility	Not having been declared ineligible by the Bank, as described in ITB Sub-Clause 4.4.& 4.7	Must meet requirement	Existing JV must meet requirement	Must meet requirement	N / A	Letter of Bid
2.1.4	Government Owned Entity	Bidder to meet conditions of ITB Sub-Clause 4.5. The entity should not be a	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Forms ELI - 1.1 and 1.2

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
		dependent agency of the borrower or sub-borrower or Employer.					with attachments
2.1.5	United Nations resolution or Borrower's country law	Not having been excluded as a result of prohibition in the Borrower's country laws or official regulations against commercial relations with the Bidder's country, or by an act of compliance with UN Security Council resolution, both in accordance with ITB 4.7 and Section V.	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Letter of Bid
2.2 Historical Contract Non-Performance							
2.2.1	History of Non-Performing Contracts	Non-performance of a contract[1] did not occur as contractor since 1st January 2017 (Past 7 years)	Must meet requirement	Must meet the requirement	Must meet requirement or as member to past or existing JV	N / A	Form CON - 2
2.2.2	Suspension due to withdrawal of the Bid within Bid validity	Not under suspension based on execution of a Bid Securing Declaration pursuant to ITB 4.6 or	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Letter of Bid

[1](a) Non-performance, as decided by the Employer, shall include all contracts where any dispute with IWAI is not concluded.

(b) For entities other than IWAI (i) Non-performance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (ii) contracts that were so challenged but fully settled against the contractor. Non-performance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Non-performance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
		withdrawal of the Bid pursuant ITB 19.9.					
2.2.3	Pending Litigation	Bidder's financial position and prospective long term profitability sound according to criteria established in 2.3.1 below and assuming that all pending litigation will be resolved against the Bidder	Must meet requirement	Must meet requirement by itself or as member to past or existing JV	Must meet requirement by itself or as member to past or existing JV	N/A	Form CON - 2
2.2.4	Litigation History	No consistent history of court/arbitral award decisions against the Bidder[2] since 1st January 2017 (Past 7 years)	Must meet requirement	Must meet requirement		N/A	Form CON - 2
2.2.5	Declaration: Environmental, Social, Health, and Safety (ESHS) past performance	Declare any civil work contracts that have been suspended or terminated and/or performance security called by an employer for reasons related to the non-compliance of any environmental, or social, (including sexual exploitation and abuse (SEA) and gender-based violence (GBV) or health or safety requirements or safeguard in the past five years[3] since 1st Jan, 2019.	Must make the declaration. Where there are Specialized Sub-contractor/s, the Specialized Sub-contractor/s must also	N/A	Each must make the declaration. Where there are Specialized Sub-contractor/s, the Specialized Sub-contractor/s must also	N/A	Form CON-3 ESHS Performance Declaration

[2] The Bidder shall provide accurate information on the letter of Bid about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last seven years. A consistent history of court/arbitral awards against the Bidder or any member of a joint venture may result in disqualifying the Bidder.

[3]The Employer may use this information to seek further information or clarifications in carrying out its due diligence.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
			make the declaration.		make the declaration.		
2.3 Financial Situation and Performance							
2.3.1	Financial Capabilities	(a) The Bidder shall demonstrate that it has access to, or has available liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the **cash flow requirements estimated as INR 7,96,25,700/-** (Seven crores, Ninety six lakhs Twenty five thousand Seven hundred only) - (about 3 months cash flow at peak period of work) for the subject contract(s) net of the Bidders other commitments	Must meet requirement	Must meet 100% requirement	Each member Must meet at least 15% of the requirement as a minimum, such that all partners combined meet 100 % of the requirement.	Must meet at least 51% of the requirement as a minimum	Form FIN – 3.1, with attachments
		(b) The Bidder shall also demonstrate, to the satisfaction of the Employer, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments	Must meet requirement	Must meet requirement.	N / A	Must meet requirement	Form FIN – 3.1 (A), with attachments

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
		(c) The audited balance sheets or, if not required by the laws of the Bidder's country, other financial statements acceptable to the Employer, for the last 5 years (**ending FY 2022-23**) shall be submitted and must demonstrate the current soundness of the Bidder's financial position and indicate its prospective long-term profitability.	Must meet requirement	Must meet 100% of the requirement	Must meet requirement	N/A	Form FIN – 3.1, with attachments
2.3.2	Annual Average Turnover	Minimum average annual turnover of **INR 28,66,52,520/- (Twenty-eight Crores, sixty-six lakhs, fifty-two thousand, five hundred and twenty only),** calculated as total certified payments received for contracts in progress and/or completed within the last five financial years, divided by five years **ending 31st March 2023**.	Must meet requirement	Must meet 100% requirement	Must meet at least 15% of the requirement as a minimum, such that all partners combined meet 100 % of the requirement.	Must meet at least (51%) as a minimum	Form FIN - 3.2
2.4 Experience							
2.4.1	**General Dredging Experience**	Experience under contracts for similar works such as those pertaining to **General Dredging Experience in Ports / River / Lakes/ Canals/ Water Bodies / Management of Vessels / Manning of Vessel or Vessel related**	Must meet requirement	Must meet requirement	N/A	Must meet requirement	Form EXP – 4.1

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
		Marine Works or Wet excavation in Dams **a. River Dredging and management of dredged materials** **b. Dredged material used in reclamation of port / harbour will also be considered**. in the role of contractor, JV member, sub-contractor, or management contractor during at least the **last seven [7] years** ending last day of month prior to the bid submission deadline **(FY 2022-23)**					
2.4.2 (a)	**Specific Dredging Experience**	Bidder should have successfully completed as a prime contractor, JV member[4], management contractor or sub-contractor, minimum (a) Three similar works each costing not less than **INR 12,74,01,120.00** or Dredged Quantity of **2,46,400 cum** **OR**	Must meet requirement	Must meet requirement	N/A	Must meet requirement for one contract of 51%	Form EXP 4.2 (a). The contractor should have borne responsibility for execution of works to the extent he claims

[4] For contracts under which the Bidder participated as a joint venture member or sub-contractor, only the Bidder's share, by value, shall be considered to meet this requirement

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
		(b) Two similar works each costing not less than **INR 15,92,51,400.00** or Dredged Quantity of **3,08,000 cum** **OR** (c) One similar work costing not less than **INR 25,48,02,240.00** or Dredged Quantity of **4,92,800 cum** For the purpose of completed works, the value of the completed contract for similar works should not be less than **80% of the contract value**. A certificate for ongoing works from the employer stating the Value[5] of the work & 80% completion has been achieved shall be considered as completed and certificate of employer in this regard stating percentage of completion shall be submitted.					experience. A contractor should not claim experience for the works he has never executed.
2.4.2 (b)	**The value of the similar work where 80% of contract value is paid will be considered as complete for evaluation purposes.** In the case of JV, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In determining whether the JV meets the requirement of total number of						Form EXP – 4.2 (b)

[5] At FY 2022-23 price level. Cost of completed works of previous years shall be given weightage @5% per year based on rupees value to bring them to the price level of the financial year in which bids are received.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
	contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.						
2.4.2 (c)	Specific Experience in managing ES aspects	For the contracts in 2.4.2 (a) above and/or any other contracts [substantially completed and under implementation] as prime contractor, joint venture member, or Subcontractor since 1st January 2019 and Application submission deadline, experience in managing ES risks and impacts.	Desirable	Desirable	Desirable	Desirable	Form EXP – 4.2 (c)
2.4.2 (d)	Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity for work is equal to or more than the total bid value of the work. The available bid capacity will be calculated as: - Assessed Available bid capacity[6] = **(A*N*1.5 - B)** where, A = Maximum value of all works executed in any one year during the last five years (updated to the price level of the financial year 31st March, 2023 at the rate of 5% per year), taking into account the completed as well as works in progress). N = Number of years prescribed for completion of the works for which bids are invited (period up to 6 months to be taken as half-year and more than 6 months as one year). B = Value, at the current price level, of existing commitments on on-going works to be completed during the period of completion of the works for which bids are invited. Note: the statements in Section IV showing the value of existing commitments of on-going works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the Engineer in charge, not below the rank of an Executive Engineer or equivalent.					Form EXP – 4.2 (d)
2.5 Quality Requirements							

[6] During technical evaluation, the available bid capacity will be calculated and compared with the estimated cost. After opening of the financial bids (Part – II) and during the financial evaluation, the bid capacity will be further validated with discovered price.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture where permitted			Submission Requirements
				All Parties Combined	Each Member	One Member	
2.5.1	**ISO 9001-2008/2015** quality Management system requirement	Valid - Quality Management Certificate issued by the International Organization for Standardization	Must meet requirement	Must meet requirement	N/A	Must meet requirement	Valid ISO 9001 Certification. Form EXP – 5.0
2.5.2	**ISO 45001** - Occupational Health and Safety Management or Equivalent	Valid - Relevant ISO 45001 certificate and Experience in occupational health and safety management	Must meet requirement	Must meet requirement	N/A	Must meet requirement	Valid ISO 45001 certificate or equivalent. Form EXP – 5.0
2.5.3	**ISO 14001: 2004 / 2015** Environmental Management systems	Valid - Relevant Environmental management certificate and experience with environmental management systems.	Must meet requirement	Must meet requirement	N/A	Must meet requirement	Valid ISO 14001:2004/ 2015 certificate. Form EXP – 5.0

2.6 Contractors Representative & Key personnel

The Bidder must demonstrate that it will have a suitably qualified (and in adequate numbers) minimum key personnel, as described in the table below, that are required to perform the contract.
The Bidder shall provide details for the key personnel and such other Key Personnel that the Bidder considers appropriate, together with their academic qualifications and work experience.
The Bidder shall complete the relevant Forms in Section IV, Bidding Forms.
The Contractor shall require the Employer's consent to substitute or replace the Key Personnel.

Item No.	Position/specialization required	Qualification Criteria	Minimum years of relevant work experience	Must meet requirement
1.	Contract Manager / Project Manager	Contract Manager shall have a Bachelor's degree in Civil / Mechanical engineering and an experience of minimum 10 years', out of which at least 7 years shall be in managing projects of similar nature. Personnel must have experience in executing dredging projects. The desirable age of the personnel as on the date of bid submission shall not be more than 50 years. However, if the personnel above 50 years is proposed, then the specific health fitness certificate shall be submitted with the bid.	7	Bidder to provide the details (CVs as per Form PER -2 with relevant supporting document) of the manpower along with the Bid. To be considered for Evaluation.
2.	Surveyor	Diploma in Civil Engineering / Mechanical Engineering / Surveying with 3 years' experience in Hydrographic Survey or Survey Recorder I/II in Hydrographic Survey	3	
3.	Dredger Master	Dredging Experience in River/Canal/Port	7	
Suitable experts in the following specializations				
4.	Crew	Must have inland vessel certification	-	Desirable at the time of Bid Submission
5.	Social Expert	Graduate or equivalent in social sciences	3	
6.	Environment Expert	Graduate in Environmental Engineering/ Environmental Sciences	3	
7.	Health & Safety Expert	Graduate in Engineering / Science / Social Sciences and must have Diploma / Certification in health and Safety	3	

The Bidder must not have in his employment:

(i) the near relations (defined as first blood relations, and their spouses, of the bidder or the bidder's spouse) of persons of the following Government Departments: - All organization entities / agencies under Ministry of Ports, Shipping and Waterways
(ii) without Government permission, any person who retired as gazetted officer within the last two years.

The Bidder shall provide details of the proposed personnel and their experience records in the relevant Forms included in Section IV, Bidding Forms.

2.7 Equipment – The Bidder must demonstrate that it has Key equipment listed hereunder

Equipment	Equipment type, numbers & minimum capacity	
2.7.1 Dredger	**Minimum of Two (2) nos. of Cutter Suction Dredgers** having capacity of dredging minimum of 500 cum of solids per hour. a) The dredgers must be registered as 'Dredger' either under Inland Vessel Act, 2021* or under Merchant Shipping Act, 1958 and must have valid registration certificate from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. b) Dredgers must have valid Survey certificates from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. Valid Survey Report by Indian Register of Shipping (IRS) or any other classification society will also be considered valid. The above valid certificates as on date of submission of bid shall be submitted with the technical bid.	The valid statutory certificates shall be submitted along with the bid for evaluation of bid. These Equipment must be either owned or hired or 'to be procured' by the bidder and/or by member of JV. In case the dredgers / survey vessel is leased or hired, a proper lease/hire agreement on Stamp paper shall be submitted along with the technical bid stating that the proposed equipment (along with the details and statutory certificates) shall be available to the bidders for immediate deployment on the Award of the Work. In case, the equipment is proposed to be procured, the proof of intent along with expected delivery period from award date duly accepted / issued by the manufacturer shall be submitted along with the technical bid. Details also to be provided in **Form Schedule E**
2.7.2 Survey Vessel	**Minimum of One (1) no.** equipped with multi beam eco-sounder a) The Survey Vessel must be registered either under Inland Vessel Act, 2021* or under Merchant Shipping Act, 1958 and must have valid registration certificate from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. b) Survey Vessel must have valid Survey certificates from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. Valid Survey Report by Indian Register of Shipping (IRS) or any other classification society will also be considered valid. The above valid certificates as on date of submission of bid shall be submitted with the technical bid.	

2.7.3 **Tug Boats**	Having suitable capacity for pulling the Dredgers and allied equipment / boats / pipelines etc. a) The Tug Boats must be registered either under Inland Vessel Act, 2021* or under Merchant Shipping Act, 1958 and must have valid registration certificate from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. b) Tug Boats must have valid Survey certificates from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. Valid Survey Report by Indian Register of Shipping (IRS) or any other classification society will also be considered valid. The above valid certificates as on date of submission of bid shall be submitted with the technical bid.	Desirable at the time of bidding. Details also to be provided in **Form Schedule E**
2.7.4 **Accommodation Boats**	To accommodate Operational staff. a) The Accommodation Boats must be registered either under Inland Vessel Act, 2021* or under Merchant Shipping Act, 1958 and must have valid registration certificate from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. b) Accommodation Boats must have valid Survey certificates from the designated authority under Inland Vessel Act, 2021* or MMD under Merchant Shipping Act, 1958. Valid Survey Report by Indian Register of Shipping (IRS) or any other classification society will also be considered valid. The above valid certificates as on date of submission of bid shall be submitted with the technical bid.	

***Bidders to Note - Clause 114 (Repeal and Savings) of IV Act, 2021:**

114. Repeal and savings.— (1) The Inland Vessels Act, 1917 (1 of 1917) is hereby repealed. (2) Notwithstanding the repeal of the enactment referred to in sub-section (1),—

(a) any notification, rule, regulation, bye-law, order or exemption issued, made or granted under the enactment hereby repealed shall, if it is not inconsistent with the provisions of this Act, continue to be in force unless and until revoked, and shall have effect as if it had been issued, made or granted under the corresponding provision of this Act;

(b) any officer appointed and anybody elected or constituted under any enactment hereby repealed shall continue and shall be deemed to have been appointed, elected or constituted unless specifically removed or replaced by appointment of officer or offices, as the case may be, under this Act;

(c) any document referring to the enactment hereby repealed shall be constructed as referring to this Act or to the corresponding provision of this Act;(d) any fine levied or penalty imposed under the enactment hereby repealed may be recovered as if it had been levied under this Act;

(e) any offence committed under the enactment hereby repealed may be prosecuted and punished as if it had been committed under this Act;

(f) sailing vessels or sailing boats registered under the enactment hereby repealed shall be deemed to have been registered under the Act;

(g) mortgages of any mechanically propelled inland vessels recorded in any register book maintained at any port in India under the enactment hereby repealed shall be deemed to have been recorded in the register book under the corresponding provision of this Act;

(h) any licence, certificate of competency or service, certificate of survey, licenses or any other certificate or document issued, made or granted under the enactment hereby repealed and in force at the commencement of this Act shall be deemed to have been issued, made or granted under this Act and shall, unless cancelled under this Act, continue in force until the date shown in the certificate or document, as the case may be.

(3) The matters specifically provided in this section, shall not be held to prejudice or affect the general application of section 6 of the General Clauses Act, 1897 (X of 1897).

	3. Financial Part
1.	Margin of Preference
2.	Alternative Completion Times
3.	Alternative Technical Solutions Financial Part for specified parts of the Works
4.	Other criteria (if permitted under ITB 35.1(f))
	3.1 Multiple Contracts if permitted under ITB 35.3, will be evaluated as under - Not Applicable If works are grouped in multiple contracts pursuant to Sub-Clause 35.3 of the Instructions to Bidders, the Employer will evaluate and compare Bids on the basis of a contract, or a combination of contracts, or as a total of contracts in order to arrive at the least cost combination for the Employer by taking into account discounts offered by Bidders in case of award of multiple contracts, subject to the selected Bidder(s) meeting the required qualification criteria for lot or combination of lots as the case may be.
	3.2 Other Criteria (if permitted under ITB 35.1 (f) In addition to the criteria listed in ITB 35.1 (a) – (e) the following criteria shall apply: - Determining aggregate of the Net Present Value (NPV) of three years prices for Services quoted in the Priced Activity Schedule, by discounting these prices to the Date of Commencement of Services, *assuming only for purpose of the evaluation* that the prices are payable at the end of the respective years. For the purpose of determining NPV, discount factor of 10 % per annum shall be applied.

Section IV. Bidding Forms

Section IV. Bidding Forms

Table of Forms

1. **Bid Submission Form / letter of Bid & Technical Proposal Form**

The bidder's Technical Proposal shall include the following details in the prescribed forms along with technical bid.

SCHEDULE B……Site Organization
SCHEDULE C…… Dredging Methodology & Dredging Management Plan (Method Statement)
SCHEDULE D……Mobilization Schedule.
SCHEDULE E……Contractor's Equipment
SCHEDULE F……Key Personnel Proposed with Resumes
SCHEDULE G……Subcontractors & JV details
SCHEDUEL H……ESHS Management Strategies and Implementation Plans (ESHS-MSIP)
SCHEDUEL I…… Code of Conduct for Contractor's Personnel (ES) Form

	Format	**Reference**	**Content**
1.1	Form ELI-1.1 Form ELI - 1.2 & 1.2A	Section-III QR 2.1- Eligibility	Bidder's / JV Information Form with attachments
1.2	Form CON-2	Section-III QR 2.2 (Historical Contract Non-Performance)	Historical Contract Non-performance, Pending Litigation and Litigation history
1.3	Form CON-3	Section-III QR **2.2.5** (ESHS)	Environmental, Social, Health, and Safety Performance Declaration
1.4	Form FIN-3.1 ; Fim3.1A ; Fin 3.2	Section-III QR 2.3 (Financial)	Financial Situation and Performance; Cash Flow/ Working Capital; Financial Resources; Average Annual Dredging Turn Over.
1.5	Form EXP-4.1 Form EXP-4.2(a) Form EXP-4.2(b)	Section-III QR 2.4 (Experience) **[2.4.1 to 2.4.2(d)]**	General Dredging Experience; Specific Dredging and Contract Management Experience; Specific Dredging Experience of Key Activities;
	Form EXP-4.2(c)	Section-III QR 2.4.2 (c)	Specific Experience in managing ES aspects & Code of Conduct: Environmental, Social, Health and Safety (ESHS).
	Form EXP-4.2(d)	Section-III QR 2.4.2 (d)	Current Contract Commitment for Bid Capacity
1.6	Form Exp 5.0	Section-III QR 2.5 (Quality Requirements)	Quality Requirements
2.	Bid Security (Format)		
3.	Format for the Affidavit		
4.	Letter of Bid – Finance Pat (Bid Price Form) Appendix to Financial Part – BOQ Financial Bid – BOQ online submission Schedule		

Letter of Bid – Technical Part

The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and address.

Date: _____
NCB No.: _____
Invitation for Bid No.: _____

To: ***(Insert name of the Employer)***

Subject: - Fairway Maintenance of Farakka - Kahalgaon (146 km) stretch of National Waterway -1 (River Ganga)

We, the undersigned, hereby submit our bid, in two parts, namely:

1. the Technical Part, and
2. the Financial Part

In submitting our Bid, we make the following declarations:

a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB 8);

b) We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;

c) We have not been suspended nor declared ineligible by the Employer based on execution of a Bid-Securing Declaration or Proposal-Securing Declaration in the Employer's Country in accordance with ITB 4.6;

d) We offer to execute in conformity with the Bidding Documents the following Works: **Fairway Maintenance of Farakka - Kahalgaon (146 km) stretch of National Waterway -1 (River Ganga)**

e) Our bid shall be valid for a period of **120 days** from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

f) We accept the appointment of ***[insert name proposed in Bid Data Sheet]*** as the Adjudicator

[or]

We do not accept the appoint of ***[insert name proposed in Bid Data Sheet]*** as the Adjudicator, and propose instead that ***[insert name]*** be appointed as Adjudicator, whose daily fees and biographical data are attached;

g) If our bid is accepted, we commit to obtain a performance security [*and an Environmental, Social, Health and Safety (ESHS) Performance Security, **Delete if not applicable***] in accordance with the Bidding Document;

h) We are not participating, as a Bidder, in more than one bid in this bidding process in accordance with ITB 4.2,

i) Our firm, its affiliates or subsidiaries, including any Subcontractors or Suppliers for any part of the contract, has not been declared ineligible by the Bank, under the Employer's country laws or official regulations or by an act of compliance with a decision of the United Nations Security Council (ITB 4.7);

j) We are not a government owned entity / We are a government owned entity but meet the requirements of ITB 4.5[7];

k) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of fraud and corruption.

l) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed;

m) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive; and

n) If awarded the contract, the person named below shall act as Contractor's Representative: –

Name of the Bidder* ***[insert complete name of person signing the Bid]***

Name of the person duly authorized to sign the Bid on behalf of the Bidder** ***[insert complete name of person duly authorized to sign the Bid]***

Title of the person signing the Bid ***[insert complete title of the person signing the Bid]***

Signature of the person named above _____ ***[insert signature of person whose name and capacity are shown above]***

Date signed ***[insert date of signing]*** day of ***[insert month]***, ***[insert year]***

*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

**: Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.

[7]Use one of the two options as appropriate.

Technical Proposal – Site Organization Schedule – B

Bidders shall provide full particulars of the organisation they propose to establish, direct, and administer for the performance of the Contract. In particular, bidders shall indicate the location of site camps and the resources they intend to allocate to Self-Control Units for planning and monitoring purposes.

1. SITE ORGANIZATION CHART

2. NARRATIVE DESCRIPTION OF SITE ORGANISATION CHART

Site Organization and Communications Plans that clearly provide: -

i. An overall organization chart;
ii. A site organization chart;
iii. Internal Communications Plan;
iv. External Communication Plan; and
v. Navigational protocol to assure free passage for vessels during dredging or other works.

Technical Proposal – Dredging Methodology & Dredging Management Plan (Method Statement) - Schedule – C

(a) Contractor's Statement of Work Methods

To demonstrate a clear understanding of the requirements of the Contract, Bidders shall provide in the form of a narrative descriptions, sketches and drawings, how the works shall be undertaken.
The Statement of Work Methods shall demonstrate the Bidders capability to define, optimize and carry out on a timely basis the physical interventions detailed in the scope of requirements specified in Section VII.

The Statement of Work Methods shall include a mobilization and execution plan that details how the bidder will, on waterway stretch, carry out on a timely basis the following: -

Fairway Maintenance of Farakka - Kahalgaon (146 km) stretch of National Waterway -1 (River Ganga)

i. An outline proposal on how the Contractor shall minimize environmental impacts especially to sensitive and critical areas including but not limited to reed lands, mud flats, mangrove forests and migratory bird habitats taking into account:

   - The requirement for dredging sediment volumes in shallow waterways; placing dredged materials in-stream or in-river; and, early detection and quantification of hazardous sediment and its removal; and,
   - The requirement to minimize noise, water and air pollution from its own operations.

ii. An outline Quality Assurance Plan; and,

iii. A Health and Safety Plan specific to the proposed works.

Technical Proposal – Mobilization Schedule Schedule – D

In accordance with the Particular Conditions, Sub-Clause 16.2, the Contractor shall not carry out mobilization to Site unless the Project manager gives consent that appropriate measures are in place to address environmental and social risks and impacts, which at a minimum shall include applying the Management Strategies and Implementation Plans (MSIPs) and Code of Conduct for Contractor's Personnel, submitted as part of the Bid and agreed as part of the Contract.

Technical Proposal – Contractor's Equipment Schedule – E

The bidder shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for the key equipment listed in Section III (Evaluation and Qualification Criteria), Clause 2.7. The Bidder shall provide all the information requested below.

S. N.	Item of Equipment Description	Capacity	Age (years)	No. available and present location	Owned	Leased / Hired	To be Procured

Technical Proposal – Key personnel Proposed

Schedule F

Form PER – 1: Proposed Personnel

Bidders should provide the names of suitably qualified personnel to meet the specified requirements for each of the positions listed in Section III (Evaluation and Qualification Criteria), Clause 2.6. The data on their experience should be supplied using the Form below for each candidate.

S. No.	Position	Name	Qualification	Years of total Experience	Years of experience in proposed position

Technical Proposal Key personnel

Schedule – F

Form PER – 2: Resume of Proposed Personnel

The Bidder shall provide all the information requested below. Fields with asterisk (*) shall be used for evaluation.

Position*		
Personnel information	Name	Date of birth*
	Professional qualifications	
Present employment	Name of Employer	
	Address of Employer	
	Telephone	Contact (Manager / personnel officer)
	Fax	E-mail
	Job title	Years with present Employer

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

From*	To*	Company, Project, Position, and Relevant Technical and Management Experience*

Declaration: -

I, the undersigned Key Personnel, certify that to the best of my knowledge and belief, the information contained in this Form PER-2 correctly describes myself, my qualifications and my experience.

I confirm that I am available as certified in the following table and throughout the expected time schedule for this position as provided in the Bid:

Commitment	**Details**
Commitment to duration of contract:	*[insert period (start and end dates) for which this Key Personnel is available to work on this contract]*
Time commitment:	*[insert the number of days/week/months/ that this Key Personnel will be engaged]*

I understand that any misrepresentation or omission in this Form may:

(a) be taken into consideration during Bid evaluation;
(b) my disqualification from participating in the Bid;
(c) my dismissal from the contract.

Name of Key Personnel: [*insert name*]
Signature: _____Date: (day month year): _____
Countersignature of authorized representative of the Bidder: Signature:

_____

Date: (day month year): _____

Technical Proposal – Sub Contractors & JV Details
Schedule – G

[Insert proposal of sub-contracting elements of works amounting to more than 10% of the bid price for each element and indicate the name of the sub-contractor, its qualifications and experiences to execute that element satisfactorily]

Form SC- Sub Contracting

SCHEDULE OF SUBCONTRACTORS

Item	Element of work	% of bid price	Name and address of sub-contractor	Qualification and experience of sub-contractor on similar works of the elements executed

The Bidder shall enter in this schedule a list of the major sections and appropriate value of the work for which he proposes to use subcontractors *[for those costing more than 10% of the bid price for each element], together with the names, addresses and experiences of the proposed subcontractors.*

The capability of the sub-contractor will also be assessed (on the same lines as for the main Contractor) before according approval to him.

(Work should not be split into small parts and sub-contracted; but, sub-contracting specialized elements of works is acceptable).

Technical Proposal – ESHS Management Strategies and Implementation Plans

Schedule H

(ESHS-MSIP)

The Bidder shall submit comprehensive and concise Environmental and Social Management Strategies and Implementation Plans (ES-MSIP) as required by ITB 11.2 (j) of the Bid Data Sheet. These strategies and plans shall describe in detail the actions, materials, equipment, management processes etc. that will be implemented by the Contractor, and its subcontractors.

In developing these strategies and plans, the Bidder shall have regard to the ESHS provisions of the contract including those as may be more fully described in the Works' Requirements described in Section VII.

Technical Proposal - Code of Conduct for Contractor's Personnel (ES) Form

Schedule – I

The Bidder shall submit the Code of Conduct that will apply to the Contractor's employees and subcontractors as required by ITB 11.2 (j) of the Bid Data Sheet. The Code of Conduct shall ensure compliance with the ESHS provisions of the contract, including those as may be more fully described in the Works Requirements described in Section VII.

In addition, the Bidder shall submit an outline of how this Code of Conduct will be implemented. This will include: how it will be introduced into conditions of employment/engagement, what training will be provided, how it will be monitored and how the Contractor proposes to deal with any breaches.

Code of Conduct for Contractor's Personnel (ES) Form

CODE OF CONDUCT FOR CONTRACTOR'S PERSONNEL

We are the Contractor, [*enter name of Contractor*]. We have signed a contract with [*enter name of Employer*] for [*enter description of the Works*]. These Works will be carried out at [*enter the Site and other locations where the Works will be carried out*]. Our contract requires us to implement measures to address environmental and social risks related to the Works, including the risks of sexual exploitation and assault and gender-based violence.

This Code of Conduct is part of our measures to deal with environmental and social risks related to the Works. It applies to all our staff, labourers and other employees at the Works Site or other places where the Works are being carried out. It also applies to the personnel of each subcontractor and any other personnel assisting us in the execution of the Works. All such persons are referred to as "**Contractor's Personnel"** and are subject to this Code of Conduct.

Note to the Bidder:

The minimum content of the Code of Conduct form as set out by the Employer shall not be substantially modified. However, the Bidder may add requirements as appropriate, including to take into account Contract-specific issues/risks.

The Bidder shall initial and submit the Code of Conduct form as part of its bid.

This Code of Conduct identifies the behaviour that we require from all Contractor's Personnel.

Our workplace is an environment where unsafe, offensive, abusive or violent behaviour will not be tolerated and where all persons should feel comfortable raising issues or concerns without fear of retaliation.

REQUIRED CONDUCT

Contractor's Personnel shall:

1. carry out his/her duties competently and diligently;
2. comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other Contractor's Personnel and any other person;
3. maintain a safe working environment including by:
    a. ensuring that workplaces, machinery, equipment and processes under each person's control are safe and without risk to health;
    b. wearing required personal protective equipment;
    c. using appropriate measures relating to chemical, physical and biological substances and agents; and
    d. following applicable emergency operating procedures.
4. report work situations that he/she believes are not safe or healthy and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health;
5. treat other people with respect, and not discriminate against specific groups such as women, people with disabilities, migrant workers or children;
6. not engage in any form of sexual harassment including unwelcome sexual advances, requests for sexual favours, and other unwanted verbal or physical conduct of a sexual nature with other Contractor's or Employer's Personnel;
7. not engage in Sexual Exploitation, which means any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. In Bank financed projects, sexual exploitation occurs when access to or benefit from Bank financed Goods, Works, Consulting or Non-consulting services is used to extract sexual gain;
8. not engage in Sexual Assault, which means sexual activity with another person who does not consent. It is a violation of bodily integrity and sexual autonomy and is broader than narrower conceptions of "rape", especially because (a) it may be committed by other means than force or violence, and (b) it does not necessarily entail penetration.
9. not engage in any form of sexual activity with individuals under the age of 18, except in case of pre-existing marriage;
10. complete relevant training courses that will be provided related to the environmental and social aspects of the Contract, including on health and safety matters, and Sexual Exploitation, and Assault (SEA);
11. report violations of this Code of Conduct; and
12. not retaliate against any person who reports violations of this Code of Conduct, whether to us or the Employer, or who makes use of the [Project Grievance [Redress] Mechanism].

RAISING CONCERNS

If any person observes behaviour that he/she believes may represent a violation of this Code of Conduct, or that otherwise concerns him/her, he/she should raise the issue promptly. This can be done in either of the following ways:

1. Contact [*enter name of the Contractor's Social Expert with relevant experience in handling gender-based violence, or if such person is not required under the Contract, another individual designated by the Contractor to handle these matters*] in writing at this address [ ] or by telephone at [ ] or in person at [ ]; or
2. Call [ ] to reach the Contractor's hotline *(if any)* and leave a message.

The person's identity will be kept confidential, unless reporting of allegations is mandated by the country law. Anonymous complaints or allegations may also be submitted and will be given all due and appropriate consideration. We take seriously all reports of possible misconduct and will investigate and take appropriate action. We will provide warm referrals to contractor s that may help support the person who experienced the alleged incident, as appropriate.

CONSEQUENCES OF VIOLATING THE CODE OF CONDUCT

Any violation of this Code of Conduct by Contractor's Personnel may result in serious consequences, up to and including termination and possible referral to legal authorities.

FOR CONTRACTOR'S PERSONNEL:

I have received a copy of this Code of Conduct written in a language that I comprehend. I understand that if I have any questions about this Code of Conduct, I can contact [*enter name of Contractor's contact person with relevant experience in handling gender-based violence*] requesting an explanation.

Name of Contractor's Personnel: [insert name]
Signature: _____
Date: (day month year): _____

Countersignature of authorized representative of the Contractor:
Signature: _____
Date: (day month year): _____

Appendix to Technical Part

Form - ELI - 1.1: Bidder Information Form

Date: *[insert day, month, year]*
NCB No. and title: *[insert NCB number and title]*
Page *[insert page number]* of *[insert total number]* pages

1.1 Bidder Information			
Bidder's legal name			
In case of JV, legal name of each member			
Bidder's country of constitution			
Bidder's year of constitution			
Bidder's legal address in country of constitution			
Bidder's authorized representative (Name, address, telephone numbers, fax numbers, e-mail address)			

Attached are copies of the following original documents.

1. In case of single entity, articles of incorporation or constitution of the legal entity names above, in accordance with ITB 4.1 and 4.3.
2. Authorization to represent the firm or JV named in above, in accordance with ITB 20.2.
3. In case of JV, letter of intent to form JV or JV agreement: in accordance with ITB 4.1 read with BDS
4. In case of government-owned entity, documents establishing legal and financial authority and compliance with the principles of commercial law in accordance with ITB 4.5 read with Sub-clause 2.1.4 of Qualification Criteria.
5. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Appendix to Technical Part

DETAILS OF PARTICIPATION IN THE JOINT VENTURE

PARTICIPATION DETAILS	FIRM 'A' (Lead Member)	FIRM 'B'	FIRM 'C'	Firm 'D'
Financial				
Name of the Banker(s)				
Planning				
Equipment				
Key Personnel				
Execution of Work (Give details on proposed contribution of each)				
The Joint Venture should indicate the details of participation as above.				

Appendix to Technical Part
Form - ELI - 1.2: JV Information Form

(Where permitted as per BDS ITB 4.1)

Each member of a JV must fill in this form
Date: *[insert day, month, year]*
NCB No. and title: *[insert NCB number and title]*
Page *[insert page number]* of *[insert total number]* pages

JV/Specialist Subcontractor Information				
Bidder's legal name				
JV Member's legal name				
JV Member's country of constitution				
JV Member's year of constitution				
JV Member's legal address in country of constitution				
JV Member's authorized representative information (Name, address, telephone numbers, fax numbers, e-mail address)				

Attached are copies of the following original documents:

1. Articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 read with BDS.
2. Authorization to represent the firm names above, in accordance with ITB 20.2.
3. In the case of government-owned entity, documents establishing legal and financial autonomy and compliance with commercial law, in accordance with ITB Sub-Clause 4.5read with Sub-Clause 2.1.4 of Qualification Criteria.
4. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Specialized Subcontractor's Information (Not Applicable)
Form ELI -1.2 A

NCB No. and title: *[insert NCB number and title]*

Bidder's legal name:

Specialized Subcontractor's legal name:

Specialized Subcontractor's country of registration:

Specialized Subcontractor's year of constitution:

Specialized Subcontractor's legal address in country of constitution:

Specialized Subcontractor's authorized representative information
Name: _____
Address: _____
Telephone/Fax numbers: _____ E-mail address: _____

Attached are copies of original documents of

☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.4.

☐ Authorization to represent the Specialized Subcontractor.

Form CON–2

Appendix to Technical Part
Historical Contract Non-Performance, Pending Litigation and Litigation History

[The following table shall be filled in for the Bidder and for each member of a Joint Venture]

Bidder's Name: *[insert full name]* Date: *[insert day, month, year]*
Joint Venture Party Name: *[insert full name]*
NCB No. and title: *[insert NCB number and title]*
Page *[insert page number]* of *[insert total number]* pages

Non-Performed Contracts in accordance with Section III, Qualification Criteria and Requirements			
☐ Contract non-performance did not occur during the (*number)* years specified in Section III, Qualification Criteria and Requirements, Sub-Factor 2.2.1. ☐ Contract(s) not performed during the *(number)* of years specified in Section III, Qualification Criteria and Requirements, requirement 2.2.1			
Year	**Non-performed portion of contract**	**Contract Identification**	**Total Contract Amount (in Indian Rupees)**
[insert year]	*[insert amount and percentage]*	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Reason(s) for non-performance: *[indicate main reason(s)]*	*[insert amount]*
Pending Litigation, in accordance with Section III, Qualification Criteria and Requirements			
☐ No pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2.3. ☐ Pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2.3as indicated below.			

Year of dispute	**Amount in dispute (Rupees)**	**Contract Identification**	**Total Contract Amount (Rupees)**
[insert year]	*[insert amount]*	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Matter in dispute: *[indicate main issues in dispute]* Party who initiated the dispute: *[indicate "Employer" or "Contractor"]* Status of dispute: *[Indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]*	*[insert amount]*
Litigation History in accordance with Section III, Evaluation and Qualification Criteria			
☐ No litigation history in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2.4. ☐ Litigation history in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2.4 as indicated below.			
Year of award	**Outcome as percentage of Net Worth**	**Contract Identification**	**Total Contract Amount (Rupees)**
[insert year]	*[insert percentage]*	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Matter in dispute: *[indicate main issues in dispute]* Party who initiated the dispute: *[indicate "Employer" or "Contractor"]* Reason(s) for Litigation and award decision *[indicate main reason(s)]* Status of dispute: *[Indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]*	*[insert amount]*

Appendix to Technical Part
Form CON – 3: Environmental and Social (ES)
Environmental, Social, Health and Safety Management Strategies and Implementation Plans
Performance Declaration

[The following table shall be filled in for the Bidder, and each member of a Joint Venture and each Specialized Subcontractor]

Bidder's Name	*[insert full name]*
Date:	*[insert day, month, year]*
Joint Venture Member Name	*[insert full name]*:
NCB No. and title	*[insert NCB number and title]*
Page…	*[insert page number]* of *[insert total number]* pages

Environmental, Social, Health, and Safety Performance Declaration
in accordance with Section III, Qualification Criteria, and Requirements

☐ **No suspension or termination of contract**: An employer has not suspended or terminated a contract and/or called the performance security for a contract for reasons related to Environmental, Social, Health, or Safety (ESHS) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.2.5.

☐ **Declaration of suspension or termination of contract**: The following contract(s) has/have been suspended or terminated and/or Performance Security called by an employer(s) for reasons related to Environmental, Social, Health, or Safety (ESHS) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.2.5. Details are described below:

Year	Suspended or terminated portion of contract & Contract Identification		Total Contract Amount
[insert year]	*[insert amount and percentage]*	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Name & Address of Employer: *[insert full name]/ city /* Reason(s) for suspension or termination: *[indicate main reason(s) e.g., for GBV/ SEA breaches]*	*[insert amount]*
…	…	*[list all applicable contracts]*	…

Performance Security called by an employer(s) for reasons related to ESHS performance

Year	Contract Identification	Contract Amount (Rs.)
[insert year]	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Reason(s) for suspension or termination: *[indicate main reason(s) e.g., for GBV/ SEA breaches*	*[insert amount]*

FIN – 3.1

Appendix to Technical Part
Financial Situation

Financial Situation and Performance	
Bidder's Name	*[insert full name]*
Date:	*[insert day, month, year]*
Joint Venture Member Name	*[insert full name]*:
NCB No. and title	*[insert NCB number and title]*
Page…	*[insert page number]* of *[insert total number]* pages

1. Financial data: - *[The following table shall be filled in for the Bidder and for each member of a Joint Venture]*

SUMMARY OF FINANCIAL STATEMENTS

Name of bidder/JV Member:

(Equivalent Rs. Million)

S. No.	**Financial Information in Rupee equivalent with exchange rate at the end of concerned year**	**Actuals for Previous five (5) years excluding the current financial year**					**Ref. of Page Nos. of Balance Sheets**
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Total Assets						
2	Total Turnover						
3	Current Assets						
4	Current Assets + Loan & Advances						
5	Total Liabilities						
6	Current Liabilities						
7	Current liabilities & provision						
8	Profit before Interest and Tax						
9	Profit before Tax						
10	Profit after Tax						
11	Shareholder's Funds (Net Worth) = (Paid up equity +Reserves) - (Revaluation reserves + Miscellaneous expenditure not written off)						
12	Depreciation						
13	Current Ration (2)/ (5)						
14	Net cash Accruals = Profit after Tax + Depreciation						

This information should be extracted from the Annual Financial Statements/ Balance sheets, which should be enclosed. Year 1 will be the latest year for which audited financial statements are available. Year 2 shall be the year immediately preceding year 1 and year 3 shall be the year immediately preceding Year 2.

2. Sources of Finance:

The following table shall be filled in for the Bidder and for each member of a Joint Venture] Specify sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.

No.	Source of finance	Amount Equivalent INR
1		
2		
3.		
4.		

3. Financial documents :

The Bidder and its parties shall provide copies of financial statements for [number] years pursuant Section III, Qualifications Criteria and Requirements, Sub-factor 2.3.1. The financial statements shall:

(a) Reflect the financial situation of the Bidder or member to a JV, and not sister or parent companies.
(b) Be audited by a certified Chartered Accountant
(c) Be complete, including all notes to the financial statements.
(d) Correspond to accounting periods already completed and audited (no statements for partial periods shall be accepted.

☐ Attached are copies of financial statements (balance sheets, including all related notes, and income statements) for the five (5) years required above; and complying with the requirements (If the most recent set of financial statements is for a period earlier than 12 months from the date of bid, the reason for this should be justified)

☐ Attached is a copy of certificate given from the commercial bank assuring cash flow (working capital for contraction) in the format attached.

Appendix to Technical Part

FORM FIN – 3.1 (A)

FORMAT FOR EVIDENCE OF ACCESS TO OR AVAILABILITY OF CASH FLOW
[To be given from a Nationalized or Scheduled Bank in India]

Clause 2.3.1 (b) of Section III – Qualification Criteria

(AVAILABILITY OF CASH FLOW (WORKING CAPITAL)

This is to certify that M/s. _____ is a reputed company with a good financial standing.

If the contract for the works, namely _____ [funded by the World Bank] is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs. _____ to meet their capital requirements for executing the above contract.

-- Sd. --
Name of Bank Manager
Senior Bank Manager & Address of the Bank

***Change the text as follows for Joint venture:**

This is to certify that M/s. …….. who has formed a JV with M/s. ……..... and M/s. ……..... for participating in this bid, is a reputed company with a good financial standing.

If the contract for the work, namely ……. [funded by the World Bank] is awarded to the above Joint Venture, we shall be able to provide overdraft/credit facilities to the extent of Rs. …… to meet the working capital requirements for executing the above contract.
[This should be given by the JV members in proportion to their financial participation.]

Appendix to Technical Part

Form FIN - 3.2

Average Annual Dredging Turnover

[The following table shall be filled in for the Bidder and for each member of a Joint Venture]	
Bidder's Name	*[insert full name]*
Date:	*[insert day, month, year]*
Joint Venture Member Name	*[insert full name]*:
NCB No. and title	*[insert NCB number and title]*
Page…	*[insert page number]* of *[insert total number]* pages

Annual turnover data (Dredging only) *	
Year	**Amount in Rs.**
[Financial year]	*[insert amount]*
1. YR 2022 -23	
2. YR 2021 -22	
3. YR 2020 -21	
4. YR 2019 -20	
5. YR 2018 -19	
Average Annual Dredging Turnover	

*** To be certified by a Chartered Accountant**

Appendix to Technical Part
Joint Venture

Names of all members of a joint venture
1. Member in charge
2. Member
3. Member
4. Member

Total value of annual dredging turnover, in terms of work billed to clients, in Rupees

Annual Turnover Data (dredging only; in Rupees *)							
Member	**Form 2-page no.**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Average**
1. Member in charge							
2. Member							
3. Member							
4. Member							
TOTAL							

Name and address of Bankers to the Joint Venture

Provide details regarding financial responsibility and participation (percentage share in the total) of each firm in the Joint Venture. Attach a Memorandum of Understanding for the Proposed Agreement of joint Venture which should lay down responsibility regarding work and financial arrangements in respect of each of the firm in the Joint Venture (Refer also ITB Clause 4.1).

*** To be certified by a chartered accountant**

Appendix to Technical Part
Form EXP - 4.1
General Dredging Experience

[The following table shall be filled in for the Bidder and in the case of a JV Bidder, each Member]	
Bidder's Name	*[insert full name]*
Date:	*[insert day, month, year]*
Joint Venture Member Name	*[insert full name]*:
NCB No. and title	*[insert NCB number and title]*
Page…	*[insert page number]* of *[insert total number]* pages
[Identify contracts that demonstrate continuous dredging work over the past seven (7) years pursuant to Section III, Qualification Criteria and Requirements, Sub-Factor 2.4.1. List contracts chronologically, according to their commencement (starting) dates.]	

Starting Year	Ending Year	Contract Identification along with Supporting Documents including Completion Certificates	Role of Bidder
[indicate year]	*[indicate year]*	Contract name: *[insert full name]* Brief Description of the Works performed by the Bidder: *[describe works performed briefly]* Amount of contract: *[insert amount in Rupees]* Name of Employer: *[indicate full name]* Address: *[indicate street/number/town or city/country*	*[insert "Prime Contractor" or "JV Member" or "Sub-contractor" or "Management Contractor"]*
		Contract name: *[insert full name]* Brief Description of the Works performed by the Bidder: *[describe works performed briefly]* Amount of contract: *[insert amount in Rupees]* Name of Employer: *[indicate full name]* Address: *[indicate street/number/town or city/country*	*[insert "Prime Contractor" or "JV Member" or "Sub-contractor" or "Management Contractor"]*
		Contract name: *[insert full name]* Brief Description of the Works performed by the Bidder: *[describe works performed briefly]* Amount of contract: *[insert amount in Rupees]* Name of Employer: *[indicate full name]* Address: *[indicate street/number/town or city/country*	*[insert "Prime Contractor" or "JV Member" or "Sub-contractor" or "Management Contractor"]*

Appendix to Technical Part
Form EXP - 4.2(a)
Specific Dredging Experience

[The following table shall be filled in for contracts performed by the Bidder, each member of a Joint Venture, and Specialized Sub-contractors]- along with Supporting Documents including Completion Certificates	
Bidder's Name	*[insert full name]*
Date:	*[insert day, month, year]*
Joint Venture Member Name	*[insert full name]*:
NCB No. and title	*[insert NCB number and title]*
Page…	*[insert page number]* of *[insert total number]* pages

(A) Work performed as prime Contractor or JV Member or Sub-Contractor or Management Contractor (*in the same name and style*) on dredging works of a similar nature and volume over the last Seven years[8]. [*Attach certificate from the Engineer-in-charge*]

Project Name	Name of Employer	Description of work	Contract No.	Value of contract	Date of Issue of Work Order	Stipulated Date of Completion	Actual Date of Completion	Remarks explaining reasons for Delay, if any

[8] Immediately preceding the financial year in which bids are received.

Appendix to Technical Part
Form EXP - 4.2 (b)
Specific Dredging Experience (JV)

Joint Venture's Name	*[Insert full Name]*
Date:	*[Insert day, month, year]*
Joint Venture Member Name	*[Insert full Name]*
NCB No. and title	*[Insert NCB number and title]*
Page	*[Insert page number] of [insert total number] pages*

All Sub-contractors for key activities must complete the information in this form as per ITB 33.

(B) **Quantities of work executed as prime contractor or Sub-Contractor** in the last Seven (7) years:[9]

Key Activity No. One: *[insert brief description of the Activity, emphasizing its specificity]* … Total Quantity of Activity under the contract: _____

Contract Identification	*[insert contract name and number, if applicable]*			
Award date	*[insert day, month, year]*			
Completion date	*[insert day, month, year]*			
Role in Contract *[check the appropriate box]*	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Sub-contractor ☐
Total Contract Amount	*[insert total contract amount in contract currency(ies)]*			
Quantity (Volume, number or rate of production, as applicable) performed under the contract per year or part of the year *[Insert extent of participation indicating actual quantity of key activity successfully completed in the role performed]*	Total quantity in the contract (i)	Percentage participation (ii)	Actual Quantity Performed (i) x (ii)	
Year 1 (FY 2022-23)				
Year 2 (FY 2021-22)				
Year 3 (FY 2020-21)				
Year 4 (FY 2019-20)				
Year 5 (FY 2018-19)				
Year 6 (FY 2017-18)				
Year 7 (FY 2016-17)				
Employer's Name:	*[insert full name]*			
Address: Telephone/fax number E-mail:	*[indicate street / number / town or city / country]* *[insert telephone/fax numbers, including country and city area codes]* *[insert e-mail address, if available]*			

[9] Immediately preceding the financial year in which bids are received.

Appendix to Technical Part
Form EXP - 4.2(c)
Specific Experience in Managing ES aspects

[The following table shall be filled in for contracts performed by the Bidder, and each member of a Joint Venture]				
Bidder's Name: _____ Date: _____ Bidder's JV Member Name: _____ IFB No. and title: _____ Page _____ of _____ pages				
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Subcontractor ☐
Total Contract Amount			Rs.	
Details of relevant experience				

Appendix to Technical Part — Form 4.2 (d)

Form for Current Contract Commitments/Works in Progress

Bidders and each member to a JV should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

(A) Existing commitments and on-going works:

Description of Work	Place & State	Contract No. & Date	Name and Address of Employer	Value of Contract (Rs. equivalent in million)	Stipulated period of completion	Value of works[10] remaining to be completed (Rs. equivalent in million)	Anticipated date of completion	Average Monthly Invoicing Over Last Six Months (Rs. /month) Equivalent in millions)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

(B) Works for which bids already submitted and likely to be awarded – expected additional commitment.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Description of Work	Place & State	Name and Address of Employer	Estimated value of Works (Rs. equivalent in million)	Stipulated period of completion	Date when decision is expected	Remarks, if any

[10] *Attach certificate(s) from the Engineer(s)-in-Charge.*

Appendix to Technical Part

Form EXP – 5.0

Quality Requirements

Bidder's Name	*[insert full name]*
Date:	*[insert day, month, year]*
Joint Venture Member Name	*[insert full name]*:
NCB No. and title	*[insert NCB number and title]*
Page…	*[insert page number]* of *[insert total number]* pages

1.	ISO 9001-2008/2015 Quality management system requirements	Quality management certificate issued by an international standards organization	Must meet requirement	Valid ISO 9001 Certification.	Yes / No – ref.
2.	ISO 45001 - Occupational Health and Safety Management or Equivalent	Valid - Relevant ISO 45001 certificate and Experience in occupational health and safety management	Must meet requirement	Valid ISO 45001 certification or Equivalent	Yes / No – ref.
3.	ISO 14001:2004 / 2015 Environmental Management systems	Relevant Environmental management certificate and experience with environmental management systems	Must meet requirement	Valid ISO 14001:2004 / 2015 certification	Yes / No – ref.

Appendix to Technical Part

(Name of the Project)

(*Declaration regarding tax/duty exemption for materials/construction equipment bought for the work)*

(*Bidder's Name and Address*)

To: ……...
(*Name of the Employer& address*)

Dear Sir:
Re: [*Name of Work*] …….
Certificate for Import/Procurement of Goods/Construction Equipment
Government Order/Circular Number under which tax/duty Exemption is being sought:

1. We confirm that we are solely responsible for obtaining tax/duty waivers which we have considered in our bid and in case of failure to receive such waivers for reasons whatsoever, the Employer will not compensate us.
2. We are furnishing below the information required by the Employer for issue of the necessary certificates in terms of the Government of India's relevant Notifications.
3. The goods/construction equipment for which certificates are required are as under:

Items *(modify the list suitably for each specific work)*	Make /Brand Name	Capacity [*where applicable*]	Quantity	Value	State whether it will be procured locally or imported *[if so from which country]*	Remarks regarding justification for the quantity and their usage in works.
Dredging Equipment						

4. We agree that no modification to the above list is permitted after bids are opened.
5. We agree that the certificate will be issued only to the extent considered reasonable by the Employer for the work, based on the Bill of Quantities and the construction program and methodology as furnished by us alongwith the bid.
6. We confirm that the above goods and construction equipment will be exclusively used for the construction of the above work and the construction equipment will not be sold or otherwise disposed of in any manner for a period of five years from the date of acquisition.

Date: _____
(*Signature*)_____
Place:_____ (*Printed Name*)_____
(*Designation*)_____
(*Common Seal*) _____

[***This certificate will be issued within 60 days of signing of contract and no subsequent changes will be permitted.***]

** Modify the above to suit the requirements given in Government of India's Notifications as current of date of bidding.*

Appendix to Technical Part
Form of Bid Security - Bank Guarantee

[Guarantor letterhead or SWIFT identifier code]

Bid Guarantee No……. *[insert guarantee reference number]*
Date……. *[insert date of issue of the guarantee]*

WHEREAS, _____ *[name of Bidder]*[11] (hereinafter called "the Bidder") has submitted his Bid dated _____ *[date]* or will submit his Bid for the construction of _____ *[name of Contract]* (hereinafter called "the Bid") under Invitations for Bids No……*[insert number]* (hereinafter called "the IFB")

KNOW ALL PEOPLE by these presents that We _____ *[name of bank]* of _____ *[name of country]* having our registered office at _____ (hereinafter called "the Bank") are bound unto _____*[name of Employer]* (hereinafter called "the Employer") in the sum of _____[12] for which payment well and truly to be made to the said Employer the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this _____ day of _____ 20____.

THE CONDITIONS of this obligation are:

(1) If after Bid opening the Bidder (a) withdraws his bid during the period of Bid validity specified in the Letter of Bid; or (b) does not accept the correction of the Bid Price pursuant to ITB 36;

OR

(2) If the Bidder having been notified of the acceptance of his bid by the Employer during the period of Bid validity:

(a) fails or refuses to execute the Contract Agreement in accordance with the Instructions to Bidders, if required; or
(b) fails or refuses to furnish the Performance Security, and if required, the Environmental and Social (ES) Performance Security, in accordance with the Instruction to Bidders.

we undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or any of the four conditions, specifying the occurred condition or conditions.

---

[11] Insert name of the Bidder, which in the case of a joint venture shall be (a) the name of the joint venture that submits the bid if the JV has been constituted into a legally enforceable JV, or (b) the names of all future members of the JV as named in the letter of intent to execute the JV Agreement submitted by the bidder along with its bid.

[12] The Bidder should insert the amount of the guarantee in words and figures denominated in Indian Rupees. This figure should be the same as shown in Clause 19.1 of the Instructions to Bidders.

This Guarantee will remain in force up to and including the date _____[13] days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not later than the above date.

DATE _____ SIGNATURE OF THE BANK _____

WITNESS _____ SEAL _____

[signature, name, and address]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[13] 45 days after the end of the validity period of the Bid.

Format for the Affidavit

[Reference ITB 12.3 (iii)]

(NOTE: This affidavit should be on a non-judicial stamp paper of Rs.10/- and shall be attested by Magistrate/ Sub-Judge/ Notary Public)

I, ……..… (name of the authorised representative of the bidder) son/daughter of ……..……..… resident of …….. (full address), aforesaid solemnly affirm and state as under:

1. I hereby certify that all the information and documents furnished with the bid submitted online in response to Invitation For Bid ……..…… dated ……..… issued by ……... (Authority inviting bids) for ……..…… …… (name and identification of work) are true and correct.

2. I hereby certify that I have been authorised by …… ……..……..…….. (Bidder) to sign on its behalf, the bid mentioned in paragraph 1 above.

Deponent
Place: ……...
Date: ……

Letter of Bid – Financial Part

The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and address.

To,	Date …… Invitation for Bid No……

Subject: - *Fairway Maintenance of Farakka - Kahalgaon (146 km) stretch of National Waterway -1 (River Ganga)*

We, the undersigned, hereby submit the second part of our Bid, the Bid Price and Bill of Quantities. This accompanies the Letter of Technical Part:
In submitting our Bid, we make the following additional declarations:

(a) Our bid shall be valid for a period of _____ ***[insert validity period as specified in ITB 18.1**.]* days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(b) The total price of our Bid, excluding any discounts offered in item (c) below is:

-In case of only one lot, total price of the Bid ***[insert the total price of the bid in words and figures]***;
-In case of multiple lots, total price of each *lot* ***[insert the total price of each lot in words and figures]***;
-In case of multiple lots, total price of all lots (sum of all lots) ***[insert the total price of all lots in words and figures]***;

(c) The discounts offered and the methodology for their application are:

(i) The discounts offered are: ***[Specify in detail each discount offered.]***

(ii) The exact method of calculations to determine the net price after application of discounts is shown below*: [**Specify in detail the method that shall be used to apply the discounts**]*;

(d) We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract:[14] [*insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount of each such commission or gratuity*]

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate "none.")

Binding Contract: We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed.

Name of the Bidder* ***[insert complete name of person signing the Bid]***

Name of the person duly authorized to sign the Bid on behalf of the Bidder** ***[insert complete name of person duly authorized to sign the Bid]***

[14] If none has been paid or is to be paid, indicate "none".

Title of the person signing the Bid ***[insert complete title of the person signing the Bid]***

Signature of the person named above ***[insert signature of person whose name and capacity are shown above]***

Date signed ***[insert date of signing]*** day of ***[insert month]***, ***[insert year]***

*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder
**: Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.

Appendix to Financial Part: Schedules
Form SC: Sub-Contracting

SCHEDULE OF SUBCONTRACTORS

Item	Element of work	Approximate value of sub-contract	% of bid price	Name and address of sub-contractor	Qualification and experience of sub-contractor on similar works of the elements executed

The Bidder shall enter in this schedule a list of the major sections and appropriate value of the work for which he proposes to use subcontractors *[for those costing more than 10% of the bid price for each element]***, together with the names, addresses and experiences of the proposed subcontractors.**

The capability of the sub-contractor will also be assessed (on the same lines as for the main Contractor) before according approval to him.

(Work should not be split into small parts and sub-contracted; but, sub-contracting specialized elements of works is acceptable).

Appendix to Financial Part
Bill of Quantities
Part II – Priced Activity Schedule

The rates to be quoted are for Fairway Maintenance of Farakka - Kahalgaon (146 km) stretch of National Waterway -1 (River Ganga)

- Bidder shall quote prices for Performance based dredging for 3 years including ESHS and 1% Labour welfare cess for the work of "**Fairway Maintenance of Farakka - Kahalgaon (146 km) stretch of National Waterway -1 (River Ganga)**".

  - Bidder has to quote prices duly taking into account the requirements specified in the Section-VII (Works Requirement) as specified therein.

  - Bidders shall ensure that the bid price shall include all duties, taxes, labour cess and other levies excluding GST payable by the contractor under this contract or for any other cause, as of 28 days prior to the deadline for the submission of the bids.

  - GST amount considered shall be provided separately in the BOQ.

  - Bid price shall be filled in by the bidder before uploading the same with the bid on e-procurement portal.

    Note:

1. *Item for which no rate or price has been entered in will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities (refer: ITB Clause 14.2 and GCC Clause 41.3)*

2. *Unit rates and prices shall be quoted by the bidder in Indian Rupees (refer: ITB Clause 14.1 and ITB Clause 15.1)*

Appendix to Financial Part
Bill of Quantities

- **Priced Activity Schedule**

Sl. No.	Fairway Maintenance of Farakka - Kahalgaon (146 km) Stretch of National Waterway -1 (River Ganga)	Year wise Lumpsum Price shall be quoted including ESHS & Labour Cess		NPV Factor (Based on discount Factor of 10)*	NPV of quoted bid price for Maintenance Services Col 2 x Col 4 (in Rs) ** *[only for evaluation purpose]*
	(1)	(2)	(3)	(4)	(5)
		In Figures	In Words		In Figures
1.	Year 1			0.909	
2.	Year 2			0.826	
3.	Year 3			0.751	
	TOTAL AMOUNT FOR 3 YEARS inclusive of ESHS & all taxes excluding GST– In Figures In Words				
	(GST Amount Considered)				

We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract:[15][*insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount of each such commission or gratuity*]

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate “none.”)

[15] ***If none has been paid or is to be paid, indicate “none”.***

Finance Bid: Bill of Quantity
(For On-line Submission Schedule)

Validate | Print | Help

Item Rate BOQ

Tender Inviting Authority: Jal Marg Vikas Project, Inland Waterways Authority of India, Noida

Fairway Maintenance of Farakka - Kahalgaon (146 km) stretch of National Waterway -1 (River Ganga)

Contract No: IN-IWAI-400748 -CW-RFB

Name of the Bidder / Firm / Company:	

PRICE SCHEDULE

Sl. No.	Item Description	Quantity	Unit	Year wise Lumpsum Price shall be quoted including ESHS and 1% of Labour welfare Cess Rs. P.	AMOUNT Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	6	7
1.0	Fairway Maintenance Contract for providing Assured Least Available Depth (LAD) of 3.0 m with 45 m channel width by Performance based dredging including River Conservancy works, channel marking etc. in Farakka - Kahalgaon (146 km) Stretch of National Waterway -1 (River Ganga)					
	Year-1, LAD-3.0 m; Channel Width- 45m	1	LS		**0.00**	Zero Only
	Year-2, LAD-3.0 m; Channel Width- 45m	1	LS		**0.00**	Zero Only
	Year-3, LAD-3.0 m; Channel Width- 45m	1	LS		**0.00**	Zero Only
2	**GST**					
2.0	**(GST amount considered)**	1	Rs.			
Total in Figures					**0.00**	INR Zero Only
Quoted Rate in Words		**INR Zero Only**				

Evaluation Criteria to Decide L1 NPV – Net Present Value Factor						
Fairway Maintenance Contract for providing Assured Least Available Depth (LAD) of 3.0 m with 45 m channel width by Performance based dredging including River Conservancy works, channel marking etc. in Farakka - Kahalgaon (146 km) Stretch of National Waterway -1 (River Ganga)			Bid Price for the services to be provided as specified inclusive of all taxes excluding GST – Year-wise (INR)		NPV factor (Based on discount factor of 10% per annum)	NPV of the quoted Bid Price Col 4 x Col 6 (INR)/ (Currency) *(Only for the purpose of evaluation)*
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Year	LAD	Width	In figures	In words	-	In figures
Year 1	3.0 m	45 m			0.909	
Year 2	3.0 m	45 m			0.826	
Year 3	3.0 m	45 m			0.751	
Total for 3 years						
Determining aggregate of the Net Present Value (NPV) of three years' prices for Services quoted in the Priced Activity Schedule, by discounting these prices to the Date of Commencement of Services, *assuming only for purpose of the evaluation* that the quoted prices are payable at the end of the respective years. For the purpose of determining NPV, discount factor of 10 % per annum shall be applied.						

Section V. Eligible Countries

Eligibility for the Provision of Goods, Works and Non-consulting Services in Bank-Financed Procurement

In reference to ITB 4.7, and 5.1, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this bidding process:

Under ITB 4.7 (a) and 5.1 - None

Under ITB 4.7 (b) and 5.1 - None

Section VI. Bank Policy - Corrupt and Fraudulent Practices

Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011:

"**Fraud and Corruption:**

1.16 It is the Bank's policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.[16] In pursuance of this policy, the Bank:

(a) defines, for the purposes of this provision, the terms set forth below as follows:

(i) "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;[17];

(ii) "fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;[18]

(iii) "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;[19]

(iv) "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;[20]

(v) "obstructive practice" is

(aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to

[16] In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

[17] For the purpose of this sub-paragraph, "*another party*" refers to a public official acting in relation to the procurement process or contract execution. In this context, "*public official*" includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

[18] For the purpose of this sub-paragraph, "party" refers to a public official; the terms "benefit" and "obligation" relate to the procurement process or contract execution; and the "act or omission" is intended to influence the procurement process or contract execution.

[19] For the purpose of this sub-paragraph, "parties" refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other's bid prices or other conditions.

[20] For the purpose of this sub-paragraph, "party" refers to a participant in the procurement process or contract execution.

prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or

(bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 1.16(e) below.

(b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

(c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;

(d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,[21] including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated[22];

(e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank."

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[21] A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

[22] A nominated sub-contractor, consultant, manufacturer or supplier, or contractor (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

Section-VII
Description of Services (Work's requirement)

	1	Introduction
	2	Objective
	3	Scope of Works
	4	Technical Specification
	5	Water Level
	6	Meandering
	7	Shoals
	8	Course of Navigation
	9	Quantity of Dredging
	10	Dredging
	11	Dredgers
	12	Navigational Aids (Day Channel Marking)
	13	Bandalling
	14	Monitoring
	15	Clearances (Horizontal & Vertical)
	16	Disposal of Dredged Material
	17	Material Obtained from excavation and treasure, trove, fossils etc.
	18	Survey Vessel
	19	Multi-Beam Echo Sounder
	19	Environmental Management Plan
	20	Other Conditions

1. Introduction	Inland Waterways Authority of India (IWAI) is a statutory body set up in 1986 under the Ministry Ports, Shipping and Waterways, Govt. of India. The Authority is entrusted with development, maintenance and management of National Waterways for shipping and navigation. Inland Waterways Authority of India (IWAI) is implementing Jal Marg Vikas Project (JMVP) for capacity augmentation of National Waterway - 1 between Varanasi - Haldia (1380 Km) with the technical assistance and financial support of the World Bank. The project is extended to be completed by December, 2025. Payment after duration of the World Bank assistance shall be considered by IWAI through its resources. The Ganga-Bhagirathi-Hooghly River system for a length of 1620 km connecting Haldia (Sagar) - Kolkata - Bhagalpur –Sultanganj – Mahendrapur - Barh - Patna - Ghazipur - Varanasi – Allahabad was declared as National Waterway 1 (NW-1) in the year 1986. There is considerable difference between flood and lean season discharges and water level. The targeted Least Available Depth (LAD) in various stretches of NW-1 is Haldia - Farakka - 3.00 m; Farakka –Barh 3.0 m; Barh – Ghazipur - 2.50 m and Ghazipur –Varanasi – 2.20 m. To achieve the navigation of vessels **in Farakka - Kahalgaon (146 km)** stretch of NW-1, IWAI intends to engage agency for providing fairway with Assured Depth of 3.0 m and channel width of 45.0 m by dredging and other suitable river conservancy measures on performance basis for three years and extendable on yearly basis for another two years on satisfactory performance to tackle the shoals occurring in the river or as per the requirement.
2. Objective	The Objective of the Works & Services is to maintain Assured Least Available Depth (LAD) of 3.0 m and channel width of 45 m between Farakka - Kahalgaon (146 km) stretch of National Waterway-1 on performance basis for 3 years by Dredging and River conservancy measures (Bandalling, Submerged vanes etc.) as well as erection & maintenance of Navigational Aids (Day Channel Markings).
3. Scope of Work	The Contractor will have to identify the best course of Navigation channel from time to time and remove shoals (shallow area w.r.t assured Least available Depth (LAD). Maintenance of a navigation channel of 45 m width and assured LAD of 3.0 m in all three (3) years throughout the stretch as specified which can be done by the combination of dredging and river training measures. The scope of the contract shall include: (i) To Provide and maintain assured LAD of 3.0 m and Channel width of 45 m with naturally side slopes during three (3) years from the date of commencement of Services.

	(ii) To install and maintain Day Channel Markings (Navigational Aids) throughout the Contract Period. (iii) Assistance to Normal barge and vessels / crafts movement in the navigation channel during dredging operation. The tentative dredging quantity in Farakka - Kahalgaon (146 km) stretch is 18.48 Lakh cum for three years.
4. Technical Specifications	The material to be dredged is sand, silt, soft clay or a mixture of these materials, compact and sediment clay. If the dredger meets any strata such as boulders, ropes, sand stone, stone debris, wooden logs etc., such patches will also continue to be tackled with a modified cutter or cutter teeth like serrated etc. capable for dredging such materials for a length of up to 20 m. Further steps to be taken, should be decided mutually between the Contractor and the Engineer-in-charge, if hard strata exist beyond 20 m. To achieve the LAD of 3.0 m and Channel width of 45 m, the bidder / Contractor shall take into account tolerance of + 1 m from each edge of the channel and tolerance of +30 cm on the depth. There is however, no restriction on maximum width of the channel which may naturally be available. And no additional payments shall be admissible to this effect.
5. Water Levels	The vertical water level difference is about 4-10 m. The current in the river ranges from 0.5 to 4 m/s. However, the current during the lean season seldom exceeds 1.5 m/s. Details of the water levels in Farakka - Kahalgaon stretch are provided in **Annexure A**.
6. Meandering	There has been substantial meandering and details of changes to the river course in past years are given in **Annexure B.**
7. Shoals	There is substantial braiding in the river which during lean season (Mid Oct – Mid June) results into shoals at various places which hinder navigation. As per execution of 5-year Assured Depth dredging contract, on average, 13 nos. of shoals with shoal length of 7,779 meters are present in Farakka – Kahalgaon stretch. River reach images for the stretch is attached at **Annexure C**.

Stretch: Farakka – Kahalgaon (146 Km)
Indicative Annual Maintenance Task – Dredging & River Training Works

Sl.	Description	Year-1	Year-2	Year-3	Total
	LAD 3.0 m & Width 45 m				cum
1.	Tentative Dredging Quantity (cum)	6,16,000	6,16,000	6,16,000	18,48,000
2.	Tentative Bandalling Length (m)	2,000	2,000	2,000	6,000

8. Course of Navigation	The Contractor will have to identify the best course of navigation channel from time to time and remove shoals [shallow area w.r.t. assured least available depth of 3.0 m] by dredging and / or bandalling. The tenderer shall inspect and ascertain for himself details of horizontal & vertical clearances available at bridges/locks etc. within the National Waterway-I from the view point of safe mobilization/ demobilization of their various equipment to the dredging locations. Available information in this regard will be provided to the tenderer by the Authority on request.
9. Quantity of Dredging	The quantity of dredging and length of Bandals are to be ascertained by the Contractor as per site conditions and own resources. The Bidder may also take into consideration data available in IWAI website, which gives details of LAD in the past years. The tentative dredging quantity in Farakka – Kahalgaon (146 Km) stretch is approximately 18,48,000 cum for three years. However, it is a fact that the quantum of dredging and Bandalling as well as erection and maintenance of navigational aids (day channel markings) varies year to year based on the condition of channel after flood season and it may vary to the tune of + 10% to 25%. It is advised that the Bidder should collect necessary information, data, navigational charts of NW-1 or any other site information related to availability of men, material, equipment's etc. and familiarize himself with the site conditions before bidding. The indicative annual maintenance task to achieve assured LAD and specified Channel width (dredging and bandalling) are given in Table 1. Stretch of Farakka - Kahalgaon (146 km) - Tentative Quantity of 18.48 Lakh Cum to be dredged during the lean season of (8) eight months (Mid-Oct to Mid-June) except for flood seasons (Mid-June to Mid-October)

Table-1: Indicative Annual Maintenance Task (Dredging & Bandalling)

S. No.	Description	Year-1	Year-2	Year-3	Total
1.	LAD to be provided	LAD-3.0 m	LAD – 3.0 m	LAD 3.0 m	
2.	Channel Width	45 m	45 m	45 m	
3.	Dredging Quantity	6.16 Lac cum	6.16 Lac cum	6.16 Lac cum	18.48 Lac cum
4.	Bandalling (m)	2,000	2,000	2,000	6,000

10. Dredging	Dredging is to be carried out with suitable Cutter Suction Dredgers having capacity of dredging minimum of 500 cum solids per hour in shallow patches. Cutter suction dredgers can also be supported by backhoe dredgers, water injection dredgers (WIDs) and plough dredgers. Maintenance of a navigation channel of 45 m width with natural side slope throughout the stretches as specified maybe achieved by the combination of dredging and bandalling or other suitable river conservancy measures. The maintenance methodology shall be determined by the selected Contractor taking into account the nature of the river and other environmental characteristics, including the nature, location and size of shoals, and the contract period. Sufficient number of qualified manpower should be deployed by the Contractor on the dredgers and other equipment and on other works throughout the contract period at his cost.
11. Dredgers	The Contractor shall not change the type, numbers, size and make of dredgers submitted in their bid without the prior approval of the Engineer-in-Charge. The Contractor shall mobilize additional resources like dredger, equipment, etc. at his cost for maintaining the assured depth of 3.0 m and channel width of 45 m in the entire stretch during the entire contract period of 3 years. In case of failure in achieving LAD of 3.0 m & channel width 45 m, the Engineer-in-charge may direct Contractor to deploy additional resources and, in such case, Contractor may mobilize additional resources without any cost to the Employer. If the dredger goes out of order, the contractor shall arrange for its replacement with a dredger of equivalent capacity. Contractor shall not be eligible for payment of costs involved in shifting the dredger and its accessories from one shoal to another shoal or from one area to another area in Farakka - Kahalgaon sector of NW-1. Deployed equipment shall have valid statutory certificates at all times during the contract period.
12. Navigational Aids (Day Channel Marking)	(i) Specified day channel markings are an essential component of navigation through the channel which is to be maintained by the Contractor under this contract. Contractor is advised to acquaint himself adequately with various types of channel marks specified by IWAI under regulation for Prevention of Collision on National Waterways Regulations, 2002. (ii) The inspection of the navigational channel for certifying the maintenance of assured LAD will also be carried out in the channel thus marked by the Contractor. The inland vessels (the

	end users) also use these channel marks as standard guiding aids for safe navigation. (iii) The number and type of aids to navigation to be provided shall be based on the volume of traffic and degree of risk associated with navigation on the river route. Further, minimum number of day navigational marks is to be erected in the maintained channel during the lean (Mid-June to Mid-Oct) and flood season (Mid-Oct to Mid-June) are 220 & 110 respectively in the way that it is safe for navigation and can be easily identified as navigation route by the end users during their course of navigation without any assistance. (iv) The contract shall also include the maintenance of navigational aids to navigation delineating river fairways. (v) The Contractor will also be required to deploy its own pilots for assisting cargo and passenger / tourist vessels for their movement based on written request by the end users. For this, the Contractors can charge the fee from the users as per IWAI's regulation. (vi) In case any cargo vessel is grounded due to inadequacy of depths or channel marking, the Contractor shall make arrangement for rescue of the vessels by providing rescue tugs at his own cost. EIC has the right to take appropriate action if the contractor fails to satisfy EIC about number type and quality of channel markings or if an end user complains in writing with Prima facie evidence about absences, inadequacy or mistakes in channel marking erected by the contractor under this contract. Some important aspects of channel marking to be erected and maintained by the Contractor to meet the requirements of this contract are as following: A. The responsibility of the contract includes erection, supervision, safe keeping, re - erection and maintenance of the channel marks and other allied works and the provision of all labour, materials, mechanized boats, temporary works and everything whether of a temporary or permanent nature required for safe navigation as specified or reasonably to be inferred from the contract. B. For marking the channel, the material used shall be bamboos, bamboo strips, bamboo mats, coir string, straw, lime, etc., the materials and other tools and plants as may be required are to be arranged at different sectors at Contractor's own cost. C. Marks shall have to be erected at suitable places as per requirement of E-I-C or his representative and also as per Enclosure-3 herewith. In case, any marks are placed wrongly the same shall be rectified by the Contractor at his own cost. D. The Contractor shall at his risk and cost, make all arrangements for locating the navigable channels, sand chars, snags, etc., by means of regular soundings along the river and change the position of the marks to indicate the navigable channel by the end users during operating in the stretch.

E. All the marks termed as right-hand marks, left hand marks, channel closing marks and snags (for lean season) and right-hand transit mark and left-hand transit mark (for flood season) are of variable nature and this can be determined only after conducting the survey in the field. In case of additional requirement of marks, the Contractor shall erect the same without additional cost.

F. The Contractor shall be liable to bear the expenditure of all manpower, material and equipment required for the work at his cost. He must, therefore, have thorough knowledge about the work prior to submission of his rates in the bid. No extra claim in this regard shall be entertained once the contract has been awarded. The marks shall be maintained during the entire contract period. The material used for channel marking thereafter shall have to be removed by the Contractor at his risk & cost.

G. Bamboo Harauti of 18 to 23 cm circumference at 45 cm (1'-6") from the bottom about 7 to 7.5 mtrs. long are required for marking the channel. The marks shall be driven properly by using wooden hammer up to at least (one) 1 meter below the ground level. Submerged sand chars, submerged high banks and other possible navigational obstructions shall be duly marked Beginning and end of a channel through chars shall be prominently marked using bamboo poles with bamboo mats reinforced with bamboo strips for being located. These shall also be painted with lime. The reference of marking shall be commenced from upstream of the river and marks shall be put up on the right-hand side of the channel or the left-hand side of channel as given in Enclosure 3.

H. The navigable channel shall be 45 m wide and 3.0 m deep throughout the year. Marks shall be erected after taking measurement across the river by marked bamboo poles.

I. Navigational channel in the crossing from one bank to another shall be marked with transit marks. Where straight reach is available, marking shall be placed at longer distance but shall be visible from first mark. For marking the main channel passing through the shoal / chars the marks shall be erected in water close to the main navigational channel.

J. All snags shall be marked with proper care. During the flood a number of trees, trunks & other permanent structures which are uprooted in the U/S of the river, flows down & get strangles at marking places even some time in the main channel. For safety of navigation, these obstructions known as snags should be detected first & marks properly. For these special marks (as mid water snag marks, left & right-hand snag marks) are being used which may be seen in Enclosure-3. If they are deep in water lying on river bed but allowing sufficient navigation depth in lean period then marking is done by a navigation buoy made of a sealed 15 litre empty oil tin painted red, tied with a wire rope & sunk by a sinker.

K. The materials used on the work shall be of good quality conforming to the specifications laid in the contract. The work

	shall be carried out in a workman like and expeditious manner and the quality of work at each stage shall be monitored by the Engineer-in-charge or its representatives. The Engineer-in-charge's decision as to the quality of such materials and work shall be final and binding on the Contractor. The Contractor shall bear full responsibility for the intimation to the Engineer-in-charge forthwith of any accident and take all necessary action required under relevant Acts and Rules, Marine Rules etc., as the case may be. The Contractor shall also report such accidents to the Competent Authority wherever such reports are required under rules. The Engineer-in-charge or his representative must however, be informed immediately in the event of any marine accident. The Contractor should also bear full responsibility for all accident, damages or injury caused to any of the Employer's employees, cause of which is established to be attributable to the Contractor's carelessness or negligence.
13. Bandalling	The Contractor may for the purpose of maintenance of the required LAD and channel width, undertake erection and maintenance of bandals as under, in addition to dredging works and other methods that may be employed by him. i) Bandals of required length are erected at shoal sites to increase the depth of main channel for the purpose of navigation or to maintain desired depth in dredged channel. It will include erection, supervision, safe keeping, re-erection and maintenance of bandals and other allied works complete with all labour, materials, boats, temporary and permanent works, taxes, levies, duties etc. as specified in the contract. ii) Bandals are fabricated using new bamboos, mats and coir string. Length of each unit of bandal is normally about 30 m/ 15 m and size of screen is 1.2 m x 0.9 m. These bandals are placed at 30 degrees to 45-degree angle to the direction of current driving bamboo poles. The bamboo mats are placed in such a way that only 10 cm. is above the water level and rest inside the water. It is required to be maintained at appropriate level by lowering/raising the mats depending on the change in water level. Bandal needs to be erected according to the drawings given in Enclosure 1 & 2. In A type bandal the 90 cm side of the mat will be in vertical position (i.e. 80 cm. inside water and 10 cm. above) and in B type bandal 120 cm. side is in vertical position iii) New harauti/ Jati bamboo of 18-23 cm circumference at 45 cm from the bottom and 7 to 7.5 m long are used for horizontal, vertical and side support. The vertical bamboo pins are driven in proper line with spacing of 60 cm as per drawings enclosed. The number of bamboos required for 15 m length/30 m length are as under: **For 15 m – 40 Nos. and For 30 m – 80 Nos.** iv) new bamboo mats 1.2 m x 0.9 m made of minimum 1 mm thick and minimum 1.5 to 2 cm. wide bamboo strips closely woven, tied together with the help of bamboo strips and coir string are fixed on vertical bamboo pins of bandal to act as screen as per drawing and direction of EIC. The no. of mats & quantity of thick and thin coir string

required during erection of 15 m and 30 m length of Bandals generally are as under:

For 30 m	**For 15m**
Bamboo mats - 56 nos. Coir string (thick)-10 kgs. Coir string (thin) – 5 kgs.	Bamboo mats - 28 nos. Coir string (thick) – 5 kgs. Coir string (thin) – 2.5 kgs.

The bandals of specified length can be erected at the sites as per requirement to maintain the navigational channel/depth.

v) Erected / re-erected bandals are maintained depending upon the requirements. After certain period sand chur may appear behind one or more length of bandal at one end of alignment of bandal. In that case such one or more units of bandal may require to be removed and re-erected at other alignment.

vi) During maintenance period, materials of bandal (e.g., bamboo, bamboo mats, coir strings) is changed due to decay of material only.

vii) For effective bandalling, sufficient anticipated amount of materials (e.g. bamboo, bamboo mats, coir string) is generally be stored at each bandal site so that during maintenance materials may be replaced without any loss of time. Replacement of decayed mats is completed at shortest period and no part of bandal is kept without mats at any time.

viii) Sometimes it may be observed that the required depth of main channel is achieved at any shoal by erecting bandals, but after a period of time, continuing the bandals is no longer considered necessary. In that case the erected bandals are required to be removed.

ix) Re-erection of bandal at new places is done with the help of salvaged materials obtained from the removed bandal and by using other fresh materials e.g., bamboo, bamboo mats and coir string, by substituting whatsoever may be found damaged in the process of re-erection.

x) Adequate number of boats / logistics are arranged by for erection and maintenance of the bandals at each site are to be arranged by the Contractor. Contractor may use power boats/ launches for timely erection and proper maintenance of bandal.

The above details of bandals are given only for the guidance of Contractor. However, the Contractor is free to alter the specification of bandals. In fact, Contractor is also free to employ every other method of aid for maintenance of targeted LAD. This may include any type of temporary or semi-permanent river training works. It is to be reiterated that for performance of this contract or for payments to be made under the contract the only objective / measurement to be made is the LAD recorded on specified joint inspections and not either the quantity of dredging or bandalling or channel marking or anything else. But if the Contractor wishes to employ any other method (other than traditional dredging or bandalling), he has to request for the same with sufficient

	details and obtain written permission from Engineer-in-charge for every innovative work. If such works are found prima facie practical, they will be accepted and encouraged.
14. Monitoring	Monitoring shall be undertaken by the Employer. This shall be done directly and through an appointed Supervision Consultant (TSSC-III). This may also include monitoring by placing survey sounders on select merchant ships passing through part of the route. Any supervision and monitoring shall not relieve the Contractor of his obligations under the Contract, including his duty to make his own surveys. IWAI may conduct aerial surveys from time to time to monitor the depth and width of the navigational channel maintained by the contractor. Contractor shall install the Online Dredging monitoring Software (like developed by NTCPWC or any other Organisation) at his cost.
15. Clearances (Horizontal & Vertical)	The Contractor shall inspect and ascertain himself details of horizontal & vertical clearances available at bridges/locks etc. within the National Waterway from the view point of safe mobilization / demobilization of their various equipment to the specified dredging locations. The Contractor shall be liable to bear the expenditure of all manpower, material and equipment required for all the related work. No extra claim in this regard shall be entertained once the contract has been awarded. .
16. Disposal of Dredged Materials	Disposal of dredged materials would be effected into the free -stream of the river / on the banks /into the nearby redundant channels at a least distance of 150-200 m from the navigation channel. The disposal locations should be so positioned so as to avoid material working its way back into the dredged channel by taking such precautions as, disposing into faster flowing water, downstream and to the side of the working dredger. Disposal of material into secondary and redundant channels could also be considered as this provides a location where material is less likely to be remobilized. Materials dredged may also be disposed on to the banks of the river or onto the low-lying area ashore in case of narrow stretch of the river / channel. In wider stretches, it shall be deposited off at least 150 to 200 meters away from the navigational channel and in case the dredged material has a tendency to come back to channel, then its disposal distance shall be increased suitably to avoid repeated work. If required, temporary dykes may be constructed for holding the material. In case the Contractor intends to dispose of the dredged materials on banks outside the river, they may do so after obtaining necessary

	permission from Engineer-in-charge and also from the land owner(s) and the concerned Department of the State Govts. (Forest / Mining / Revenue etc.) for dumping the material on their lands. In case of any dispute with State Govts. (Forest / Mining / Revenue etc.) regarding selling of dredged material, IWAI may forfeit the Performance Security of the contractor. Expenditure involved in such disposal including payment to the land owner(s) for dumping the material on their lands shall be borne by the Contractor.
17. Material Obtained from Excavation and Treasure, Trove, Fossils etc.	Material of any kind obtained from excavation on the site shall remain the property of the Authority and shall be disposed off as directed by the Engineer-in-Charge. However, if any of the materials thus obtained from excavation on the site is such as can be used in the execution of work under the contract, the contractor will be allowed to use the same free of cost (except that any amount of royalty paid for in this regard by the Authority shall be recoverable from the contractor) for the aforesaid purpose provide the same is found suitable and is approved by the Engineer-in-Charge. Fossils, coins, articles of value, structures and other remains of things of geological or archaeological interest discovered on the site shall be the absolute property of the Authority. The contractor shall take reasonable precautions to prevent is labor or any other person from removing or damaging any such article or things and shall acquaint the Engineer-in-Charge with such discovery and carryout the Engineer-in-Charge's directions as to the disposal of the same at the expense of the Authority.
18. Survey Vessel	The Survey Vessel shall have: (a) Multi-Beam Echo sounder; (b) Sufficient size and stability to safely and properly carry out the survey work under the prevailing site conditions; (c) Good manoeuvrability even at low speeds of 1 to 2 knots; (d) Ample space for instruments, recorders, etc; (e) Day accommodation for two men of the EIC's staff besides the normal crew and Contractor's own surveyors; (f) A helmsman experienced in survey work; (g) Adequate radio communication between all persons concerned in the surveys; (h) Facility for operation of Automated Hydrographic Survey System (AHSS) etc.
19. Multi Beam Echo-Sounder	Multi Beam Echo-Sounder: -

	The digital echo sounder for hydrographic surveys shall in principle be operated in the 210 kilo Hertz range (narrow beam transducer). The Accuracy of the survey shall be not less than 0.1 m. At the start of each hydrographic survey, the Automated Hydrographic Survey System (AHSS) is to be calibrated to the specified accuracy. To this effect, the Contractor shall establish a fixed point (or fixed points) with known coordinates such that the survey boat can easily be positioned with the transducer of the echo-sounder always in the same position relative to the calibration point.
20. Environmental Management Plan	The Contractor shall be required to dispose of dredged materials complying with environmental consideration as detailed under Environmental Management Plan, which has been published on IWAI's website (http://www.iwai.nic.in) and same is appended to the bidding document as **Annexure D**
21. Other Conditions	Mobilization / Demobilization charges for the dredgers and its accessories and other logistics for survey/ inspection/works etc. should be inbuilt in the bid by the Contractor. No additional payment/ claim in this regard will be considered. (a) Normal barge and vessels/crafts movement in the channel shall not be interrupted by the dredging operation. (b) No idle time charges shall be payable to the Contractor on any account during the contract period. (c) The Contractor shall arrange at its own cost the transits, buoys, lights, mooring etc. as required for dredging and also for cautioning other vessels in the waterway. (d) The Engineer-in-charge or his representative will inspect, co-ordinate and measure the work as per the contract condition. He has the right to inspect at any time during the contract period besides the specified schedule of inspections. (e) The Contractor shall provide the Engineer-in-Charge or his representative boat/ survey launch from shore to dredger and back to shore and movement in the stretch for inspection & supervision. (f) The Contractor may execute the work round the clock and on all days including Sundays and Public Holidays with the permission of the Engineer-in-charge in writing excepting National Holidays and subject to such restrictions as may be imposed by State Govt./local body. (g) If the Contractor's personnel or any outside labour employed to work during execution of contract, breaks or damages/destroys any vessel, craft, net, fishing stakes etc. building, road, kerb, water pipe, fence, bund, wires, trees, crop, fruit or cultivated ground etc. during the period of agreement, the same shall be made good by the Contractor at his own expenses or in default the Employer may cause the same to be made good by other sources and deduct the expenses from any sums that may be then or at any time thereafter may become due to the Contractor.

(h) Any dispute with the local fishermen, for removal of fishing nets, stakes, from the channel to be dredged shall be solved by the Contractor. However, on request the Employer may extend the assistance for solving the issues only through the concerned official/ dept. of the State Govts. or local bodies.

(i) Contractor shall pay special attention for identification of disposal sites with a view to ensure uninterrupted dredging operation and plan in advance disposal details ahead of location of dredger. In the event of non-availability of dumping site, Employer shall not be responsible for delays caused in in the dredging operation/ maintenance of navigational channel.

(j) In case obstructions like concrete piles, structures of fishing nets, plastic debris, fallen trees, sunken boats etc. are encountered, those will be removed by the Contractor and no extra payment on this account shall be admissible to the Contractor.

(k) In case of any local objections against dredging or disposal of dredged spoils, it has to be settled by the Contractor. However, on request, Employer will extend liaison/ help to the Contractor to approach concerned officials of State Administration.

(l) If the maintenance of navigational channel is stopped continuously for more than 3 days due to law and order, Contractor has to report to the same to the Engineer-in-charge and take actions mutually in accordance with prevailing local laws for removal of such problem and proceeding further with the work. In case of delay in work, the Engineer-in-charge may take suitable decision without affecting the main objective of the project.

(m) The Contractor shall adopt adequate precaution and measures such as construction of temporary protection etc. during the dredging operation, to avoid any collapse/ damages to the existing bank. Protection work of the dredged area shall be at its own cost.

(n) The Contractor shall forthwith dispatch, raise and remove any plant (floating or otherwise) belonging to him or to any person employed by him which may be sunk in the course of execution and completion of the works or otherwise deal with the same as the Engineer-in-charge or his representative may direct. Until the same shall be raised and removed, the Contractor shall display at night search lights and do all such things for the safe navigation as may be directed by the Engineer-in-charge. In the event of the Contractor not carrying out the obligations imposed upon him by this clause, the Engineer-in-charge shall raise and remove the same (without prejudice to the right of the Employer to hold the Contractor liable) and the Contractor shall pay to the Employer all costs incurred in connection therewith. The fact that sunken vessel, craft or plant is insured or has been declared a total loss, shall not absolve the Contractor from his obligation under this clause to raise and remove the same.

(o) During execution of the work if any environmental degradation occurs, consequent on dumping of dredged material or any other reason the same shall be undone or necessary mitigation measures to the satisfaction of Engineer-in-charge by the

	Contractor at his cost, without claiming any additional payment from Employer. (p) Any charges incurred on testing of the dredged material, testing/ analysing the quality of water for adopting environmental safeguards, minimizing detrimental impacts, enhancing the beneficial aspects of the project and for effective management of the environmental resources affected by the project shall be met by the Contractor. No additional charges on any such account shall be payable by the Employer.

Environmental and Social (ES) requirements

SUGGESTED CONTENT FOR AN ENVIRONMENTAL AND SOCIAL POLICY

The Works' policy goal, as a minimum, should be stated to integrate environmental protection, occupational and community health and safety, gender, equality, child protection, vulnerable people (including those with disabilities), sexual harassment, gender-based violence (GBV), sexual exploitation and abuse (SEA), HIV/AIDS awareness and prevention and wide stakeholder engagement in the planning processes, programs, and activities of the parties involved in the execution of the Works. The Employer is advised to consult with the World Bank to agree the issues to be included which may also address: climate adaptation, land acquisition and resettlement, indigenous people, etc. The policy should set the frame for monitoring, continuously improving processes and activities and for reporting on the compliance with the policy.
The policy shall include a statement that, for the purpose of the policy and/or code of conduct, the term "child" / "children" means any person(s) under the age of 18 years.
The policy should, as far as possible, be brief but specific and explicit, and measurable, to enable reporting of compliance with the policy in accordance with the Particular Conditions of the Contract Sub-Clause 26.2 and Appendix B to the General Conditions of Contract.
As a minimum, the policy is set out to the commitments to:

1. *apply good international industry practice to protect and conserve the natural environment and to minimize unavoidable impacts;*
2. *provide and maintain a healthy and safe work environment and safe systems of work;*
3. *protect the health and safety of local communities and users, with particular concern for those who are disabled, elderly, or otherwise vulnerable;*
4. *be intolerant of, and enforce disciplinary measures for illegal activities. To be intolerant of, and enforce disciplinary measures for GBV, inhumane treatment, sexual activity with children, and sexual harassment;*
5. *incorporate a gender perspective and provide an enabling environment where women and men have equal opportunity to participate in, and benefit from, planning and development of the Works;*
6. *work co-operatively, including with end users of the Works, relevant authorities, contractors and local communities;*
7. *engage with and listen to affected persons and organizations and be responsive to their concerns, with special regard for vulnerable, disabled, and elderly people;*
8. *provide an environment that fosters the exchange of information, views, and ideas that is free of any fear of retaliation, and protects whistleblowers;*
9. *minimize the risk of HIV transmission and to mitigate the effects of HIV/AIDS associated with the execution of the Works;*

The policy should be signed by the senior manager of the Employer. This is to signal the intent that it will be applied rigorously.

Minimum Content of ES requirements: -

In preparing detailed specifications for ES requirements, the specialists should refer to and consider:

- *project reports e.g., ESIA/ESMP*

- *consent/permit conditions*
- *required standards including World Bank Group EHS Guidelines*
- *relevant international conventions or treaties etc., national legal and/or regulatory requirements and standards (where these represent higher standards than the WBG EHS Guidelines)*
- *relevant international standards e.g., WHO Guidelines for Safe Use of Pesticides*
- *relevant sector standards e.g., EU Council Directive 91/271/EEC Concerning Urban Waste Water Treatment*
- *grievance redress mechanism including types of grievances to be recorded and how to protect confidentiality e.g., of those reporting allegations of GBV/SEA.*
- *GBV/SEA prevention and management.*

The detail specification for ES should, to the extent possible, describe the intended outcome rather than the method of working.

The ES requirements should be prepared in manner that does not conflict with the relevant General Conditions of Contract and Particular Conditions of Contract.

Payment for ES Requirements

The Employer's ES and procurement specialists should consider how the Contractor will cost the delivery of the ES requirements. In the majority of cases, the payment for the delivery of ES requirements shall be a subsidiary obligation of the Contractor covered under the prices quoted for other Bill of Quantity items. For example, normally the cost of implementing workplace safe systems of work, including the ***measures*** *necessary for ensuring traffic safety, shall be covered by the Bidder's rates for the relevant works. Alternatively, provisional sums could be set aside for discrete activities for example for HIV counselling service, gender-based violence and SEA awareness and sensitization or to encourage the contractor to deliver additional ES outcomes beyond the requirement of the Contract.*

Annexure A

1. Flow Discharges

The report "Status on River Ganga: State of the Environment and Water Quality" from the National River Conservation Directorate (2009) provides useful information in terms of understanding water discharges along the upstream reaches of NW-1. The report presents water discharges with a probability of exceedance of 50%, 10% and 90% at 6 stations: Allahabad, Mirzapur, Varanasi, Buxar, Patna and Azamabad during the low flow season. It also presents average post-monsoon flows (in October-November), average flows in December-February and in March-May periods. These values are summarised in below.

Table A- 1: Characteristic discharges obtained from the National River Conservation Directorate (2009) report

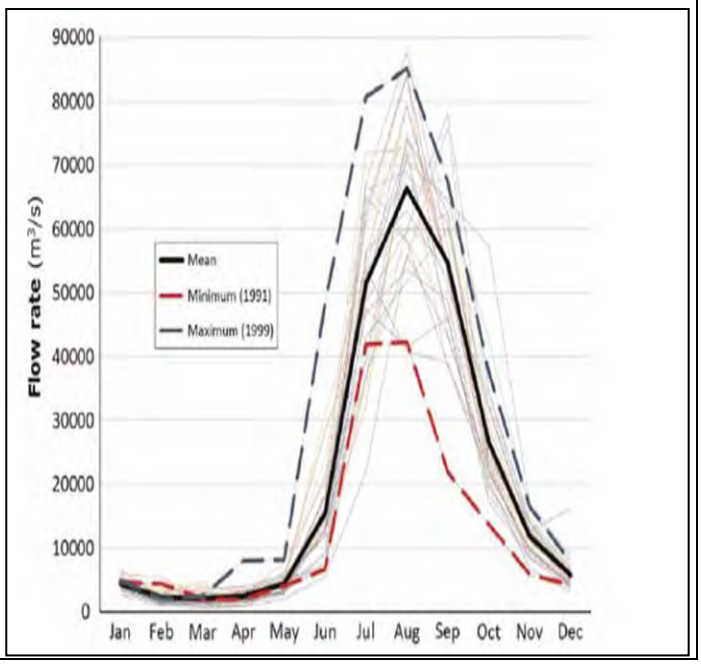
Flow regime Discharge (m3/s)	Allahabad	Mirzapur	Varanasi	Buxar	Patna	Azamabad
Q50 (flow with 50% probability of exceedance) during low season	300	300	300	450	1050	1400
Q90 (flow with 90% probability of exceedance) during low season	175	175	175	250	600	1050
Q10 (flow with 10% probability of exceedance) during low season	450	450	450	600	1600	2000
Average in October-November	2000	2200	2400	3100	5500	9500
Average in December-February	500	500	500	750	1300	2200
Average in March-May	400	400	400	500	1000	1500

Source: The National River Conservation Directorate, Ministry of Environment and Forests, Government of India (2009)

Farakka Barrage, with a length of 2.2 km and about 15 km from the border with Bangladesh, regulates the flow of the River Ganga diverting some of the water into the 42 km long Feeder Canal linking with the Bhagirathi River downstream towards Kolkata. The navigation lock at Farakka, as well as the Feeder Canal, are part of the Farakka Barrage Project and become the link between the Bhagirathi-Hugli system and the main River Ganga upstream of the Farakka Barrage.

The existing agreement between India and Bangladesh, includes specific water allocation rules during the low flow season. The treaty establishes that during the period January – May water shall be shared alternatively through the Farakka Barrage on a 10-day cycle in each month by both countries.

Data extracted from Jeuland et al (2013) shows the historical flows at Farakka for the period 1969-2001.



2. Water Levels

Temporal series of water levels have been provided for Kahalgaon. The figure shows the variability of monthly water levels, which can be of the order of 10 m during the high season. In general, water levels are at their highest in August-September and sharply decrease in October-November. In general, they continue to decrease during the whole low flow season, from December to May, and start to raise again in June-July. The figure shows the maximum and minimum monthly values with the black block representing where 50% of the values concentrate.

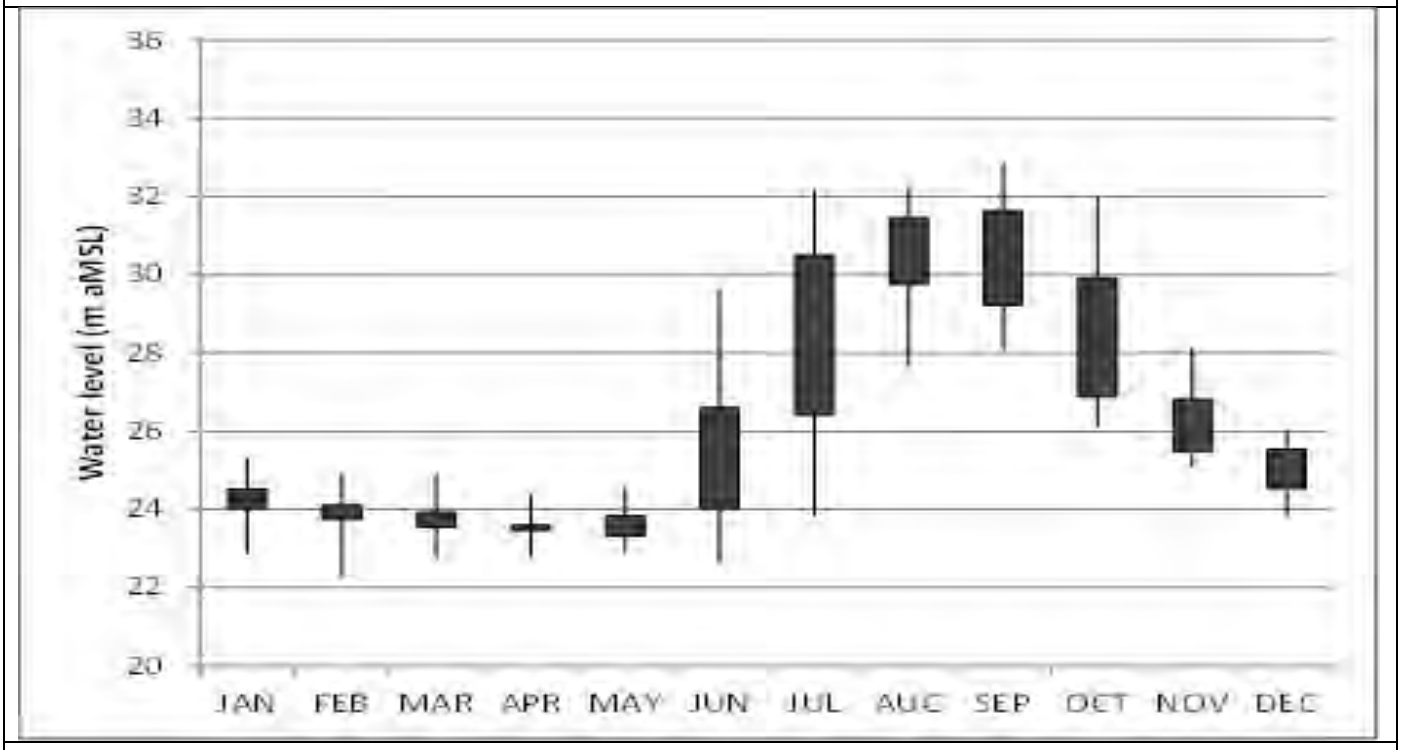


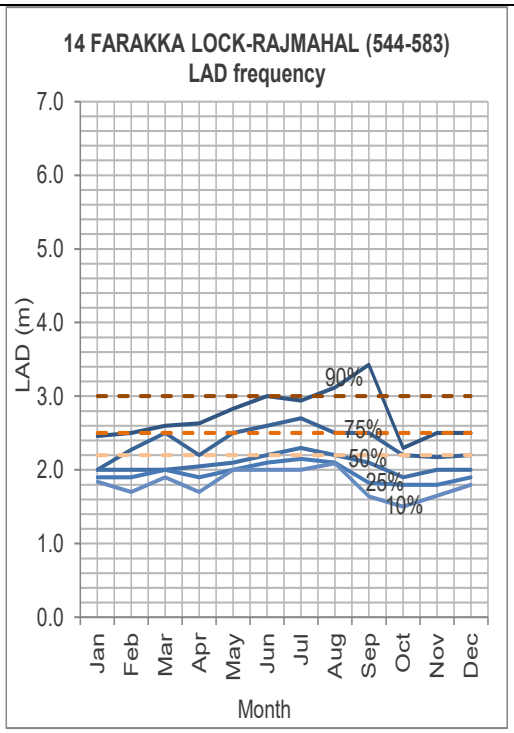
Figure A-1: Monthly water levels at Kahalgaon (chainage 690)

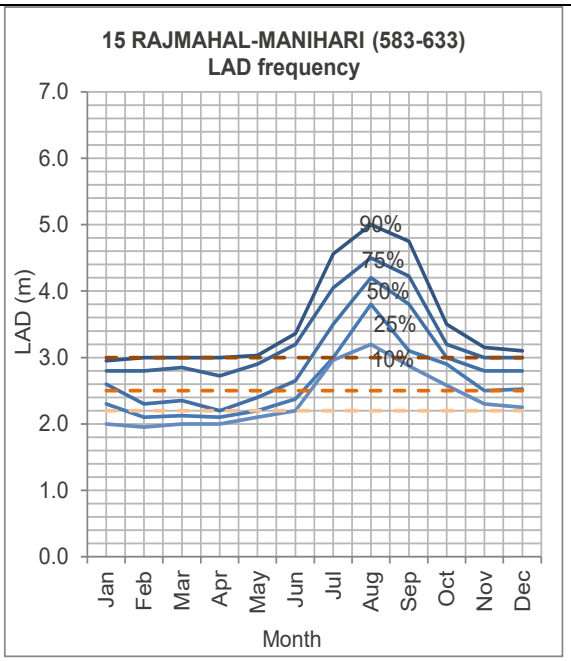
The period of the year in which the minimum water level can occur varies with location along the river. Minimum water levels at Kahalgaon with 50%, 10% and 1% annual probabilities of occurrence are 23.64 m, 22.96 m and 22.57 m, respectively. Maximum water levels at Kahalgaon with 50%, 10% and 1% annual probabilities of occurrence are 30.99 m, 32.70 m and 32.90 m, respectively.

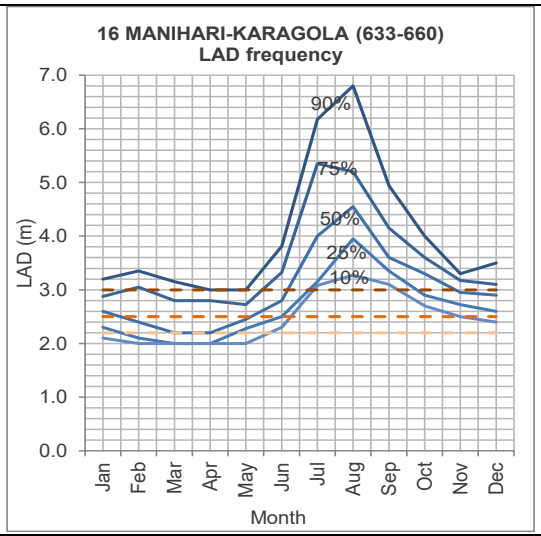
2.1 Analysis of LAD

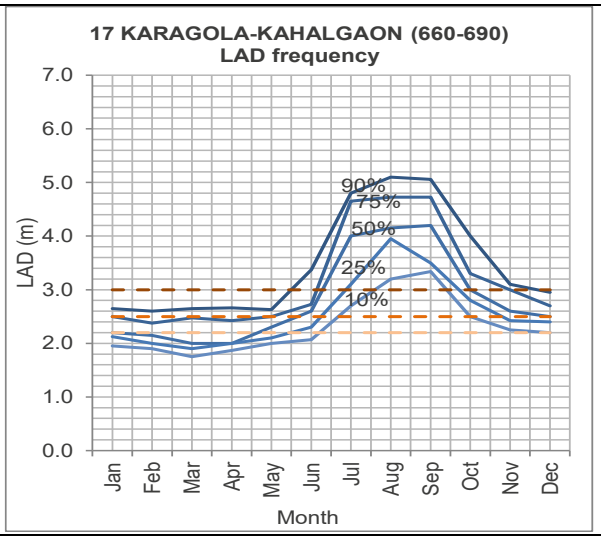
Least Available Depth (LAD) available from Tribeni to Allahabad was analysed to get an understanding of the variations of water depths. Data for the period April 2002 to June 2015 was used to build probability curves of LAD. The probability curves for the reaches between Farakka & Kahalgaon are shown in **Error! Reference source not found.**. The curves show the probability of having a LAD value lower than the value shown in the graph.

Figure A-2: Probability curves of LAD in Farakka-Kahalgaon









This statistical information has also been analysed to show the periods when available water depths have a 50% probability to be lower than a certain value mentioned here. The information is presented below.

Table A-1: 50% probability of LADs being lower than mentioned LAD (in metres)

	Name	Chainage (km)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
14	Farrakka Lock - Rajmahal	544-583	2.00	2.00	2.00	2.05	2.10	2.20	2.35	2.20	2.10	1.95	2.00	2.00
15	Rajmahal – Manihari	583-633	2.60	2.30	2.35	2.20	2.40	2.65	3.50	4.20	3.90	3.00	2.80	2.85
16	Manihari – Karagola	633-660	2.60	2.40	2.20	2.20	2.45	2.80	3.90	4.60	3.70	3.20	2.95	2.85

17	Karagola - Kahalgaon	660-690	2.20	2.15	2.00	2.00	2.30	2.60	3.95	4.20	4.20	3.00	2.60	2.50
	Key													
	3.0m =< LAD		2.5m =< LAD < 3.0m				2.2m =< LAD < 2.5m			LAD < 2.2m				
	The different colours in show the range of minimum depths available. Green corresponds to the months when available depths are larger than 3 m. The table clearly shows the behaviour of water depths upstream of Farakka Barrage. The LADs for the period 2006 & 2010-2015 are shown in the tables below.													

Table A-2: LAD for 2015 (in metres)

	Name	Chainage (km)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
14	Farakka Lock - Rajmahal	544-583	2.3	2.6	2.8	2.6	2.6	2.6	2.6	2.9	2.9	N/A	2.2	2.2
15	Rajmahal - Manihari	583-633	2.9	3.3	3.0	4.4	3.0	3.3	3.7	6.0	4.1	2.6	2.8	3.0
16	Manihari - Karagola	633-660	3.2	2.5	2.8	2.8	2.8	2.8	3.1	4.9	4.6	3.0	2.9	2.6
17	Karagola - Kahalgaon	660-690	2.7	2.6	2.2	2.8	2.5	2.6	2.7	5.2	3.8	3.4	2.5	2.1

Table A-3: LAD for 2014 (in metres)

	Name	Chainage (km)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
14	Farakka Lock - Rajmahal	544-583	2.5	2.5	2.5	2.2	2.4	3.0	2.8	3.3	2.5	2.0	2.0	2.2
15	Rajmahal - Manihari	583-633	2.6	2.8	3.0	3.0	2.5	2.6	3.0	4.2	3.0	3.1	2.8	3.3
16	Manihari - Karagola	633-660	2.6	3.2	3.7	2.9	2.8	3.6	3.1	5.2	3.2	2.9	2.7	2.9
17	Karagola - Kahalgaon	660-690	2.2	2.6	2.5	2.6	2.5	2.7	3.0	4.0	4.2	3.0	2.6	2.8

Table A-4: LAD for 2013 (in metres)

	Name	Chainage (km)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
14	Farakka Lock - Rajmahal	544-583	2.5	2.5	2.5	2.4	2.5	2.6	3.5	3.4	3.5	N/A	2.5	2.7
15	Rajmahal - Manihari	583-633	2.7	2.8	3.4	3.1	3.1	3.2	3.0	4.6	3.0	3.2	3.1	3.2
16	Manihari - Karagola	633-660	2.6	3.3	3.9	3.1	3.0	2.9	3.5	6.8	3.5	4.5	3.0	3.3
17	Karagola - Kahalgaon	660-690	2.2	2.7	3.1	3.0	2.7	3.1	4.2	4.2	4.2	3.5	3.0	2.5

Table A-5: LAD for 2012 (in metres)

	Name	Chainage (km)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
14	Farakka Lock - Rajmahal	544-583	2.0	1.8	2.5	2.9	2.9	3.0	3.1	3.1	3.7	2.5	2.0	2.5
15	Rajmahal - Manihari	583-633	2.8	2.6	2.5	3.0	3.1	3.5	6.3	4.3	4.6	3.2	3.3	3.0
16	Manihari - Karagola	633-660	2.6	2.8	2.6	2.7	2.6	2.5	6.1	5.2	4.7	2.9	2.9	3.0
17	Karagola - Kahalgaon	660-690	2.5	2.3	2.5	2.4	2.5	2.6	4.7	4.2	4.5	2.7	3.2	2.7

Table A-6: LAD for 2011 (in metres)

	Name	Chainage (km)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
14	Farakka Lock - Rajmahal	544-583	2.0	2.4	2.0	1.6	2.0	3.0	2.9	3.0	3.0	2.2	2.2	2.5
15	Rajmahal - Manihari	583-633	2.7	2.3	2.5	2.2	2.9	3.2	3.5	4.3	4.6	3.1	2.5	2.7
16	Manihari - Karagola	633-660	2.3	1.9	2.0	1.8	2.1	2.6	3.1	4.8	4.2	2.5	3.5	2.7
17	Karagola - Kahalgaon	660-690	2.0	1.9	1.6	1.9	2.2	2.6	3.2	4.1	4.4	3.3	2.5	2.5

Table A-7: LAD for 2010 (in metres)

	Name	Chainage (km)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
14	Farakka Lock - Rajmahal	544-583	2.0	2.0	1.7	1.7	1.8	2.1	2.3	2.3	3.4	3.1	1.6	1.8
15	Rajmahal - Manihari	583-633	2.0	2.3	2.4	2.7	2.7	3.2	3.9	5.0	4.3	3.2	3.0	2.9
16	Manihari - Karagola	633-660	2.2	2.1	2.0	2.0	2.0	2.5	4.8	4.9	4.2	3.5	3.3	2.6
17	Karagola - Kahalgaon	660-690	2.2	2.4	2.1	2.0	2.2	2.3	3.5	4.4	4.3	3.0	3.0	2.4

Table A-8: LAD for 2006 (in metres)

	Name	Chainage (km)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
14	Farakka Lock - Rajmahal	544-583	2.0	1.8	2.0	1.8	2.0	2.2	2.3	2.2	1.9	1.5	1.5	1.8
15	Rajmahal - Manihari	583-633	3.7	2.0	2.0	2.0	2.2	2.4	3.0	3.0	3.4	3.0	1.9	2.5
16	Manihari - Karagola	633-660	3.0	1.9	2.0	2.1	2.4	2.4	4.0	3.0	3.5	3.7	3.1	2.4
17	Karagola - Kahalgaon	660-690	2.2	1.9	1.9	2.0	2.1	2.5	4.5	5.1	5.2	1.9	2.0	2.2

Key:

3.0m =< LAD	2.5m =< LAD < 3.0m	2.2m =< LAD < 2.5m	LAD < 2.2m

Annexure B

Studies of Changes to the River Course in Past Ten Years

In this section, the general character of the river morphology is discussed having in mind its possible impacts to navigation. The river Ganga is a dynamic system which has continuous and unsteady inputs (e.g., water discharge, sediment transport) and thus, it is continuously adjusting in response to the changing inputs. Depending on those inputs, the river is significantly mobile, changing pattern from one season to another.

From the analysis of satellite images in the last 10 years, the general river typologies along each river reach have been identified. These are presented below.

Table B-9: Description of the Morphological Character from Farakka to Kahalgaon

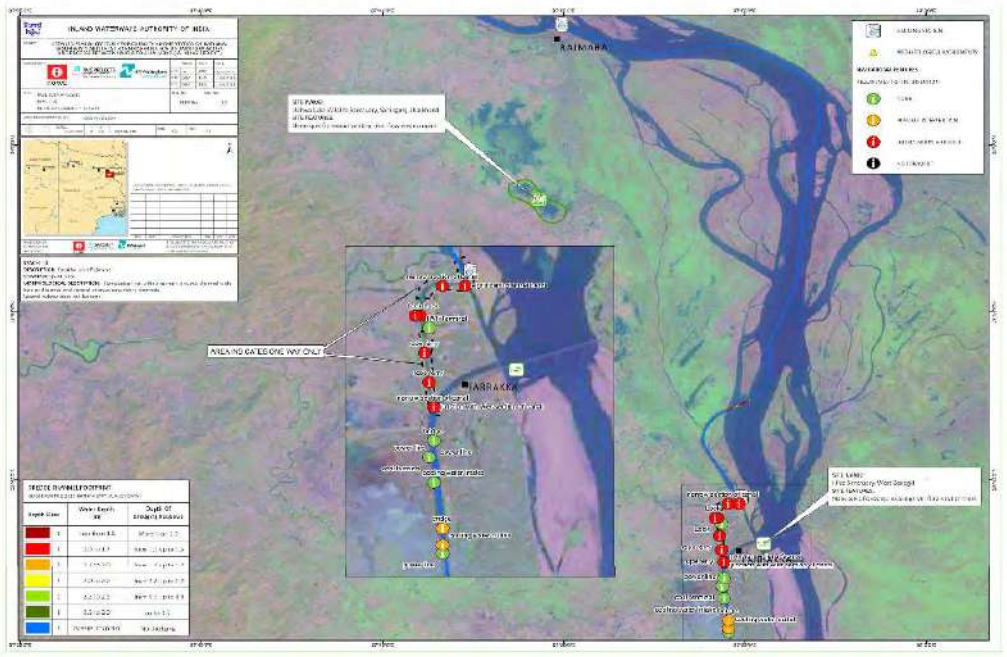
Reach	Description	Chainage	Morphological description
14	FARAKKA LOCK-RAJMAHAL	(544-583)	Composite river with one main sinuous channel with bars and islands and several sinuous secondary channels. Several oxbow lakes can be seen
15	RAJMAHAL-MANIHARI	(583-633)	Composite river with one main channel with bars and islands and several sinuous side channels
16	MANIHARI-KARAGOLA	(633-660)	Split river with sinuous channels with a certain degree of braiding that converts in a single main sinuous channel with several side channels
17	KARAGOLA-KAHALGAON	(660-690)	Split river with sinuous channels with a certain degree of braiding

Between Kahalgaon and Manihari (Reaches 17 and 16) the main channel clearly splits in two, with a certain degree of braiding in each channel. The contribution of the Kosi River takes place in Reach 17. From Manihari to Farakka (Reaches 15 and 14) there is one main sinuous channel (with bars and islands) and several sinuous secondary channels.

Annexure C

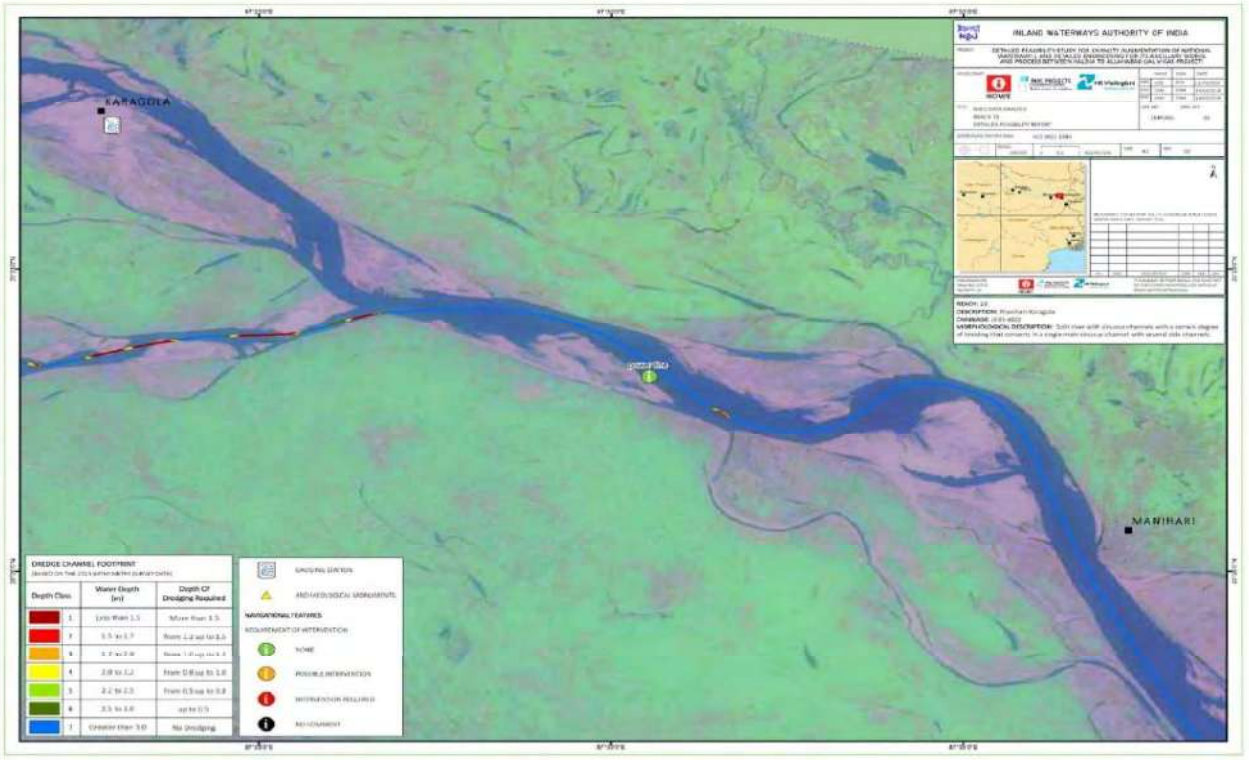
River Reach images for Farakka to Kahalgaon stretch

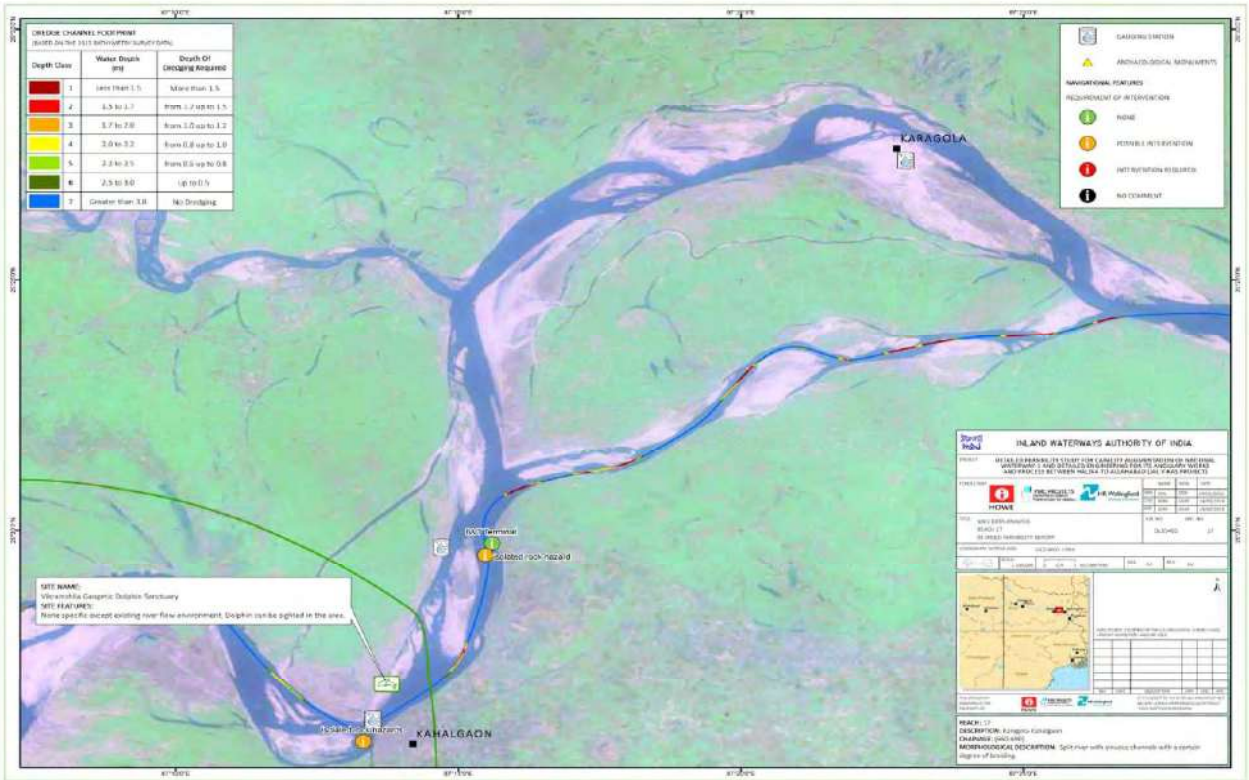
Annexure C- River Reach Figures from Farakka to Kahalgaon



Page 1 of 4




INLAND WATERWAYS AUTHORITY OF INDIA
KARAGOLA
MANIHARI
DREDGE CHANNEL FOOTPRINT
Depth Class
Water Depth (m)
Depth Of Dredging Required
GAUGING STATION
ARCHAEOLOGICAL MONUMENTS
NAVIGATIONAL FEATURES
REQUIREMENT OF INTERVENTION
NONE
POSSIBLE INTERVENTION
INTERVENTION REQUIRED
NO COMMENT


INLAND WATERWAYS AUTHORITY OF INDIA
KARAGOLA
KAHALGAON
DREDGE CHANNEL FOOTPRINT
Depth Class
Water Depth (m)
Depth Of Dredging Required
GAUGING STATION
ARCHAEOLOGICAL MONUMENTS
NAVIGATIONAL FEATURES
REQUIREMENT OF INTERVENTION
NONE
POSSIBLE INTERVENTION
INTERVENTION REQUIRED
NO COMMENT

INLAND WATERWAYS AUTHORITY OF INDIA

Ministry of Shipping, Government of India

"CAPACITY AUGMENTATION OF NATIONAL WATERWAY-1"

(Jal Marg Vikas Project)

ANNEXURE - D

Environmental Management Plan (EMP) for Maintenance Dredging Between Farakka (West Bengal) and Kahalgaon (Bihar), River Ganga

Table of Contents

Chapter 1. EMP FOR MAINTENANCE DREDGING 140
1.1. Introduction 140
1.2. Description of Environment 140
1.3. Environmental Management Plans 143
1.3.1. Environmental Management Plan for Maintenance Dredging Between Farakka and Kahalgaon 143
1.4. Environment Monitoring Plan 143
1.5. Environment Health and Safety Cell 143
1.6. Reporting Requirements: 144

List of Tables

Table 1.1 : Salient Environmental Features along the Farakka to Kahalgaon Stretch as well as along the entire NW-1 Alignment 141
Table 1.2 :Dredging and Disposal Management Plan for Stretch Between Farakka and Kahalgaon 144
Table 1.3 : Environmental Management Plan for Maintenance Dredging 146
Table 1.4 Environmental Monitoring Plan 154

List of Figures

Figure 1.1 : Location Map 140
Figure 1.2 : Fish Breeding and Spawning Grounds along NW-1 (Farakka to Baidyapur Stretch) .. 145
Figure 1.3 : Fish Breeding and Spawning Grounds along NW-1 (Baidyapur to Kahalgaon Stretch) 145

List of Annexure

Annexure 1.1: Standards for onshore & off-shore disposal of dredged material 155

EMP FOR MAINTENANCE DREDGING

1.1 Introduction

Inland waterways Authority of India (IWAI) has proposed to augment the navigation capacity of waterway NW-1 (Haldia to Allahabad) and continue to maintain the entire stretch. Under this project, IWAI has proposed to develop the infrastructure facility like Multimodal terminals, Navigation aids for day & night navigation, River information system with all hardware and software, Ro-Ro jetties, Bank & slope protection, River training works, Equipment like tow barges, inland vessels, survey vessels including rescue boats & survey equipment and dredging of the navigation channel, to augment the navigation capacity of the waterway. Location map of NW-1 is given in **Figure 1.1.**

To improve the navigation in national waterways-1 IWAI has proposed a project "Capacity Augmentation of the Nation Waterway 1 (1620 kms, with minimum water depth of 2.2-3 m) between Haldia and Allahabad". For which maintenance dredging is required at different locations along the NW-1 and to be carried out so as to maintain the least available depth (LAD).

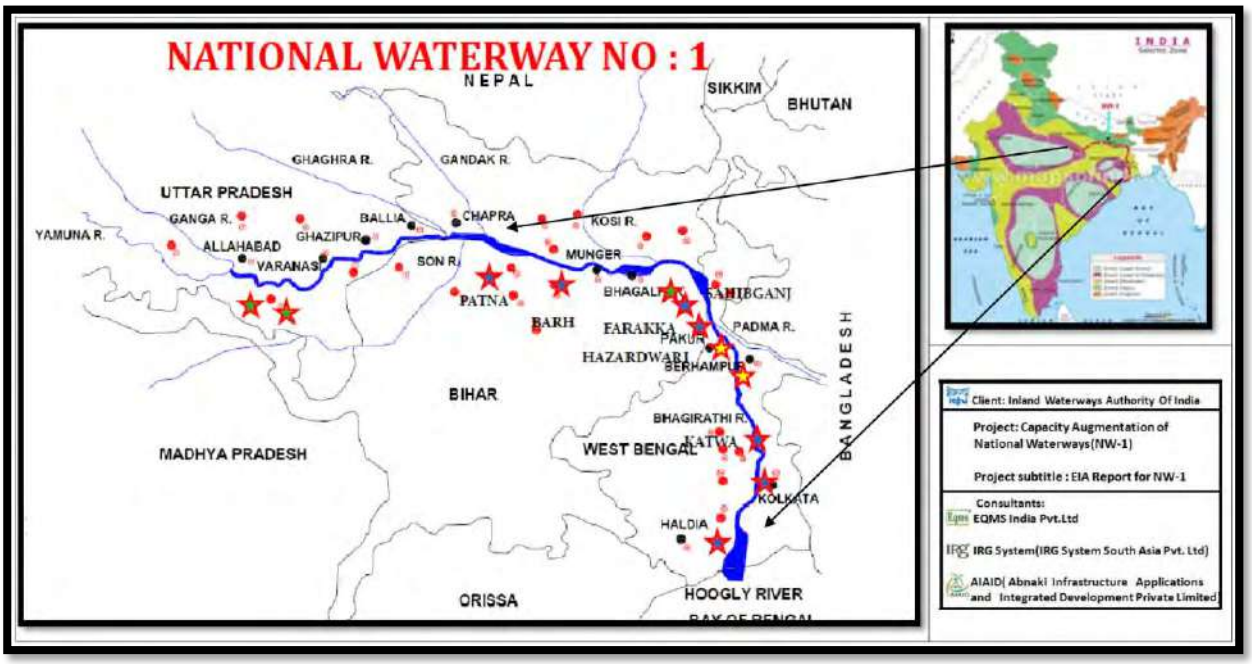


Figure 1.1: Location Map

1.2 Description of Environment

The NW-1 stretch starts from Haldia to Allahabad (1620 KM long) on Ganga - Bhagirathi Hooghly river system. The Bhagirathi Hooghly River portion of the waterway from Haldia to Nabadwip is under tidal influence. From Nabadwip to Jangipur the NW-1 stretch is formed by Bhagirathi Hooghly River. Bhagirathi Hooghly River flow is regulated through feeder canal from barrage at Farakka and Jangipur. The feeder canal originating from Farakka barrage acts as link between Bhagirathi Hooghly River and Ganga River (upstream of Farrakka Barrage)[23]. NW-1 is passing through four

[23]The ship movement beyond Farakka barrage to feeder canal is regulated through a Navigational lock. Upstream of Farakka the navigable route depends upon the main Ganga river flow.

states namely UP, Bihar, Jharkhand and West Bengal. The salient environmental features around NW-1 within, 500m, 2km and 10km stretches are summarised in **Table 1.1.**

Table 1.1: Salient Environmental Features along the Farakka to Kahalgaon Stretch as well as along the entire NW-1 Alignment

S. No.	Environmental Features	Within NW-1 (500 M)	Within 2 km area around NW-1	Within 10 km area around NW-1	Environmental Sensitivity between Farakka and Kahalgaon
1	**Ecological Environment**				
A	Presence of National Park/Biosphere Reserves, Tiger reserve etc.	None	None	None	None
	Presence of Wildlife Sanctuary	Yes 1) Kashi Turtle Sanctuary at Varanasi 2) Vikramshila Dolphin Sanctuary Kahalgaon to Sultanganj 3) Hilsa Sanctuary stretch in west Bengal	None	Yes Udhwa lake sanctuary in Jharkhand (about 9 km away from NW-1	Vikramshila Dolphin Sanctuary and Udhwa lake sanctuary in Jharkhand (about 9 km away from Stretch)
B	Reserved /Protected Forests	None	None	Yes (Bethuadahari RF, Bahadurpur RF & RF near Rajmahal Hills)	None
C	Wetland of state and national interest	None	None	Yes (Udhwa Bird sanctuary)	Yes Udhwa lake sanctuary in Jharkhand (about 9 km away from Stretch
D	Migratory route for wild terrestrial animals	None	None	None	None
E	Presence of Schedule-I Terrestrial Fauna	None	Yes Migratory birds near Farakka Barrage and surrounding	Yes Migratory birds at important birds' areas	Yes Migratory birds near Farakka Barrage and surrounding
F	Presence of Schedule-I Aquatic Fauna	Yes Dolphin, and Turtle	None	None	None

S. No.	Environmental Features	Within NW-1 (500 M)	Within 2 km area around NW-1	Within 10 km area around NW-1	Environmental Sensitivity between Farakka and Kahalgaon
G	Important Bird Area	Vikramshila sanctuary area	Yes 1. Danapur Cantonment area 2. Mokamat al 3. Kurseala river course and diyara floodplain. 4. Farakka Barrage and surround area	Yes Udhwa lake sanctuary	Kurseala river course and diyara floodplain(2.32km, E) Farakka Barrage and surround area Udhwa lake sanctuary in Jharkhand (about 9 km away from Stretch
H	Seismicity	NW-1 falls in Zone-III (moderate risk) and zone IV (high damage risk zone) as per Seismic Zoning Map of India			Stretch falls in Zone-III (moderate risk) and zone IV (high damage risk zone) as per Seismic Zoning Map of India
B.	**Social Environment**				
I	Physical Setting	Rural, Industrial and Urban			Rural, Industrial and Urban
	Densely populated area	Allahabad, Sirsa, Mirzapur, Chunar, Varanasi, Zamania, Ghazipur, Gahmar, Buxar, Ballia, Chappra, Patna, Barh, Bihat, Munger, Bhgalpur, Kahalgaon, Sahibganj, Farakka, Berhampore, Katwa, Kalna, Kolkattaand Haldia are densely populated areas.			Katria, Kursela, Manihari,Sahibganj, Maharajpur,Rajmahal,Farakka,Maharajpur,Milki
J	Physical Sensitive Receptors	Yes Ghats, Temples, Schools, Colleges and Hospitals are present all along the NW-1.			Yes Ghats, Temples, Schools, Colleges and Hospitals are present all along the NW-1.
K	Archaeological Monuments	Yes There are 9 archaeological sites located within 300 m area of the NW-1 and these areKardmeshwar Mahadeva Mandir, Ramnagar fort, archaeological excavation site, Varanasi, Manmahal and observatory, St. John's Church, Temple of Gour Chandra and Krishnachandra at Chatra (Gaur			Yes There are 2 archaeological sites located within 300 m area of the stretch and these areJami

S. No.	Environmental Features	Within NW-1 (500 M)	Within 2 km area around NW-1	Within 10 km area around NW-1	Environmental Sensitivity between Farakka and Kahalgaon
		Chandra Ghat), Hazardwari Palace, Sindhi Dalan and Jami Masjid.			Masjid(0.14km,W) Sindhi Dalan(0.3km,W)

1.3 Environmental Management Plans

Major activities associated with the project are construction and operation of the civil interventions, barge movement and maintenance dredging. Barge movement and maintenance dredging will be carried out during the operation phase of the project only whereas development of civil interventions will have components distributed during design, construction and operation phases. Civil interventions include construction of jetties, terminals, river training works, bend corrections, barge maintenance facilities, and RO-RO jetties. A detailed environmental management plan for each associated development for all the three phases of the project, i.e. design/pre-construction, construction and operation phase is prepared as applicable. EMP lists the activities involved, associated impact with each activity on environment, suggestive mitigation measures, allocated environment budget for impact mitigation, implementation plan covering monitoring, reporting and implementation and supervisory responsibility.

1.3.1 Environmental Management Plan for Maintenance Dredging Between Farakka and Kahalgaon

Maintenance dredging will be carried out during operation phase of the project to maintain LAD for navigation. Maintenance dredging will be carried out as per the availability of the depth naturally and depth required for movement of the cargo depending on the size of the cargo planned to ply in the stretch. The design consultant had made estimation of the required amount of maintenance dredging in different stretch of the waterway. An analysis has been done during EIA study to establish the environmental, biological and social sensitivity of the waterway. The stand alone dredging and dredge disposal management plansare prepared for each of the identified stretch separately. .

Stretch between Kahalgaon and Farakka traverses through 2 states, i.e. West Bengal and Bihar. Total length of the stretch is 146 km. It is planned to maintain LAD (assured depth) of 3.0 m between the Farkka and Kahalgaon stretch. Total dredging of 505,750 cum/year shall be carried out between this stretch to ensure assured depth of 3.0 m throughout the year. Dredging and dredge disposal management measures and Detailed EMP for maintenance dredging for the Farakka to Kahalgaon stretch is given in **Table 1.2** and **Table 1.3** respectively.

1.4 Environment Monitoring Plan

An Environment Monitoring Plan (included as **Table 1.4**) is prepared to monitor the effectiveness of mitigation measures proposed and environmental conditions during dredging and post dredging activities.

1.5 Environment Health and Safety Cell

It is essential to establish environment health and safety cell for the project by contractor to ensure the health & safety of workers and environmental management of impacted area through effective implementation of EMP. Qualified and experienced EHS (Environment, Health and Safety) specialist shall be considered to man the cell who shall ensure the effective implementation of the environment management plan.

1.6 Reporting Requirements:

It is required that contractor will submit quarterly compliance report to Project Management Consultants (PMC) as well as to PMU (Project Management Unit) of IWAI. PMC will analyze the report and notify the corrective action if any required to contractor under intimation to IWAI

Table 1.2:Dredging and Disposal Management Plan for Stretch Between Farakka and Kahalgaon

Stretch/Dredging Quantity & Quality/Proposed Disposal Location	**Biological, cultural, social and religious Sensitivity**	**Aquatic sensitivity**		**Management Measures**
		Sensitive zone	**Breeding & Spawning Period and grounds***	
Stretch: Farakka to Kahalgaon Dredged Qty: 505,750 cum/yr between Tribeni to Farakka Dredged Quality: Not contaminated Disposal Location: In river/shoals/scours	Important Bird area- - Udhwa Lake Bird Sanctuary (9 km, W), Presence of dolphins, Vikramshila Gangetic Dolphin Sanctuary-VGDS (within NW-1) in buffer zone, (VGDS starts beyond Kahalgaon), Kurseala River Course and Diyara Flood Plains (Along NW-1) Archaeological : None within 300m regulated area. However Munger fort is located at 390 m away from the stretch Archaeological locations- Sindhi Dalan (300 m, W) & Jama Masjid (140 m, W), Religious locations: Community Temple at Sahibganj Terminal site (to be shifted) Fest & Festivals: Ganga SagarMela at Sagar (January)	Buffer Zone of Vikramshila Gangetic Dolphin Sanctuary (within NW-1) &Udhwa Lake Bird Sanctuary (9 km, W)	Major Birth season for Dolphin is October to March *Breeding Ground: Very shallow waters for giving birth*	Dredging should be regulated during breeding seasons of the dolphins from October to March.No dredging shall be carried out in and close to breeding area (at least within 300m of the boundary of the Sanctuary), or any other breeding area identified by experts and notified to the Contractor by IWAI in future. Dredge disposal should not be carried out within Sanctuary area and other defined sensitive locations Dredge disposal shall not be carried out near the river banks and shallow waters of the river. Dredge disposal should be carried out at minimum distance of 100 m from bank Dredging & disposal should not be carried out during time & location of festivals/ghats

*Map Showing locations of breeding & spawning grounds between Farakka to Kahalgaon is given in **Figure 1.2-1.3**

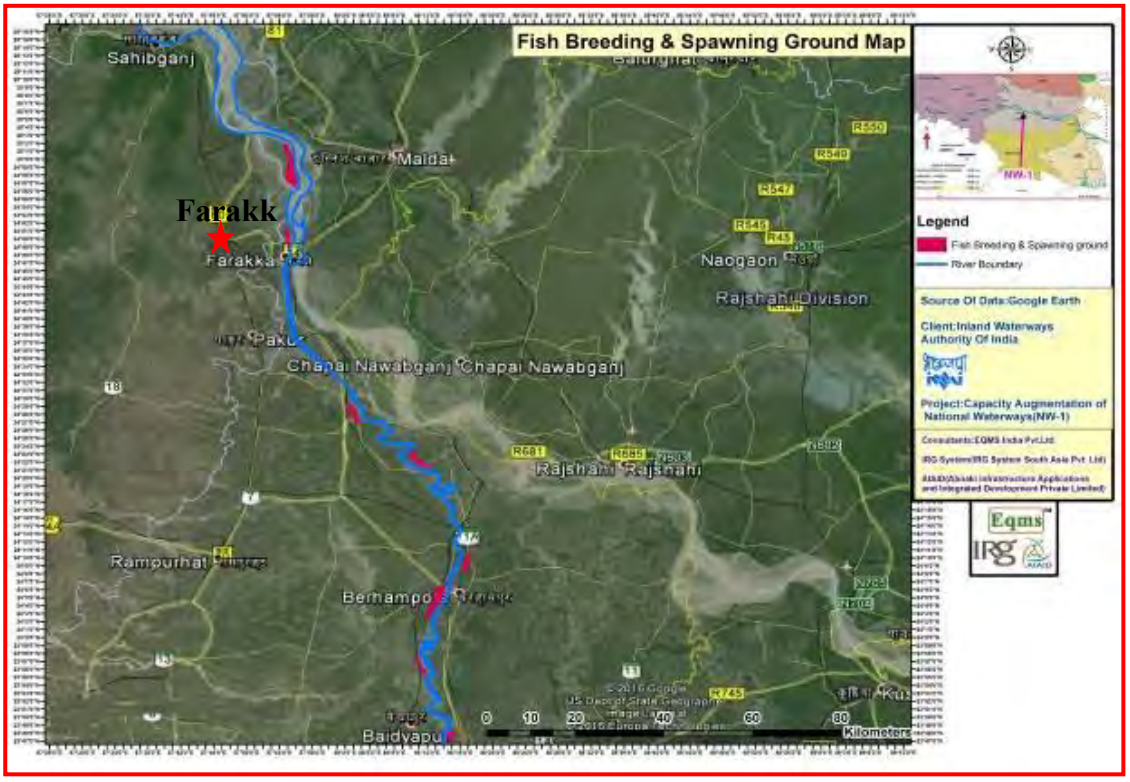


Figure 1.2: Fish Breeding and Spawning Grounds along NW-1 (Farakka to Baidyapur Stretch)



Figure 1.3: Fish Breeding and Spawning Grounds along NW-1 (Baidyapur to Kahalgaon Stretch)

: Environmental Management Plan for Maintenance Dredging

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
1. Physical Environment							
Impact on Soil quality & River Bed sediments	• Standards should be developed by concerned authorities for onshore and off-shore dredged material disposal and development of the process to ensure its compliance • Dredged material shall be checked for toxicity and contamination prior to its disposal for prevention of contamination of water and its impacts on aquatic life. International standards : criteria for onshore & off-shore disposal of dredged material are given at Annexure 1.1. • If at any stage onland disposal of dredge material is required then dewatering of the dredged sediments should be carried out prior to its onland disposal. • If dredge material is found contaminated at any particular location, then it should be disposed on land after decontamination. Onland disposal of dredged material should be carried out only at approved TSDF site such as located at Haldia Dock Complex, Sagar. The contaminated dredge material shall be collected in the leak proof container for decontamination and disposal to the landfill site. • The disposal facilities should be designed with adequate liners to containe the leachate and also should have provision of leachate collection and testing to	Water Act, 1974	Within River	During Dredging Operation	Part of Project Cost (IWAI & Contractor)	Contractor	IWAI/PMU /PMC[24]

[24] It is proposed to set up Project Management Unit (PMU) in IWAI to manage social and environmental aspect of NW1 augmentation. PMC (Project Management Consultants) anticipated to be appointed for project management and quality check.

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	periodically check the functionality of the disposal site. • Dredge material should not be disposed on river banks, Disposal should done following dredging sensitivity analysis and related measures defined at Table 1.2 above. • If dredged material is disposed on land, then the care should be taken that the tail water is collected and made free from sediments prior to its discharge back to surface water body.						
Water and Air Quality	• Attempt shall be made to minimizing and optimizing the dredging requirements by effective assessment and study of the Thalweg profiles of the river. This can be achieved some of the following measures: o Increase use of bandalling which helps in diverting the flow of river towards the channel and reduces the quantity of dredging o Low draft vessels should be deployed which will reduce the requirement of dredging • Dredged material shall be checked for toxicity and contamination prior its disposal onshore for prevention of contamination of water and its impacts on aquatic life. (reference shall be made to International criteria for onshore & off-shore disposal of dredged material given at Annexure 1.1). • Dredging should not be carried out during very low flow seasons	Water Act, 1974	Within River	During Dredging Operation	Part of Project Cost (IWAI & Contractor)	Contractor	IWAI/PMU /PMC[25]

[25] It is proposed to set up Project Management Unit (PMU) in IWAI to manage social and environmental aspect of NW1 augmentation. PMC (Project Management Consultants) anticipated to be appointed for project management and quality check.

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	so as to minimize the dispersion of fine sediments • Usage of silt or air bubble screens/curtains should be explored to minimize the sediment release during dredging operations. Silt/air bubble screens can hang from surface floats or stands attached to the bottom and held upright by sub-surface floats (PIANC). (The use of silt curtains is reported to considerably reduce the loss of suspended sediments from the dredge area, by up to 75% where current velocities are very low. However, they are generally ineffective in areas with high current velocities which exceed 0.5 m/s) • To minimize the sediment dispersal during disposal of dredge sediments, it should be placed as close to the bed possible preferable at a level of 1m above the bed to minimise the dispersal of sediments. • Provision shall be made of emergency response equipment like floating blooms to deal with any emergency of oil spills or leakages. Regular servicing and maintenance of dredgers should be taken up so as to prevent any leakage of the dredged material. Leakage detection of the sediment transportation pipe shall be carried out regularly to prevent any sediment loss and water pollution at leakage location. Corrective actions should be taken immediately after detection of such leaks. • Cutter head of CSD should be selected according to material to be dredged so as to maximize the dredged material transport from dredging point to suction mouth						

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	and prevention of sediment loss and re-suspension. • Ratio of cutter revolutions and pump velocity should be adjusted to ensure that cutter advancement rate is not greater than the ability of the suction pump to remove the material that is cut. This will prevent the suspension of the dredged material. • Dredge cuts and lifts should be designed so as to prevent undercutting of material and hence a collapse of material locally at the cutter head, leading to an increase in the sediment being disturbed by dredging. • If dredge material is found contaminated at any particular location than it should be disposed off-shore. Off-shore disposal of dredged material should be carried out only at approved TSDF site. . • Dredge material if disposed on river banks or on land caution should be exercised as per the Dredging and Disposal Management Plan for NW-1 given at Table 1.2 above. • If dredged material is disposed at land, then the care should be taken that the tail water is collected and made free from sediments prior its discharge back to surface water body. Regular monitoring of the excess water should be done in case dredged material is disposed on land. This will help in assessing the efficiency of sediment trap system provided at site and controlling contamination of water by minimizing the sediments.						

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	• Dredgers should be equipped with adequate stack height (above the dredger height). It should use low sulphur diesel for the engine operations. • Dredger should not discharge any waste or oil or domestic waste to river. It should work on zero discharge concept (excluding the water suction and dredge disposal aspects) . Mobile toilet and bath station equipped with anaerobic digestion facility shall be provided for workers and staff involved in dredging operations at each of dredging locations.						
2. Biological Environment							
Aquatic Ecology- Removal of benthic communities, increasing underwater noise levels, increasing sediments/turbidity, release of locked pollutants in sediment, disposal of dredged material, increasing depth	• Dredging plan including timeframe should be prepared for each stretch prior to initiating dredging activity. • Dredging operations should not be carried out during the breeding and spawning season of the valued aquatic species which is from June to August (Monsoon season). Bends and meandering locations are the most potential breeding grounds as given at Fig 1.2 above.. • Dredgers should be provided with Dolphin deflectors close to the sections near Dolphin Sanctuary at Sultanganj. This would prevent the sucking of the animals (fish) swimming nearby. But such dredgers are inefficient and costly. • Measures like provision of bubble curtains or creation of agitation in water should be carried out prior to carrying out dredging operations so as to provide avoidance time and let the species move away from drudging	Wildlife Protection Act, 1972 & 1993 and Bio-diversity Act, 2002	Within River	During Dredging	Part of Project Cost (IWAI & Contractor)	Contractor	IWAI/PMU /PMC

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	point and to prevent any injury/mortality. Dredging operations should be halted in case of sighting of aquatic mammal in adjoin locations. • Contractors should submit SOPs and action time chart with risk management plan prior to any dredging work. Dredging contractor should follow the defined safety procedures to avoid accidents and spills, and IWAI should ensure that other vessel users are provided with adequate information and instruction to avoid conflict with the dredgers.						
Avifauna (Migratory &water birds)	• Dredging operations should be restricted to day time only, i.e. 6:00 Am-10:00 Pm only to minimize noise impacts on the avifauna. • Dredgers should be equipped with the noise reduction/masking equipment to reduce the noise generation inside and outside water. Noise from dredgers can be reduced at source (dredger) by isolation of exhaust system, by keeping engine room doors shut and by shielding.	Wildlife Protection Act, 1972 & 1993 and Bio-diversity Act, 2002	Within River & bird areas along NW-1	During Dredging	Part of Project Cost (IWAI & Contractor)	Contractor	IWAI/PMU /PMC
3. Socio-Economic Environment							
Location of Socio-economic importance and socio-economic environment	• Dredging operations should be restricted to day time only, i.e. 6:00 Am-10:00 Pm only to minimize noise impacts on the residents of nearby settlements. Dredgers should be equipped with the noise reduction/masking equipment to reduce the noise generation • Dredgers should be placed in consultation with the fishermen so as to minimize the impact on their	--	Area near the dredging operations and dredging locations	During dredging operation	Part of project cost (IWAI/Contractor)	Contractor	IWAI/PMU /PMC

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	equipment/gears and their fishing activities • Dredging location should be away from bathing shelter being constructed for the women under this project. Dredge material should not be disposed close to these bathing shelters. • Dredging should not be carried out in the areas close to Ghats and buffer of 2 km should be maintained for dredging during time of religious gatherings during Chat and other important religious river related festivals. • In case contaminated dredged material is disposed on land, then it should be disposed at approved TSDF sites to prevent any harm to community residing in nearby areas. • Material to be disposed on land may create nuisance odour due to exposure of anaerobic sediments with air. Thus if land disposal is involved than disposal site should not be in upwind direction of any settlement area or sensitive locations like hospitals, schools etc. • Post-dredging monitoring of the sediment nature, rate of sedimentation shall be made by the contractor. . This analysis output should be reviewed and dredging plan should be improved as may be required before start of next round of maintenance dredge. • Re-use of dredged material should be explored if dredged material is not contaminated. Economically and environmentally feasible options can be adopted to minimize the						

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	dredge spoil burdens. Some of such measures include o Usage for beach nourishment/development of artificial beach/deposition on shoal & thus enrichment of habitat o Usage for coast/bank protection purpose/flood protection o Usage as construction material for land filling, road foundations, dikes, mounds, noise/wind barriers constructions. .						
4. **Occupational Health and Safety**							
Safety fo workers and community	• Contractor should provide adequate safety training to each worker involved. Workers should also be provided with requisite PPE (such as ear muffs, hand gloves, safety boots, floats). • Log book should be maintained for recording the accidents at site/mortality of the any marine mammal should be maintained. Analysis shall be carried out to assess the reason for the accident/mortality and measures should be taken to prevent repetition of the event. • Contractors having experience of dredging and well trained staff should only be allowed to carry out dredging. This will help in prevention of spillage of dredged material or any accidents during the dredging operations • Contractors should submit method statement & risk assessment and Safety management plan prior to carrying out any dredging work.	--	Area near the dredging operations and dredging locations	During dredging operation	Part of project cost (IWAI/Contractor)	Contractor	IWAI/PMU /PMC

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	Dredger should follow the defined safety procedures to avoid accidents and spills, and IWAI should ensure that other vessel users are provided with adequate information and instruction to avoid conflict with the dredgers. • Dredging plan should be prepared by contractor and submitted to IWAI for approval prior to carrying out dredging operations. Dredging plan should be reviewed considering its location w.r.t environmental sensitive locations/archaeological locations/cultural festival/pollution influx in the area/dredged material quality & texture/available depth etc..						

Table 1.4 Environmental Monitoring Plan

Sr. No.	Aspect	Parameters to be monitored	No. of Sampling Locations & Frequency	Standard methods for sampling and analysis	Role & Responsibility	
					Implementation	Supervision
1.	Air Quality (Ambient Air Quality)	PM_{10}, $PM_{2.5}$, SO_2, NO_2, HC and CO	2 locations within 100 m and 500 m of dredger location with frequency of once in month at dredging location	Fine Particulate Samplers for $PM_{2.5}$ Respirable Dust Sampler fitted PM_{10} Respirable Dust Sampler fitted with Gaseous smapling arrangements for SO_2 and NO_2, CO analyser / portable CO meter for CO portable HC meter or tubes for HC; TO-14A, TO-15, USEPA method for sampling and analysis of VOCs in ambient air	Contractor	IWAI & PMC
2.	Surface Water Quality	Physical, chemical and biological parameters	3 locations at dredging location, 100 m	Grab sampling and analysis by using standard methods	Contractor	IWAI & PMC

			and 500 m from dredging location with frequency of once per month for all Physical, chemical and biological parameters 1 sample at dredge material disposal area in river			
3.	Drinking Water Quality	Physical, chemical and biological parameters	Physical, chemical and biological parameters for drinking water provided to the employee and labour	Grab sampling and analysis by using standard methods	Contractor	IWAI & PMC
4.	Noise Level	Day time and night time noise level (max, min &Leq levels)	2 location including 10 m of dredger location and 100 m of dredger location	Noise meter	Contractor	IWAI & PMC
5.	Dredged soil	For heavy metal, pesticide & insecticide contamination	Dredged sand samples- two samples from each location	--	Contractor	IWAI & PMC
6.	Visual checks for safe and hygienic disposal of the sediments	Proper disposal as mentioned in EMP	All throughout dredge disposal works	--	Contractor	IWAI & PMC
7.	Aquatic ecology	Big fishes, dolphins, turtles etc dead or collided during dredging operation	All throughout dredge disposal works	Register maintenance for accidents	Contractor	IWAI & PMC

Annexure 1.1: Standards for onshore & off-shore disposal of dredged material

Criteria for Disposal of Harmful Bottom Sediments: No specific standards are defined in India for disposal of dredged material. If dredged material is toxic / harmful then these sediments should either be disposed off in landfill or in Sea. Criteria followed in Japan are given in the **Table 1**.

Table 1: Criteria for Harmful Bottom Sediments, Japan (unit: mg/l)

Contaminated Material	Dumping in Landfills (mg/l)	Dumping at sea (mg/l)

Alkyl mercuric compounds	Not detectable	Not detectable
Mercury and its compounds	0.005	0.005
Cadmium and its compounds	0.1	0.1
Lead and its compounds	1	1
Organophosphorus compounds	1	1
Chromium (VI) compounds	0.5	0.5
Arsenic and its compounds	0.5	0.5
Cyanogen compounds	1	1
PCB	0.003	0.003
Copper and its compounds	-	3
Zinc and its compounds	-	5
Fluoride	-	15

Note: Criteria are based on the examination of dissolution of contaminated materials

Source: Assessment of the Environmental Impact of Port Development, United Nations, New York, 1992

Criteria for Off-shore dumping of Dredged material: No criteria are defined for off-shore disposal of dredged material in India, thus reference to the UN standards can be made and is given in **Table 2**.

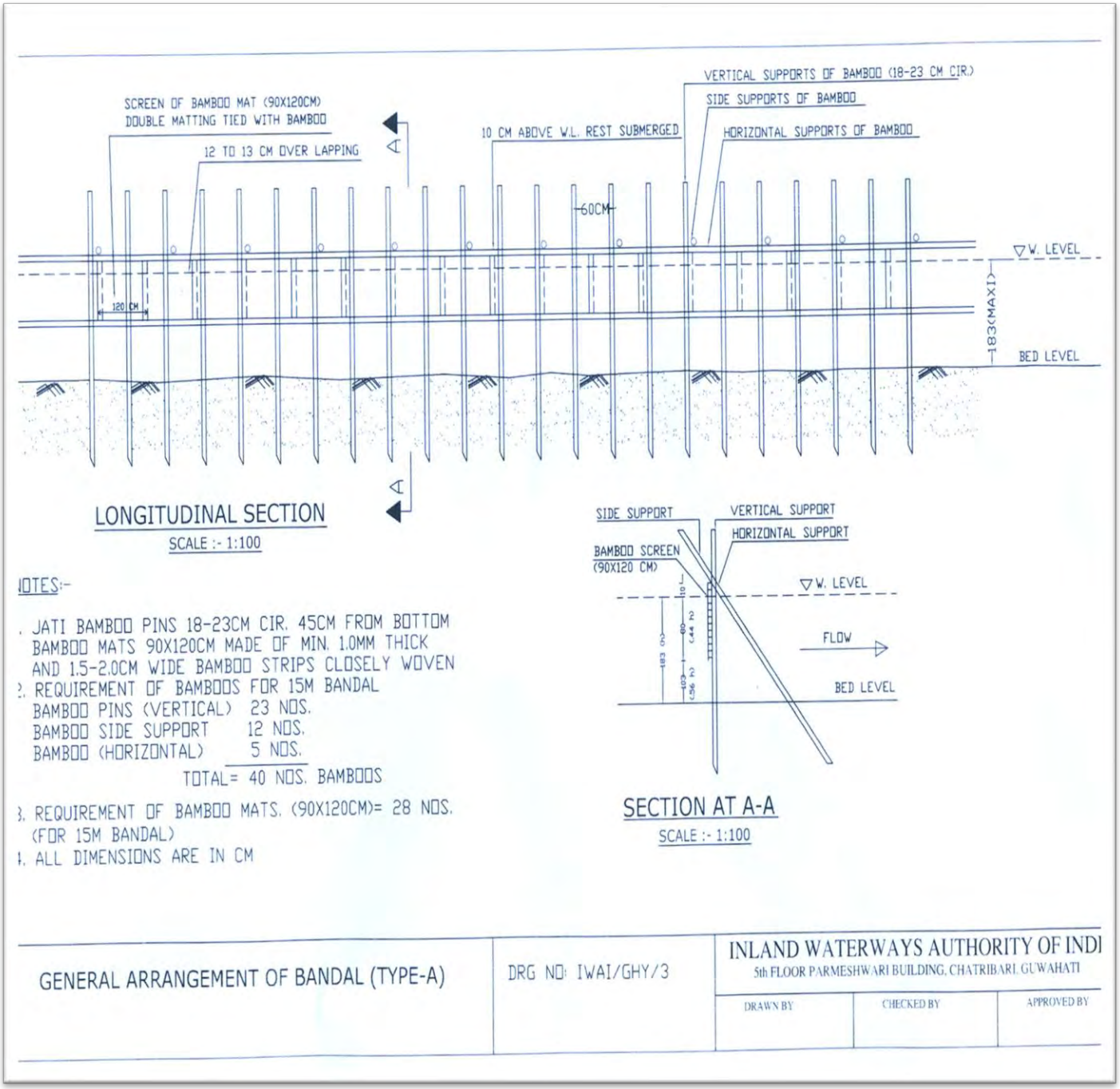
Table 2: Criteria for Off-Shore Dumping of Dredged Material (unit: ppm or ppb)

Substance	Canada	USA
PCB (ppb)	100	380
Hg (ppm)	0.5	0.15
Cd (ppm)	0.60	0.7
Zn (ppm)	169	105
Cu (ppm)	45	68
As (ppm)	(5 – 25)	12.5
Pb (ppm)	45	33
Organochlorine pesticide (ppb)	10 for any compound	5.0 Sum of DDT, DDE and DDD
Polyaromatic hydrocarbon (ppb)	(1,000) Sum of 16 compounds	680 Sum of six low mol. Wt. compounds 2,690 Sum of 10 high mol. Wt. compounds

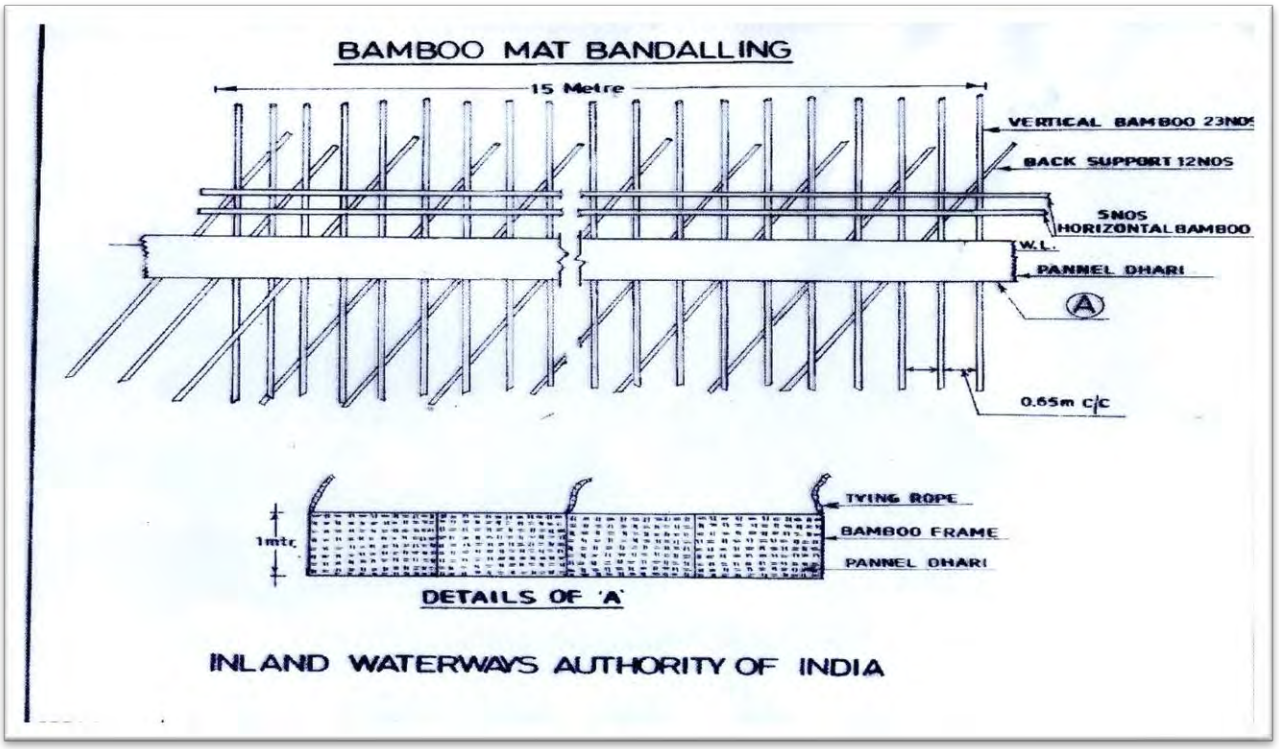
Source: Assessment of the Environmental Impact of Port Development, United Nations, New York, 1992

Enclosure-1

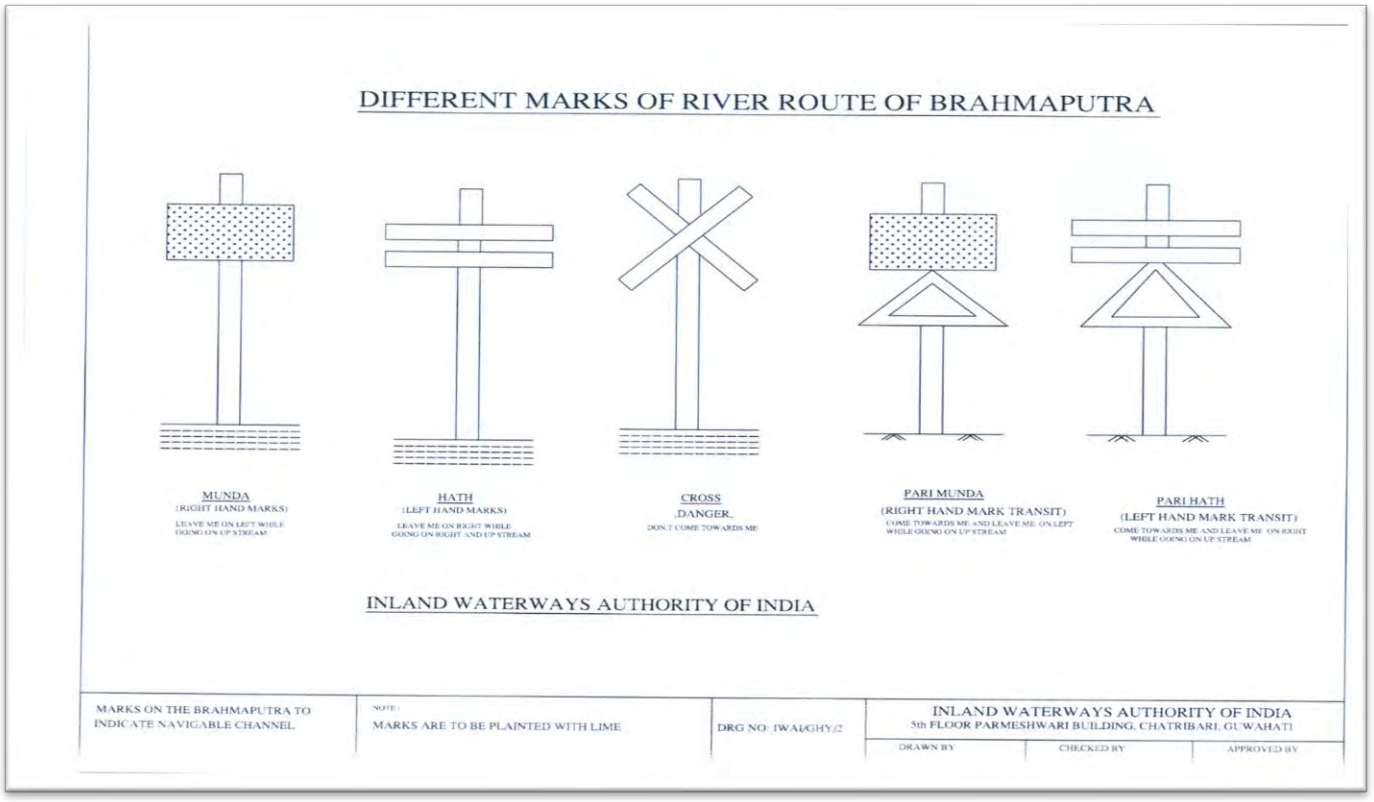
General Arrangement of Bandal



Enclosure-2 Bamboo Mat Bandalling



Enclosure-3 Various typical Navigational Channel Markers



Part 3 – Conditions of Contract and Contract Forms

Section - VIII General Conditions of Contract

General Conditions of Contract
A. General

1. Definitions	1.1 Boldface type is used to identify defined terms. (a) The Accepted Contract Amount means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects. (b) Not used. (c) The Adjudicator is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in GCC 23. (d) Bank means the financing institution **named in the PCC**. (e) Bill of Quantities means the priced and completed Bill of Quantities forming part of the Bid. (f) Compensation Events are those defined in GCC Clause 42 hereunder. (g) The Completion Date is the date of completion of the Works as certified by the Project Manager, in accordance with GCC Sub-Clause 53.1. (h) The Contract is the Contract between the Employer and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in GCC Sub-Clause 2.3 below. (i) The Contractor is the party whose Bid to carry out the Works has been accepted by the Employer. (j) The Contractor's Bid is the completed bidding document submitted by the Contractor to the Employer. (k) The Contract Price is the Accepted Contract Amount stated in the Letter of Acceptance and thereafter as adjusted in accordance with the Contract. (l) Days are calendar days; months are calendar months. (m) Not used. (n) A Defect is any part of the Works not completed in accordance with the Contract. (o) The Defects Liability Certificate is the certificate issued by Project Manager upon correction of defects by the Contractor. (p) The Defects Liability Period is the period named in the PCC pursuant to Sub-Clause 34.3 and calculated from the Completion Date. (q) Drawings means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract, include calculations and other information provided or approved by the Project Manager for the execution of the Contract. (r) The Employer is the party who employs the Contractor to carry out the Works, **as specified in the PCC**.

	(s) Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works. (t) "In writing" or "written" means hand-written, type-written, printed or electronically made, and resulting in a permanent record; (u) The Initial Contract Price is the Contract Price listed in the Employer's Letter of Acceptance. (v) The Intended Completion Date is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is **specified in the PCC**. The Intended Completion Date may be revised only by the Project Manager by issuing an extension of time or an acceleration order. (w) Materials are all supplies, including consumables, used by the Contractor for incorporation in the Works. (x) Plant is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function. (y) The Project Manager is the person **named in the PCC** (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract. (z) PCC means Particular Conditions of Contract. (aa) The Site is the area defined **as such in the PCC**. (bb) Site Investigation Reports are those that were included in the bidding documents and are factual and interpretative reports about the surface and subsurface conditions at the Site. (cc) Specification means the Specification of the Works included in the Contract and any modification or addition made or approved by the Project Manager. (dd) The Start Date is **given in the PCC**. It is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates. (ee) A Subcontractor is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site. (ff) Temporary Works are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works. (gg) A Variation is an instruction given by the Project Manager which varies the Works. (hh) The Works are what the Contract requires the Contractor to construct, install, and turn over to the Employer, **as defined in the PCC**.
2. Interpretation	2.1 In interpreting these GCC, words indicating one gender include all genders. Words indicating the singular also include the plural and words indicating the plural also include the singular. Headings have no significance. Words have their normal

	meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC. 2.2 If sectional completion is **specified in the PCC**, references in the GCC to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works). 2.3 The documents forming the Contract shall be interpreted in the following order of priority: (a) Agreement, (b) Letter of Acceptance, (c) Contractor's Bid& Priced Bill of Quantities, (d) Particular Conditions of Contract, (e) General Conditions of Contract including Appendices, (f) Specifications, (g) Drawings, (h) Joint Venture Agreement [where applicable], and (i) any other document **listed in the PCC** as forming part of the Contract.
3. Language and Law	3.1 The language of the Contract and the law governing the Contract are **stated in the PCC**. Salient features of major labour and other laws that are applicable to construction industry in India are given as Appendix 1 to these General Conditions of Contract. 3.2 Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in India when (a) as a matter of law or official regulations, India prohibits commercial relations with that country; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, India prohibits any import of goods from that country or any payments to any country, person, or entity in that country.
4. Project Manager's Decisions	4.1 Except where otherwise specifically stated, the Project Manager shall decide contractual matters between the Employer and the Contractor in the role representing the Employer. However, if the Project Manager is required, under the rules and regulations and orders of the Employer, to obtain approval

	of some other authorities for specific actions, he will so obtain the approval. Provided further that any requisite approval shall be deemed to have been given by the Employer for any such authority exercised by the Project Manager.
5. Delegation	5.1 Unless otherwise **specified in the PCC**, the Project Manager may delegate any of his duties and responsibilities to other people, except to the Adjudicator, after notifying the Contractor, and may revoke any delegation after notifying the Contractor.
6. Communications	6.1 Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered. All oral instructions shall be confirmed in writing in seven working days.
7. Subcontracting	7.1 The Contractor may subcontract with the approval of the Project Manager up to a ceiling **specified in PCC**, but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations. 7.2 The Project Manager should satisfy himself before recommending to the Employer whether: a) the circumstances warrant such sub-contracting; and, b) the sub-Contractor so proposed for the Work possesses the experience, qualifications and equipment necessary for the job proposed to be entrusted to him in proportion to the quantum of Works to be sub-contracted. 7.3 If payments are proposed to be made directly to that sub-contractor, this should be subject to specific authorization by the prime contractor so that his arrangement does not alter the contractor's liability or obligations under the contract. 7.4 The Contractor shall not be required to obtain any consent from the Employer for: (a) the sub-contracting of any part of the Works for which the Sub-Contractor is already named in the contract; (b) the provision for labour, or labour component, and, (c) the purchase of materials which are in accordance with the standards specified in the contract. *(Note:* *1. All bidders are expected to indicate clearly in the bid, if they proposed sub-contracting elements of the works amounting to more than 10 percent of the Bid Price. For each such proposal the qualification and the experience of the identified sub-contractor in the relevant field should be furnished alongwith the bid to enable the Employer to satisfy*

	himself about their qualifications before agreeing for such sub-contracting and include it in the contract. In view of the above, normally no additional sub-contracting should arise during execution of the contract. *2. However, [a] sub-contracting for certain specialized elements of the work is not unusual and acceptable for carrying out the works more effectively; but vertical splitting of the works for sub-contracting is not acceptable. [b] in any case, proposal for sub-contracting in addition to what was specified in bid and stated in contract agreement will not be acceptable if the value of such additional sub-contracting exceeds 25% of value of work which was to be executed by Contractor without sub-contracting.* *3. Assignment of the contract may be acceptable only under exceptional circumstances such as insolvencies/liquidation or merger of companies etc.)*
8. Other Contractors	8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors, as **referred to in the PCC**. The Contractor shall also provide facilities and services for them as described in the Schedule. The Employer may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification.
9. Personnel and Equipment	9.1 The Contractor shall employ the key personnel and use the equipment identified in its Bid and **referred to in the PCC**, to carry out the Works or other personnel and equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid. 9.2 The Project Manager may require the Contractor to remove from the Site of Works, a member of the Contractor's staff or his work force, who: (a) persists in any misconduct or lack of care, (b) carries out duties incompetently or negligently, (c) fails to conform with any provisions of the Contract, or (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment. 9.3 If the Employer, Project Manager or Contractor determines, that any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the Works, then that employee shall be removed in accordance with Clause 9.2 above

Compliance with Labour Regulations	9.4 In all the above cases, the contractor shall ensure that the person leaves the site within seven days and has no further connection with the work in the contract. The Contractor shall appoint a suitable replacement within 28 days or earlier as may be agreed to between the Project manager and the Contractor. 9.5 The Contractor shall not employ any retired Gazetted officer who has either not completed two years after the date of retirement or has not obtained permission from the Government authorities for employment with the Contractor[26]. 9.6 The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport. The Contractor shall, if required by the Project Manager, deliver to the Project Manager a return in detail, in such form and at such intervals as the Project Manager may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Project Manager may require. 9.7 During continuance of the Contract, the Contractor and his Sub-Contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour laws (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law prevailing on the Base Date either by the State or the Central Government or the local authority. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contraventions including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, the Project Manager/ Employer shall have the right to deduct any money due to the Contractor including his amount of performance security and if applicable, the Environmental, Social, Health and Safety (ESHS) Performance Security. The Employer/ Project Manager shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

26Based on Government Directives.

	9.8 The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time. 9.9 The Contractor shall duly comply with the provisions of the Apprentices Act 1961 (III of 1961) and the rules made there under, and comply, failure or neglect to shall be subject to all liabilities and penalties provided in the said Act and Rules.
10. Employer's and Contractor's Risks	10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.
11.Employer's Risks	11.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Employer's risks: a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to (i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works or (ii) negligence, breach of statutory duty, or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor. b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in the Employer's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed. 11.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is an Employer's risk except loss or damage due to (a) a Defect which existed on the Completion Date, (b) an event occurring before the Completion Date, which was not itself an Employer's risk, or (c)the activities of the Contractor on the Site after the Completion Date.
12. Contractor's Risks	12.1 From the Starting Date until the Defects Liability Certificate has been issued, the risks of personal injury, death, and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer's risks are Contractor's risks.

13. Insurance	13.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles **stated in the PCC** for the following events which are due to the Contractor's risks: a) loss of or damage to the Works, Plant, and Materials [which are incorporated in works]; b) loss of or damage to Construction Equipment; c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and d) personal injury or death. 13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred. 13.3 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.
	13.4 Alterations to the terms of insurance shall not be made without the approval of the Project Manager. 13.5 Both parties shall comply with any conditions of the insurance policies.
14.Site Data	14.1 The Contractor shall be deemed to have examined any Site Data **referred to in the PCC**, supplemented by any information available to the Contractor.
15. Contractor to Construct the Works including protection of environment, and assurance of public health and safety	15.1The Contractor shall construct and install the Works in accordance with the Specifications and Drawings and as per instructions of Project Manager. 15.2.1 The Contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other cause arising as a consequence of his methods of operation. 15.2.2 During continuance of the contract, the contractor and his sub-contractors shall abide at all times by all existing enactments on environmental protection and rules made thereunder, regulations, notifications and by-laws of the Sate or Central Government, or local authorities and other law, bye-

	law, regulations that may be passed or notification that may be issued in this respect in future by the State or Central Government or the local authority. Salient features of the major laws are given in Appendix 1 to the General Conditions of Contract.
16. The Works to Be Completed by the Intended Completion Date	16.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.
17. Approval by the Project Manager	17.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, for his approval. 17.2 The Contractor shall be responsible for design of Temporary Works. 17.3 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works. 17.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required. 17.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before this use.
18. Safety	18.1 The Contractor shall be responsible for the safety of all activities on the Site.
19.Discoveries	19.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Project Manager of such discoveries and carry out the Project Manager's instructions for dealing with them.
20. Possession of the Site	20.1 The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date **stated in the PCC**, the Employer shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.
21.Access to the Site	21.1 The Contractor shall allow the Project Manager and any person authorized by the Project Manager access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

22. Instructions, Inspections and Audits	22.1 The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the Site is located. 22.2 The Contractor shall keep, and shall make all reasonable efforts to cause its Subcontractors and sub-consultants to keep, accurate and systematic accounts and records in respect of the Works in such form and details as will clearly identify relevant time changes and costs. 22.3 The Contractor shall permit and shall cause its Subcontractors and sub-consultants to permit, the Bank and/or persons appointed by the Bank to inspect the Site and/or the accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the Bank if requested by the Bank. The Contractor's and its Subcontractors' and sub-consultants' attention is drawn to Sub-Clause 25.1 which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under Sub-Clause 22.2 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures).
23. Appointment of the Adjudicator	23.1 The Adjudicator named in PCC shall be appointed jointly by the Employer and the Contractor, at the time of the Employer's issuance of the Letter of Acceptance. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority **designated in the PCC**, to appoint the Adjudicator within 14 days of receipt of such request. 23.1.1 The Adjudicator should be in position before "notice to proceed with work" is issued to the Contractor and an agreement should be signed with the Adjudicator jointly by the Employer and the Contractor in the form attached – Appendix 3. 23.2 Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract; a new Adjudicator shall be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority **designated in the PCC** at the request of either party, within 14 days of receipt of such request.

24.Procedure for Disputes	24.1 If the Contractor believes that a decision taken by the Project Manager was either outside the authority given to the Project Manager by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 14 days of the notification of the Project Manager's decision. 24.2 The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute. 24.3 The Adjudicator shall be paid daily at the rate **specified in the PCC**, together with reimbursable expenses of the types **specified in the PCC**, and the cost shall be divided equally between the Employer and the Contractor. Whatever decision is reached by the Adjudicator, either party may refer that decision to an Arbitrator within 28 days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above 28 days, the Adjudicator's decision shall be final and binding. 24.4 The arbitration shall be conducted in accordance with the arbitration procedures published by the institution named and in the place **specified in the PCC**. The Arbitrator(s) shall give a decision in writing within 120 days of start of the proceedings unless otherwise agreed to by the Parties. The Arbitrators shall entertain only those issues which have been earlier referred to the Adjudicator and either party is dissatisfied with the decision given by the Adjudicator.
25. Corrupt and Fraudulent Practices	25.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Appendix A to the GCC. 25.2 The Employer requires the Contractor to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information shall be disclosed as and when such payments are made or agreed to, and compliance with the disclosure requirement shall be furnished, while submitting each monthly statement for payments; such disclosure must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

B. Time Control

26. Program	26.1 Within the time **stated in the PCC**, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a revised Program showing the general methods,

	arrangements, order, and timing for all the activities in the Works alongwith monthly cash flow forecasts. 26.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities. 26.3 The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period **stated in the PCC**. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount **stated in the PCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. 26.4 The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.
27. Extension of the Intended Completion Date	27.1 The Project Manager shall extend the Intended Completion Date including milestones if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date as per agreed milestones without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost. 27.2 The Project Manager shall decide whether and by how much to extend the Intended Completion Date/milestones within 21 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date/milestones.
28. Acceleration	28.1 When the Employer wants the Contractor to finish before the Intended Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Employer accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both the Employer and the Contractor.

	28.2 If the Contractor's priced proposals for acceleration are accepted by the Employer, they are incorporated in the Contract Price and treated as a Variation.
29. Delays Ordered by the Project Manager	29.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.
30. Management Meetings	30.1 Either the Project Manager or the Contractor may require the other to attend a management meeting. (Which will be held at the place indicated in PCC. The periodicity to be fixed by Project Manager / Contractor jointly). The business of a management meeting shall be to review the progress of construction with reference to the construction program given in accordance with GCC 26.1, the plans for remaining work and to deal with matters raised in accordance with the early warning procedure. 30.2 The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.
31. Early Warning	31.1 The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible. 31.2 The Contractor shall cooperate with the Project Manager in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Project Manager.

C. Quality Control

32. Quality Assurance	32.1 The Contractor shall institute Quality Assurance (QA) and Quality Control (QC) systems in accordance with Quality Assurance Plan to demonstrate compliance with the requirements of the Contract as approved by the Project Manager.

	32.2 Compliance with the QA/QC systems shall not relieve the Contractor of any of his duties obligations or responsibilities under the Contract.
33. Tests	33.1 The Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labour, materials, and suitably qualified and experienced staff, as are necessary to carry out the specified tests efficiently. 33.2 If the Project Manager instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event.
34. Identifying and Correction of Defects	34.1. The Project Manager shall check the Contractor's work and notify the Contractor of any defects that are found specifying a time by which it should be corrected. Such checking shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect. 34.2 The contractor shall permit the Employer's Technical auditor to check the contractor's work and notify the Project Manager and Contractor of any defects that are found. Such a check shall not affect the Contractor's or the Project Manager's responsibility as defined in the Contract Agreement 34.3 The Project Manager shall give notice to the Contractor of any Defects [specifying a time limit by which it should be corrected] before the end of the Defects Liability Period, which begins at Completion, and is **defined in the PCC**. The Defects Liability Period shall be extended for as long as Defects remain to be corrected. 34.4 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice.
35. Uncorrected Defects	35.1 If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected and the Contractor shall pay this amount. ***Note: 1. Where in certain cases, the technical specifications provide for acceptance of works within specified tolerance limits***

	at reduced rates, Project Manager will certify payments to Contractor accordingly. ***2. Where the failure to correct a particular defect within the specified time is considered as a fundamental breach of contract a notice should be given to the contractor as stated in GCC 57.2(e).***

D. Cost Control

36. Contract Price	36.1 The Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.
37. Changes in the Contract Price	37.1 If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1 percent of the Initial Contract Price, the Project Manager shall adjust the rate to allow for the change. (a) If the quantity of work executed exceeds the quantity of the item in BOQ beyond the higher specified limit the Project Manager shall fix the rate to be applied for the additional quantity of the work executed. (b) If the quantity of work executed less than the quantity of the item in BOQ lesser than the lower specified limit, the Project Manager shall fix the rate to be applied for whole of the quantity of the work so executed. 37.2. The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the prior approval of the Employer. 37.3 If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.
38. Variations	38.1 All Variations shall be included in updated Programs, produced by the Contractor. 38.2 The Contractor shall provide the Project Manager with a quotation (with breakdown of unit rates) for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.

	38.3 If the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in Sub-Clause 37.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work. 38.4 If the Contractor's quotation is unreasonable, [*or if contractor fails to provide the Project Manager with a quotation within a reasonable time specified by Project Manager in accordance with GCC 38.2*] the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs 38.5 If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event. 38.6 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.
39. Cash Flow Forecasts	39.1 When the Program, is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast. The cash flow forecast shall be in Indian Rupees.
40. Payment Certificates	40.1 The Contractor shall submit to the Project Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously alongwith details of measurement of the quantity of works executed in a tabular form approved by the Project Manager. 40.2 The Project Manager shall check the details given in the Contractor's monthly statement and within 14 days certify the amounts to be paid to the Contractor after taking into account any credit or debit for the month in question in respect of materials for the works in the relevant amount and under conditions set forth in GCC Sub-Clause 49.4 [*Secured Advance*] 40.3 The value of work executed shall be determined by the Project Manager after due check and measurement of the quantities claimed as executed by the contractor

	40.4 The value of work executed shall comprise of the value of the quantities of work in the Bill of Quantities that have been completed; 40.5 The value of work executed shall include the valuation of Variations and Compensation Events. 40.6 The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.
41. Payments	41.1 Payments shall be adjusted for deductions for advance payments, retention, other recoveries in terms of contract & taxes to be deducted at source [TDS] as per applicable law. The Employer shall pay the Contractor the amounts certified by the Project Manager within 28 days of the date of each certificate. If the Employer makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at the rate **stated in the PCC**. 41.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated at the rate stated in GCC 41.1 above, from the date upon which the increased amount would have been certified in the absence of dispute. 41.3 Items of the Works for which no rate or price has been entered in shall not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.
42. Compensation Events	42.1 The following shall be Compensation Events: a) The Employer does not give access to a part of the Site by the Site Possession Date pursuant to GCC Sub-Clause 20.1. b) The Employer modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract. c) The Project Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time. d) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects. e) The Project Manager unreasonably does not approve a subcontract to be let.

	f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site. g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons. h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor. i) The advance payment is delayed. j) The effects on the Contractor of any of the Employer's Risks. k) The Project Manager unreasonably delays issuing a Certificate of Completion. 42.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Project Manager shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended. 42.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager's own forecast. The Project Manager shall assume that the Contractor shall react competently and promptly to the event. 42.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor's not having given early warning or not having cooperated with the Project Manager.
43. Tax	43.1 The rates quoted by the Contractor shall be deemed to be inclusive of the VAT, Sales and other taxes that the Contractor will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at source [TDS] as per applicable law. 43.2 The Project Manager shall adjust the Contract Price if taxes, duties, and other levies are changed between the deadline for the submission of bids for the Contract and the date of the last Completion certificate. The adjustment shall be the change in the

	amount of tax payable by the Contractor, provided such changes are not already reflected in the Contract Price.
44. Currencies	44.1 All payments shall be made in Indian Rupees.
45. Price Adjustment	45.1 Contract price shall be adjusted for increase or decrease in rates and price of labour, materials, fuels and lubricants and other inputs to the works in accordance with the principles and procedures outlined below. A table of adjustment data is **included in the PCC** which indicates the coefficients of various inputs and the sources of indices for various schedules of BOQ. If the PCC does not include a table of adjustment data this sub clause shall not apply and there shall be no price adjustment. (a) The price adjustment according to sub para (d) below, shall apply for the work done from the start date given in the PCC up to the end of the Intended Completion Date. If there is delay in completion beyond such date for reasons attributable to the contractor, the Price Adjustment for the work carried out during such period, for reasons attributable to the Contractor, shall be regulated by sub-para (g) below. (b) The Contract Price shall be adjusted to take account of any increase or decrease in cost after the base date, which affect the Contractor in performance of obligations under the Contract. (c) The total value (R) of the work done during the specified period [GCC 40.1] shall be as under: R= SUM (RS1 + RS2 + RS3 + …….RSn), Where, 'Rsn' is the value of work done during the specified period to which the price adjustment shall be applied for the relevant schedule of Bill of Quantities (BOQ) specified in P.C.C during the specified period, and represented as under: Rsn = (Vsn + Ssn) minus (amount of secured advance recovered in the same period + value of works executed under variations for which price adjustments will be worked separately based on terms mutually agreed between the Project Manager and the Contractor). where, Vsn is the total value of work done during the specified period for the respective schedule of BOQ, and Ssn is the secured advance paid during the specified period for the respective schedule of BOQ,

(d) The adjustment to be applied to the amount otherwise payable to the Contractor, as valued in accordance with the appropriate schedule of BOQ and certified in Payment Certificates, shall be determined from formulae which shall be of the following general type:

Pn = a + b Ln/Lo +c En/Eo + d Mn/Mo+ …….

where,

"Pn" is the adjustment multiplier to be applied to the value of the work done during the period "n", this period being a month unless otherwise stated in the PCC.

"a" is a fixed coefficient, stated in the relevant table of adjustment data, representing the non-adjustable portion in contractual payments;

"b", "c", "d",… are coefficients representing the estimated proportion of each cost element related to the execution of the Works, as stated in the relevant table of adjustment data; such tabulated cost elements may be indicative of resources such as labour, equipment and materials;

"Ln"[Labour], "En"[Equipment], "Mn"[Material], …. are the current cost indices or reference prices for period "n", each of which is applicable to the relevant tabulated cost element [Labour, Equipment, Steel, Cement, Fuel/Lubricants, Bitumen, others] on the date, specified in the Table-2 of Adjustment Data, prior to the last day of the period (to which the particular Payment Certificate relates); and

"Lo", "Eo", "Mo", ….are the base cost indices or reference prices, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the Base Date.

(e) The cost indices or reference prices stated in the tables of adjustment data given in PCC shall be used. The base date shall be the deadline for the submission of bids.

(f) If the Contractor fails to complete the Works within the Intended Completion date, adjustment of prices thereafter shall be made using either:

(i) index or price applicable for each cost element tabulated in the tables of adjustment data on the specified date prior to the expiry of the Intended Completion Date, or

(ii) the current index or price applicable for the period in question whichever is more favourable to the Employer.

(g) The weightings (coefficients) for each of the factors of cost stated in the table(s) of adjustment data shall only be varied by the Project

	Manager if they have been rendered unreasonable, unbalanced or inapplicable, as a result of Variations. (h) Unless otherwise stated in the P.C.C., the Price adjustment shall be done in each monthly Interim Payment Certificate [IPC]. The coefficients and indices are given in the Tables of Adjustment Data in Contract data. 45.2 To the extent that full compensation for any rise or fall in costs to the contractor is not covered by the provisions of this or other clauses in the contract, the unit rates and prices included in the contract shall be deemed to include amounts to cover the contingency of such other rise or fall in costs
46. Retention	46.1 The Employer shall retain from each payment due to the Contractor the proportion **stated in the PCC** until Completion of the whole of the Works 46.2 Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with GCC 53.1, half the total amount retained shall be repaid to the Contractor and half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected. On completion of the whole works the Contractor may substitute the balance retention money with an "on demand" Bank guarantee.
47. Liquidated Damages	47.1 The Contractor shall pay liquidated damages to the Employer at the rate per day **stated in the PCC** for each day that the Completion Date is later than the Intended Completion Date (for the whole of the works or the milestones as **stated in the PCC**). The total amount of liquidated damages shall not exceed the amount defined in the PCC. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities. Time is the essence of the contract and payment or deduction of liquidated damages shall not relieve the contractor from his obligation to complete the work as per agreed construction program and milestones, or from any of the Contractor's other obligations and liabilities under the contract. 47.2 If the Intended Completion Date including milestones is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC Sub-Clause 41.1.

48. Bonus	48.1	The Contractor shall be paid a Bonus calculated at the rate per calendar day stated in the PCC for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete.
49. Advance Payment Secured Advances	49.1	The Employer shall make advance payment to the Contractor of the amounts **stated in the PCC** by the date **stated in the PCC**, against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a bank acceptable to the Employer in amounts in Indian Rupees equal to the advance payment. The Guarantee shall remain effective until the advance payment has been repaid, but the amount of the Guarantee shall be progressively (each instalment not less than Rs. 500,000) reduced by the amounts repaid by the Contractor. Interest shall not be charged on the advance payment.
	49.2	The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager.
	49.3	The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, Liquidated Damages.
	49.4	The Project Manager shall make advance payment in respect of materials intended for but not yet incorporated in the Works in accordance with conditions **stipulated in the PCC**.
50. Securities	50.1	The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount **specified in the PCC**, by a Nationalized or Schedule bank in India. The Bank Guarantee for Performance Security including additional security for unbalanced bids shall be valid until a date 28 days from the date of issue of the Certificate of Completion.
51. Dayworks	51.1	Not used.
52. Cost of Repairs	52.1	Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. Finishing the Contract

53. Completion	53.1 The Contractor shall request the Project Manager to issue a Certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the whole of the Works is completed.
54. Taking Over	54.1 The Employer shall take over the Site and the Works within seven days of the Project Manager's issuing a certificate of Completion.
55. Final Account	55.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract at the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate within 56 days of receiving the contractor's revised account.
56. Operating and Maintenance Manuals	56.1 If "as built" Drawings [including a compact disk containing digitized drawings] and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated **in the PCC**. 56.2 If the Contractor does not supply the Drawings [including a compact disk containing digitized drawings] and/or manuals by the dates **stated in the PCC** pursuant to GCC Sub-Clause 56.1, or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount **stated in the PCC** from payments due to the Contractor.
57. Termination	57.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract after giving fourteen (14) days written notice. 57.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following: a) the Contractor stops work for 28 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Project Manager; b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 28 days; c) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation; d) a payment certified by the Project Manager is not paid by the Employer to the Contractor within 84 days of the date of the Project Manager's certificate; e) the Project Manager gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to

	correct it within a reasonable period of time determined by the Project Manager; f) the Contractor does not maintain a Security, which is required; g) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in the PCC; or h) if the Contractor, in the judgment of the Employer, has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for or in executing the Contract, then the Client may, after giving fourteen (14) days written notice to the Contractor, terminate the Contract and expel him from the Site. i) The contractor has contravened Clauses 7 and 9 of GCC. j) The contractor does not adhere to the agreed construction program, agreed ESHS-MSIP [Clause 26 of GCC] and also fails to take satisfactory remedial action as per agreements reached in the management meetings [Clause 30 of GCC] for a period of 60 days. k) The contractor fails to carry out of the instructions of the Project Manager within a reasonable time determined by the Project Manager in accordance with GCC Clause 15.1 and 22. l) The contractor (in case of Joint Venture) has modified the composition of the joint venture and/or the responsibility of each member of the joint venture from what is stated in joint venture agreement without the prior approval of the Employer. 57.3 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under GCC Sub-Clause 57.2 above, the Project Manager shall decide whether the breach is fundamental or not. 57.4 Notwithstanding the above, the Employer may terminate the Contract for convenience. 57.5 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.
58. Payment upon Termination	58.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate less other recoveries due in terms of contract, less taxes to be deducted at source [TDS] as per applicable law, and less the percentage to apply to the value of the work not completed, as **indicated in the PCC**. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer. 58.2 If the Contract is terminated for the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works,

		and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate less other recoveries due in terms of the contract and less taxes due to be deducted at source [TDS] as per applicable law.
59. Property	59.1	All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Employer if the Contract is terminated because of the Contractor's default.
60. Release from Performance	60.1	If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.
61. Suspension of Bank Loan or Credit	61.1	In the event that the Bank suspends the Loan or Credit to the Employer, from which part of the payments to the Contractor are being made: a) The Employer is obligated to notify the Contractor of such suspension within 7 days of having received the Bank's suspension notice. b) If the Contractor has not received sums due it within the 28 days for payment provided for in Sub-Clause 40.1, the Contractor may immediately issue a 14-day termination notice.

APPENDIX A TO GENERAL CONDITIONS
Bank's Policy- Corrupt and Fraudulent Practices

Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011 Revised July 2014:

"**Fraud and Corruption:**

1.16 It is the Bank's policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.[27] In pursuance of this policy, the Bank:

(a) defines, for the purposes of this provision, the terms set forth below as follows:

(i) "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;[28];

(ii) "fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;[29]

(i) "Collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;[30]

(ii) "Coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;[31]

(v) "obstructive practice" is

(aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent

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[27] In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

[28] For the purpose of this sub-paragraph, "*another party*" refers to a public official acting in relation to the procurement process or contract execution. In this context, "*public official*" includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

[29] For the purpose of this sub-paragraph, "party" refers to a public official; the terms "benefit" and "obligation" relate to the procurement process or contract execution; and the "act or omission" is intended to influence the procurement process or contract execution.

[30] For the purpose of this sub-paragraph, "parties" refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other's bid prices or other conditions.

[31] For the purpose of this sub-paragraph, "party" refers to a participant in the procurement process or contract execution.

it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or

(bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 1.16(e) below.

(b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

(c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;

(d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,[32] including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated[33];

(e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank."

[32] A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

[33] A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

APPENDIX B
Environmental, Social, Health and Safety (ESHS) Metrics for Progress Reports

[Note to Employer: the following metrics may be amended to reflect the Employer's environmental, social, health and safety policies and/or the ESHS requirements of the project. The metrics that are required should be determined by the ESHS risks of the Works and not necessarily by the scale of the Works]

Metrics for regular reporting:

a. **environmental incidents or non-compliances with contract requirements, including contamination, pollution or damage to ground or water supplies;**
b. **health and safety incidents, accidents, injuries and all fatalities that require treatment;**
c. **interactions with regulators: identify agency, dates, subjects, outcomes (report the negative if none);**
d. **status of all permits and agreements:**
    1) work permits: number required, number received,
    2) actions taken for those not received;
    3) status of permits and consents:
    - *list areas/facilities with permits required (quarries, asphalt & batch plants), dates of application, dates issued (actions to follow up if not issued), dates submitted to resident engineer (or equivalent), status of area (waiting for permits, working, abandoned without reclamation, decommissioning plan being implemented, etc.);*
    - *list areas with landowner agreements required (borrow and spoil areas, camp sites), dates of agreements, dates submitted to resident engineer (or equivalent);*
    - *identify major activities undertaken in each area in the reporting period and highlights of environmental and social protection (land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation);*
    - *for quarries: status of relocation and compensation (completed, or details of activities and current status in the reporting period).*
e. **health and safety supervision:**
    - safety officer: number days worked, number of full inspections & partial inspections, reports to construction/project management;
    - number of workers, work hours, metric of PPE use (percentage of workers with full personal protection equipment (PPE), partial, etc.), worker violations observed (by type of violation, PPE or otherwise), warnings given, repeat warnings given, follow-up actions taken (if any);
f. **worker accommodations:**
    - number of expats housed in accommodations, number of locals;
    - date of last inspection, and highlights of inspection including status of accommodations'' compliance with national and local law and good practice, including sanitation, space, etc.;
    - actions taken to recommend/require improved conditions, or to improve conditions.

g**. HIV/AIDS: provider** of health services, information and/or training, location of clinic, number of non-safety disease or illness treatments and diagnoses (no names to be provided);

h. gender (for expats and locals separately): number of female workers, percentage of workforce, gender issues raised and dealt with (cross-reference grievances or other sections as needed);

i. training:

- number of new workers, number receiving induction training, dates of induction training;
- number and dates of toolbox talks, number of workers receiving Occupational Health and Safety (OHS), environmental and social training;
- number and dates of HIV/AIDS sensitization and/or training, no. workers receiving training (this reporting period and in the past); same questions for gender sensitization, flag person training.
- number and date of GBV /SEA sensitization and/or training, number of workers receiving training on code of conduct (in the reporting period and in the past), etc.

j. environmental and social supervision:

- environmentalist: days worked, areas inspected and numbers of inspections of each (road section, work camp, accommodations, quarries, borrow areas, spoil areas, swamps, forest crossings, etc.), highlights of activities/findings (including violations of environmental and/or social best practices, actions taken), reports to environmental and/or social specialist/construction/site management;
- sociologist: days worked, number of partial and full site inspections (by area: road section, work camp, accommodations, quarries, borrow areas, spoil areas, clinic, HIV/AIDS center, community centers, etc.), highlights of activities (including violations of environmental and/or social requirements observed, actions taken), reports to environmental and/or social specialist/construction/site management; and
- community liaison person(s): days worked (hours community center open), number of people met, highlights of activities (issues raised, etc.), reports to environmental and/or social specialist /construction/site management.

k. Grievances: list new grievances (e.g., allegations of GBV / SEA) received in the reporting period and unresolved past grievances by date received, complainant, how received, to whom referred to for action, resolution and date (if completed), data resolution reported to complainant, any required follow-up (Cross-reference other sections as needed):

i. Worker grievances; ii. Community grievances

l. Traffic and vehicles/equipment:

- traffic accidents involving project vehicles & equipment: provide date, location, damage, cause, follow-up;
- accidents involving non-project vehicles or property (also reported under immediate metrics): provide date, location, damage, cause, follow-up;
- overall condition of vehicles/equipment (subjective judgment by environmentalist); non-routine repairs and maintenance needed to improve safety and/or environmental performance (to control smoke, etc.).

m. Environmental mitigations and issues (what has been done):

i. dust: number of working bowsers, number of waterings/day, number of complaints, warnings given by environmentalist, actions taken to resolve; highlights of quarry dust control (covers, sprays, operational status); % of rock/spoil lorries with covers, actions taken for uncovered vehicles;

ii. erosion control: controls implemented by location, status of water crossings, environmentalist inspections and results, actions taken to resolve issues, emergency repairs needed to control erosion/sedimentation;

iii. quarries, borrow areas, spoil areas, asphalt plants, batch plants: identify major activities undertaken in the reporting period at each, and highlights of environmental and social protection: land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation;

iv. blasting: number of blasts (and locations), status of implementation of blasting plan (including notices, evacuations, etc.), incidents of off-site damage or complaints (cross-reference other sections as needed);

v. spill clean-ups, if any: material spilled, location, amount, actions taken, material disposal (report all spills that result in water or soil contamination;

vi. waste management: types and quantities generated and managed, including amount taken offsite (and by whom) or reused/recycled/disposed on-site;

vii. details of tree plantings and other mitigations required undertaken in the reporting period;

viii. details of water and swamp protection mitigations required undertaken in the reporting period.

n. compliance:

i. compliance status for conditions of all relevant consents/permits, for the Work, including quarries, etc.): statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance;

ii. compliance status of C-ESMP/ESIP requirements: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance

iii. compliance status of GBV/SEA prevention and response action plan: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance

iv. compliance status of Health and Safety Management Plan re: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance

v. other unresolved issues from previous reporting periods related to environmental and social: continued violations, continued failure of equipment, continued lack of vehicle covers, spills not dealt with, continued compensation or blasting issues, etc. Cross-reference other sections as needed.

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Appendix – C

Following Environmental Safety Measures to be implemented by Contractor:

28. Sl. No.	**Environmental Safety measures to be implemented**	**Responsibility**
i.	'Consent to Establish' and 'Consent to Operate' shall be obtained from State Pollution Control Board under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.	Contractor
ii	The Project authority shall ensure that no rivers or tributaries are blocked due to any activities at the project site and free flow of water is maintained.	Contractor should ensure the same
iii	Shoreline shall not be disturbed due to dumping. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary.	Contractor should ensure the same.
iv	Dredging shall not be carried out during the fish/turtle breeding seasons.	Contractor
v	All vessels used in the river will be fitted with noise control and animal exclusion devices so that aquatic life is not unduly disturbed.	Contractor should ensure.
vi	Spillage of fuel / engine oil and lubricants from the construction site are a source of organic pollution which impacts aquatic life, particularly benthos. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.	Contractor
vii	Construction waste including debris shall be disposed safely in the designated areas and in no case shall be disposed in the aquatic environment.	Contractor
viii	Vessels shall not discharge oil or oily water such as oily bilge water containing more than 15ppm of oil.	Contractor shall ensure and maintain record
ix	The project authority shall ensure that water traffic does not impact the aquatic wildlife sanctuaries that fall along the stretch of the river.	Contractor should ensure compliance of provisions for movement of vessel in the Wildlife Sanctuary as per statutory clearances
x	All Vessels will also have to comply with 'Zero discharge' standards to prevent solid or liquid waste from flowing into the river and affecting its biodiversity.	Contractor
xi	The Dredging shall be carried by integrated and systematic planning by selective grid method by allowing migratory movement of Benthic fauna.	Contractor
xii	All required noise and vibration control measures are to be adopted in Dredgers. Cutter suction Dredgers should be avoided as much as possible which produces more noise and vibration. No Drilling and Blasting is to be carried out.	Contractor
xiii	Pre geo-tectonic studies has to be completed and the strata to be dredged is predetermined with complete data pertaining to hardness, compressive and tensile strengths.	Contractor
xiv	Dredger type and other strata loosening methods shall be preconceived.	Contractor
xv	Staggered dredging shall be carried based on turbidity monitoring to minimize the impact of turbidity.	Contractor should comply and maintain record
xvi	Threshold level of turbidity, which has a minimal effect on fauna, has to be predetermined and Dredging planned accordingly.	Contractor

Appendix – C

Following Environmental Safety Measures to be implemented by Contractor:

28. Sl. No.	**Environmental Safety measures to be implemented**	**Responsibility**
xvii	Further silt screens needs to be used for minimizing the spread of Turbidity.	Contractor
xviii	Disposal places of Dredged sediments needs to be predetermined, along the shore by assessment of suitability, which will not affect the shoreline (erosion) and also causing impacts during monsoon and flooding.	Contractor
xix	As much as possible, it shall not be disposed off in the river itself, and the site should be such that the dispersion is quicker by undertaking modelling studied.	Contractor
xx	Ballast water control and management measures shall be implemented.	Contractor
xxi	Waste and waste water reception facilities in Jetty shall be implemented.	Contractor should dispose the waste and wastewater at designated disposal place authorized by SPCB
xxii	The Risk and Disaster Management Plan has been prepared in consonance with the manual of terminals and harbours issued by the Ministry of Environmental and Forests dated 5th May 2010.	Contractor should follow the risk and disaster management plan for the purpose of dredging in river accordance with the Statutory/regulatory guidelines.
xxiii	Standard Operating Procedures (SOP) and Emergency Response Plan (ERP) for onsite and offsite emergencies shall be prepared and implemented based on Hazard Identification and Risk Assessment to handle, process, store and transport of hazardous substances.	Contractor should prepare and follow the Standard Operating Procedures (SOP) and Emergency Response Plan (ERP) for onsite and offsite emergencies for dredging in river accordance with Statutory/regulatory guidelines and IWAI consent
xxiv	Oil spill contingency plan shall be prepared and part of DMP to tackle emergencies. The equipment and recovery of oil from a spill shall be assessed. Guidelines given in MARPOL and shipping Acts for oil spill management shall be followed.	Contractor should implement the Oil Spill Contingency Plan for dredging in river accordance with Statutory/regulatory guidelines.
xxv	No diversion of the natural course of the river shall be made without prior permission from the Ministry of Water resources.	Contractor should ensure the same.
xxvi	All the erosion control measures shall be taken at water front facilities.	Contractor should ensure the same.
xxvii	Necessary Air Pollution Control measures shall be taken during loading, unloading, handling, transport of the material at the Berthing and water front facilities.	Contractor
xxviii	The Vessels shall comply the emission norms prescribed from time to time.	Contractor
xxiv	All safety measures are to be implemented in coordination with the respective state government departments such as State Forest Department, Public Works Department, State Pollution Control Board etc.	Contractor

Section IX. Particular Conditions of Contract

Except where otherwise indicated, all PCC should be filled in by the Employer prior to issuance of the Bidding Documents. Schedules and reports to be provided by the Employer should be annexed.

A. General

GCC 1.1 (d)	The financing institution is: IBRD by The World Bank Loan agreement number is 8752-IN
GCC 1.1 (r)	The Employer is **Vice Chairman & Project Director** **Inland Waterways Authority of India,** **Ministry of Ports, Shipping & Waterways** **Government of India** **A-13, Sector-1, Noida – 201301**
GCC 1.1 (v)	The Intended Completion Date is ***3 years from the Date of Commencement of Services.***
GCC 1.1 (y)	The Project Manager / Engineer-In-Charge for this contract is Officer-in-Charge, IWAI, Sahibganj. The Authorized Representatives are: **For the Employer:** Engineer in Charge & **OIC, IWAI, Sahibganj** Inland Waterways Authority of India **For the Contractor:** **(From successful Bidder)**
GCC 1.1 (aa)	Site is stretch between Farakka – Kahalgaon (146 Km) stretch of National Waterway-1.
GCC 1.1 (dd)	**Date of commencement of services / work:** (i) Within 28 days from the date of signing of the Contract, the Employer shall issue a Notice to the Contractor for commencing operations to meet the requirements of Works and Services stipulated in Section – VII (Description of the Works / Work's requirement).

(ii) The Contractor shall commence its activities immediately on receipt of the said Notice and notify the Employer within a period not exceeding 30 days from the date of receipt of said Notice that the Assured Least Available depth (LAD) of 3.0 m and channel bottom width of 45 m have been fully complied along with other related activities including provision of navigational aids.

(iii) The date on which the Engineer-in-charge or his representative, after receiving notification of readiness of Navigation Channel from the Contractor and after joint inspection of the channel with the Contractor, confirms that the entire stretch of the channel **Farakka - Kahalgaon satisfies** the requirement of LAD of 3.0 m and channel bottom width of 45 m shall be referred to as the **"Date of Commencement of Services".**

(iv) Engineer-in-charge shall inspect jointly with Contractor within a week of the said notification to confirm that the entire stretch of the channel **Farakka - Kahalgaon** satisfies the requirement of LAD of 3.0 m and Channel bottom width of 45 m.

(v) If the outcome of joint inspection is not satisfactory, Contractor will commence the required further activities immediately on receipt of Engineer-in-charge's intimation to this effect to meet the specified requirements. Within a period not exceeding 30 days from the date of receipt of said intimation from the Engineer- in-charge, or 60 days from the date of Employer's Notice to the Contractor for commencing operations, whichever is later,

The Contractor shall complete the required activities for making the Navigation Channel ready as specified. The Contractor shall then issue a revised Notification of readiness of Navigation Channel with LAD of 3.0 m and Channel bottom width of 45 m to the Engineer-in-charge.

(vi) The date of revised Notification referred to above will count as the **"Date of Commencement of Services"** (in supersession of the date arrived at earlier) provided joint inspection by the Engineer-in-charge with the Contractor confirms that the entire stretch of the channel **Farakka - Kahalgaon** satisfies the requirement of LAD of 3.0 m and Channel bottom width of 45 m.

(vii) Contractor's failure to achieve LAD of 3.0 m and Channel bottom width of 45 m within the time limit prescribed in the paragraph (v) above shall be treated as breach of the contract, requiring re-determining of the Date of Commencement of Services based on the third round of Joint Survey.

	(viii) In such an event, the Contractor shall submit a proposal to the Employer with justification seeking additional time for carrying out further activities to achieve the specified LAD of 3.0 m and Channel width of 45 m. Based on Engineer-in-charge's recommendation, the Employer will consider the proposal and if extension of time is considered justified (ix) The Employer may allow Contractor further time as may be considered reasonable under the circumstances, provided, however, that no further extension shall be considered. If the Joint Survey done on Contractor's Notification of readiness of the Navigation Channel, establishes that that the entire stretch of the channel **Farakka - Kahalgaon** satisfies the requirement of LAD of 3.0 m and Channel bottom width of 45 m, the date of Notification referred to herein shall be counted as the **Date of Commencement of Services.** (x) If the Joint Survey referred to in (vii) above reveals that the contractor has failed to achieve the specified LAD of 3.0 m and channel bottom width of 45m then in such case, the employer may consider LAD of 2.7 m depth and width has been of 45 m and the day when such LAD and width has been achieved shall be considered as **"Date of Commencement of Services".** (xi) It is clarified that LAD of 2.7 m may be considered only after 3rd joint survey for the purpose of defining "date of commencement of services", the overall LAD to be maintained by the contractor as per contract still remains 3.0 m during the contract period of 3 years.
GCC 1.1 (hh)	The Works consist of ***Fairway Maintenance of Farakka - Kahalgaon (146 km) stretch of National Waterway -1 (River Ganga)*** **The identification number of the Contract is *IN-IWAI-400748-CW-RFB*** **Obligation of the contractor: -** The Contractor shall carry out the following Dredging /Bandalling Works, which are detailed in the Section VII – Description of services: - • To Provide and maintain assured LAD of 3.0 m and Channel bottom width of 45 m with naturally side slopes during the entire Contract period of 3 years from the date of commencement of services. • To install and maintain the Day Channel Marking (Navigational Aids) throughout the Contract Period.

	• Assistance to Normal barge and vessels / crafts movement in the channel during dredging operation.
GCC 1.1 (ii)	The following is added as GCC 1.1. (ii) "ESHS" means environmental, social (including sexual exploitation and abuse (SEA) and gender-based violence (GBV)), health and safety.
GCC 1.1 (jj)	The following is added as GCC 1.1. (jj) "Sexual Exploitation and Assault" "(SEA)" stands for the following: Sexual exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. In Bank financed operations/projects, sexual exploitation occurs when access to or benefit from a Bank financed Goods, Works, Non-consulting Services or Consulting Services is used to extract sexual gain. Sexual assault is defined as sexual activity with another person who does not consent. It is a violation of bodily integrity and sexual autonomy and is broader than narrower conceptions of "rape", especially because (a) it may be committed by other means than force or violence, and (b) it does not necessarily entail penetration.
GCC 2.2	Sectional Completions are: **NOT Applicable / Not Allowed**
GCC 2.3 (i)	The following documents also form part of the contract:

S. No.	Document	Description of the Document
1.	Dredging Methodology	Dredging methodology given in bid and amended as per comments of Employer given in letter of acceptance.
2.	Quality Control	Quality control procedures and assurance plans given in the bid and amended as per comments of Employer given in letter of acceptance.
3.	ESHS Management Strategies	ESHS Management Strategies and Implementation Plans and EMP (Environment Management Plan)
4.	Environmental and Social	Appendix B - Environmental and Social (ES) Metrics for Progress Reports
5.	Work Requirement	Description of Services
6.	Post Bid Correspondence	Correspondence post-bid between Employer & Successful Bidder

	7.	Worker's Camp Management Plan	Labour Influx and Worker's Camp Management Plan including the process for mitigating construction related impacts on local community.
	8.	Code of Conduct (ESHS)	Code of Conduct of Successful Bidder's personnel on site with respect to ESHS aspects of work

GCC 3.1	The language of the contract is ***English***. The law that applies to the Contract is the laws of Union of India.
GCC 5.1	The EIC / Project Manager **may** delegate any of his duties and responsibilities to other suitably qualified and experienced personnel, after notifying the Contractor, and may cancel any delegation after notifying the Contractor.
GCC 7.1	The ceiling for sub-contracting is 25%. Hiding information about any sub-contracting not authorized by the Employer shall be treated as violation of Appendix A to General Conditions (Fraud and Corruption). The Contractor is specifically allowed to subcontract the following activities: (a) 20% of all dredging work; (b) Bandalling & Channel Marking works (c) Environmental and Social monitoring
GCC 8.1	Schedule of other contractors: - The Contractor shall not subcontract more than 10% under his own responsibility and without prior approval of the Employer the following Works and Services defined at GCC 7.1 For the Subcontracts beyond 10 %, the prior approval of the Employer shall be obtained.
GCC 9.1	GCC 9.1 is replaced with the following: Key Personnel are the Contractor's personnel named in this GCC 9.1 of the Particular Conditions of Contract. The Contractor shall employ the Key Personnel identified in its Bid, to carry out the Works. The contractor shall not change Key personnel indicated in their bid. If, for any reason beyond the reasonable control of the contractor, it becomes necessary to replace any of the key personnel, the contractor shall provide a replacement a person of equivalent or better qualification and experience with the approval of EIC / Project Manager.

	The Contractor shall have a Code of Conduct for the Contractor's Personnel, and shall ensure that each Contractor's Personnel is provided a copy of this Code of Conduct, written in a language comprehensible to that person, and shall seek to obtain that person's signature acknowledging receipt of the same. The Contractor shall also ensure that the Code of Conduct is visibly displayed in multiple locations on the Site and any other place where the Works will be carried out, as well as in areas outside the Site accessible to the local community and project affected people. The posted Code of Conduct shall be provided in languages comprehensible to Contractor's Personnel, Employer's Personnel and the local community. [insert the name/s of each Key Personnel agreed by the Employer prior to Contract signature, Schedule of Key Personnel and equipment as indicated in accepted bid & construction methodology].
GCC 9.2	The following is inserted as GCC 9.2 (e), (f), and (g): "(e) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Works; (f) has been recruited from the Employer's Personnel without due clearance; (g) breaches the Code of Conduct for the Contractor's Personnel (ES)."
GCC 9.10	The following is inserted as GCC 9.10: "The Contractor shall provide the Contractor's Personnel information and documentation that are clear and understandable regarding their terms and conditions of employment. The information and documentation shall set out their rights under relevant labour Laws applicable to the Contractor's Personnel (which will include any applicable collective agreements), including their rights related to hours of work, wages, overtime, compensation and benefits, as well as those arising from any requirements in the Specification; and shall also include the Code of Conduct for Contractor's Personnel. The Contractor's Personnel shall be informed when any material changes to their terms or conditions of employment occur."
GCC 9.11	The following is inserted as GCC 9.11: "The Contractor shall provide appropriate training to relevant Contractor's Personnel on ES aspects of the Contract, including appropriate sensitization on prohibition of SEA, and health and safety training. As stated in the Specification or as instructed by the Project Manager, the Contractor shall also allow appropriate opportunities for the relevant Contractor's Personnel to be trained on ES aspects of the Contract by the Employer's Personnel.

	The Contractor shall provide training on SEA, including its prevention, to any of its personnel who has a role to supervise other Contractor's Personnel.
GCC 13.1	The Contractor shall take out and maintain in effect the following insurances in the sums and deductibles shown below: (i) Third Party motor vehicle: As per MV Act (ii) Third Party liability: as per Inland Vessel Act 2021 (iii) Group Insurance Cover for the persons on Vessel / Board. (iii) Employer's liability and workers' compensation: Nil (iv) Professional liability: Twice the value of contract for the entire period of the contract (v) Loss or damage to equipment and property: Minimum INR 10,000,000/- for each accident for the currency of the contract
GCC 13.6	**Following is inserted after GCC 13.5** **1. Insurance of Works** Contractor is required to take Contractor's All Risk Policy or erection all risk policy (as the case may be) from an approved insurance company in the joint name with the Employer and bear all costs towards the same for the full period of execution of works including the defect liability period for the full amount of contract against all loss of damage from whatever cause arising other than excepted risks for which he is responsible under the terms of the contract and in such manner that the Employer and the contractor are covered during the period of construction of works and/or also covered during the period of defect liability for loss or damage A. The work and the temporary works to the full value of such works. B. All materials, plants and other things brought to the site for their full value Whenever required by the Employer, the contractor shall produce the policy or the policies of insurance and the receipts for payment of the current premium. **2. Insurance under Workmen Compensation Act** Contractor is required to take insurance cover under the Workman Compensation Act, 1923 as amended from time to time from an approved insurance company and pay premium charges thereof. Wherever required by the Employer the contractor shall produce the policy or the policies of Insurance and the receipt of payment of the current premiums. **3. Third Party Insurance**

Contractor is required to take third party insurance cover for an amount of 5% (five percent) of contract value from an approved insurance company for insurance against any damage, injury or loss which may occur to any person or property including that of the Employer, arising out of the execution of the works or temporary works. Wherever required by the Employer the contractor shall produce the policy or the policies of Insurance and the receipt of payment of the current premiums. In case of failure of the contractor to obtain contractors all risk policy, insurance under workman compensation act and third-party insurance as described above within one month from the date of commencement of work, running account payments of the contractor shall be withheld till such time the aforesaid insurance covers are obtained by the contractor. If the Contractor could not effect a comprehensive insurance cover against risks which he may be required to effect under the terms of the contract, then he shall give his attention to get the best insurance cover available and even in case of effecting a wider insurance cover than the one which the subsidiary of the General Insurance Company could offer, such an insurance is ought to be done after the Employers approval, by or through the subsidiary of the General Insurance Company.

4. Indemnify the Employer

The Contractor shall at all times indemnify the Employer against all claims, damages or compensation under the provision of Payment of Wages Act-1936, Minimum Wages Act-1948, Employer's liability Act-1938, the Workmen's Compensation Act-1947, Industrial Disputes Act-1947 and Maternity Benefit Act-1961 or any modifications thereof or any other law in force or as consequence of any accident or injury to any workman or other persons in or about the works, whether in the employment of the contractor or not, against all costs, charges and expenses of any suit, action or proceedings arising out of such incident or injury and against all sum or sums which may with the consent of the contractor be paid to compromise or compound any such claim. Without limiting his obligations and liabilities as above provided, the contractor shall insure against all claims, damages or compensation payable under the Workmen's Compensation Act 1923 or any modification thereof or any other law relating thereto."

5. Damage to Persons and Property

The Contractor shall, except if and so far as the Contract provides otherwise, indemnify the Employer against all losses and claims in respect of:
(a) death of or injury to any person, or
(b) loss of or damage to any property (other than the Works), which may arise out of or in consequence of the execution and completion of the Works and the remedying of any defects therein, and against all claims, proceedings, damages,

costs, charges and expenses whatsoever in respect thereof or in relation thereto, subject to the exceptions defined in Sub-Clause 6.

6. Exceptions

The "exceptions" referred to in Sub-Clause 5 are:
(a) the permanent use or occupation of land by the Works, or any part thereof,
(b) the right of the Employer to execute the Works, or any part thereof, on, over, under, in or through any land,
(c) damage to property which is the unavoidable result of the execution and completion of the Works, or the remedying of any defects therein, in accordance with the Contract, and
(d) death of or injury to persons or loss of or damage to property resulting from any act or neglect of the Employer, his agents, servants or other contractors, not being employed by the Contractor, or in respect of any claims, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto or, where the injury or damage was contributed to by the Contractor, his servants or agents, such part of the said injury or damage as may be just and equitable having regard to the extent of the responsibility of the Employer, his servants or agents or other contractors for the injury or damage.

7. Indemnity by Employer

The Employer shall indemnify the Contractor against all claims, proceedings, damages, costs, charges and expenses in respect of the matters referred to in the exceptions defined in Sub-Clause.6.

8. Cross Liabilities

The insurance policy shall include a cross liability clause such that the insurance shall apply to the Contractor and to the Employer as separate insured.

9. Accident or Injury to Workmen

The Employer shall not be liable for in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or any Subcontractor, other than death or injury resulting from any act or default of the Employer, his agents or servants. The Contractor shall indemnify and keep indemnified the Employer against all such damages and compensation, other than those for which the Employer is liable as aforesaid, and against all claims, proceedings, damages, costs, charges, and expenses whatsoever in respect thereof or in relation thereto.

	10. Evidence and Terms of Insurances The Contractor shall provide evidence to the Employer as soon as practicable after the respective insurances have been taken out but, in any case, prior to the start of work at the Site that the insurances required under the Contract have been effected and shall, within 84 days of the Commencement Date, provide the insurance policies to the Employer. When providing such evidence and such policies to the Employer, the Contractor shall notify the Engineer of so doing. Such insurance policies shall be consistent with the general terms agreed prior to the issue of the Letter of Award. The Contractor shall effect all insurances for which he is responsible with insurers and in terms approved by the Employer. **11. Adequacy of Insurances** The Contractor shall notify the insurers of changes in the nature, extent or programme for the execution of the Works and ensure the adequacy of the insurances at all times in accordance with the terms of the Contract and shall, when required, produce to the Employer the insurance policies in force and the receipts for payment of the current premiums. **12. Remedy on Contractor's Failure to Insure** If the Contractor fails to effect and keep in force any of the insurances required under the Contract, or fails to provide the policies to the Employer within the period required by Sub-Clause 13.2, then and in any such case the Employer may effect and keep in force any such insurances and pay any premium as may be necessary for that purpose and from time to time deduct the amount so paid from any monies due or to become due to the Contractor, or recover the same as a debt due from the Contractor. **13. Compliance with Policy Conditions** In the event that the Contractor or the Employer fails to comply with conditions imposed by the insurance policies effected pursuant to the Contract, each shall indemnify the other against all losses and claims arising from such failure. **14. Source of Insurance** The Contractor shall place all insurance relating to the Contract (including, but not limited to, the insurance referred to 13.2 with insurers from India.
GCC 14.1	Site Data are:

	The relevant drawings and data of Farakka – Kahalgaon stretch with chainages are provided in the bid document.
GCC 15.2	The following is added as sub-clause 15.2: "If so, instructed by Project Manager, the Contractor shall submit to the Project Manager for review, a health and safety manual, specifically prepared for the Works, the Site and other places (if any) where the Contractor intends to execute the Works. The manual shall be in addition to any other similar document required under applicable health and safety regulations and Laws. The health and safety manual and its updates shall be reviewed along with the Contractor's Environmental and Social Management Plan (C-ESMP) described in sub-clause 16.2."
GCC 16.2	The following is inserted as a new sub-clause 16.2: **ES Management Strategies and Implementation Plans** "The Contractor shall not carry out mobilization to Site (e.g. limited clearance for haul roads, site accesses and work site establishment, geotechnical investigations or investigations to select ancillary features such as quarries and borrow pits) unless the Project manager gives consent, a consent that shall not be unreasonably delayed, that appropriate measures are in place to address environmental and social risks and impacts, which at a minimum shall include applying the Management Strategies and Implementation Plans (MSIPs) and Code of Conduct for Contractor's Personnel submitted as part of the Bid and agreed as part of the Contract. The Contractor shall submit, to the Project manager for Review any additional MSIPs as are necessary to manage the ES risks and impacts of ongoing Works (e.g., excavation, earth works, bridge and structure works, stream and road diversions, quarrying or extraction of materials, concrete batching and asphalt manufacture). These MSIPs collectively comprise the Contractor's Environmental and Social Management Plan (C-ESMP). The Contractor shall review the C-ESMP, periodically (but not less than every six (6) months), and update it as required to ensure that it contains measures appropriate to the Works. The updated C-ESMP shall be submitted to the Project manager for Review."
GCC 20.1	**The Site Possession Date / Mobilization** shall not be later than 45 days after the issuance of the Letter of Award / Acceptance by the Employer. The Site Possession Date(s) shall be: Date on which Contractor mobilizes at site.
GCC 22.4	The following is inserted as new Sub-clause 22.4: The LADs shall be measured on weekly basis by conducting the joint weekly surveys. The employer has engaged a third-party Supervision agency (TSSC-III)

	who shall be participating in the Joint Surveys along with the Employer's personnel. The LADs, Channel width and Day channel marks shall be certified by TSSC-III for further submission to EIC & Employer.
GCC 23.1	Name of the agreed Adjudicator …….. *(insert name before signing contract)*.
GCC 23.2	Appointing Authority for the Adjudicator: **Indian Council of Arbitration**
GCC 24.3	Daily rate and types of reimbursable expenses to be paid to the Adjudicator: Rs. 10,000 per day and reimbursable expenses – boarding/lodging/travel etc.
GCC 24.4	**The procedure for adhoc arbitration will be as under:** a) In case of Dispute or difference arising between the Employer and a Contractor relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996. The arbitral tribunal shall consist of 3 Arbitrators one each to be appointed by the Employer and the Contractor. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties and shall act as Presiding Arbitrator. In case of failure of the two Arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the Arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the Indian Council of Arbitration b) If one of the parties fails to appoint its Arbitrator in pursuance of sub-clause (a) above within 30 days after receipt of the notice of the appointment of its Arbitrator by the other party, then the Indian Council of Arbitration, shall appoint the Arbitrator. A certified copy of the order of the Indian Council of Arbitration, making such an appointment shall be furnished to each of the parties. c) Arbitration may be commenced prior to or after completion of the Works, provided that the obligations of the Employer, the Project Manager, the Contractor and the Adjudicator shall not be altered by reason of the arbitration being conducted during the progress of the Works. d) Arbitration proceedings shall be held at New Delhi and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English. e) The decision of the majority of Arbitrators shall be final and binding upon both parties. The cost and expenses of Arbitration proceedings will be paid as determined by the arbitral tribunal. However, the expenses

	incurred by each party in connection with the preparation, presentation, etc. of its proceedings as also the fees and expenses paid to the Arbitrator appointed by such party or on its behalf shall be borne by each party itself. f) Deleted. g) The Arbitrator should give final award within 180 days of starting of the proceedings h) Performance under the contract shall continue during the arbitration proceedings and payments due to the contractor by the Employer shall not be withheld, unless they are the subject matter of the arbitration proceedings.
B. Time Control	
GCC 26.1	The Contractor shall submit a Program for the Works within 14 days of delivery of the Letter of Acceptance.
GCC 26.2	Inserted at the end of GCC 26.2: **ES Reporting** "In addition to the progress report, the Contractor shall also provide a report on the Environmental and Social (ES) metrics set out in Appendix B. In addition to Appendix B reports, the Contractor shall inform the Project Manager immediately of any allegation, incident or accident in the Site, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel or Contractor's Personnel. This includes, but is not limited to, any incident or accident-causing fatality or serious injury; significant adverse effects or damage to private property; or any allegation of SEA. In case of SEA, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, or sexual assault), gender and age of the person who experienced the alleged incident should be included in the information. The Contractor, upon becoming aware of the allegation, incident or accident, shall also immediately inform the Project Manager of any such incident or accident on the Subcontractors' or suppliers' premises relating to the Works which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel or Contractor's, its Subcontractors' and suppliers' personnel. The notification shall provide sufficient detail regarding such incidents or accidents. The Contractor shall

	provide full details of such incidents or accidents to the Project Manager within the timeframe agreed with the Project Manager. The Contractor shall require its Subcontractors to immediately notify the Contractor of any incidents or accidents referred to in this Sub-clause."
GCC 26.3	The period between Program updates is *90* days. The amount to be withheld for late submission of an updated Program is Rs. 500,000.
GCC 26.4	Add this after the clause GG 26.4: Any revision in Program should only be agreed in writing.
GCC 27.1	Intended Completion Date: The Intended Completion Date is **Three years** from the "Date of Commencement of Services".
GCC 27.2	**Extension of Contract beyond 3 years:** The Contract is extendable for further period of 2 Years based on satisfactory performance of the contractor. For the purpose of rates, the same shall be worked out based on the average of the lump sum quoted amounts for three years in the awarded cost (their bid) with existing Terms and Conditions. Price Adjustment shall be payable as per existing Terms & Conditions for this extended period.
GCC 30.1	Venue of management meeting will be IWAI - NOIDA
C. Quality Control	
GCC 34.3	The Defects Liability Period is: NIL days. i.e., Not Applicable
D. Cost Control	
GCC 37	The payment will be based on assured LAD of 3.0 m and 45 m channel width and sufficient day channel marks ascertained during 4-weekly Joint surveys in a month and as certified by TSSC-III & EIC.
GCC 38.2	In GCC 38.2, add the following after the first sentence: "The Contractor shall also provide a description of the varied work performed or to be performed, including details of the resources and methods adopted or to be adopted by the Contractor, and sufficient ES information to enable an evaluation of ES risks and impacts of the Variation."
GCC 40.1	GCC 40.1 to be read as:

Inspections during weekly Joint Survey

Services provided by the Contractor during contract period of 3 years shall be checked every week through a Joint Survey (4 weekly joint surveys in a month) by Engineer–in-Charge / EIC Representative, TSSC-III and Contractor in the manner tabulated below:

SN	Inspection schedule	Employer's representative	Contractor's Representative
1.	1st Week of every month	JHS / TA / SUPERVISOR	One Hydrographic Surveyor & one supervisor / Engineer
2.	2nd Week of every month	AD / AHS / TA / JHS	One Hydrographic Surveyor & One Engineer
3.	3rd Week of every month	JHS / TA / SUPERVISOR / FA	One Hydrographic Surveyor & One supervisor / Engineer
4.	4th Week of every month	DD / AHS / AD / JHS / One Officer from HQ	One Hydrographic Surveyor & One senior level officer by the Project Manager

TA - Technical Assistant, JHS - Junior Hydrographic Surveyor,
FA - Field Assistant, DD - Deputy Director,
AHS - Assistant Hydrographic Surveyor, AD - Assistant Director

GCC 40.3

GCC 40.3 to be read as:

Measurements during weekly joint surveys: -

Works & Services provided by the Contractor shall be checked every week through a Joint Survey by Engineer–in-Charge / Employer's Representative, Technical Support Services Consultant – III and Contractor in the manner tabulated at 40.1 above.

The scale of surveys should be 1:5000 for all four weekly surveys in the month. Contractor will prepare the survey charts and submit to Employer for approval along with soft copy, Measurement Book etc. related to the measurement. Employer will issue the approved charts to the Contractor.

The measurement of depth in the navigation channel shall be carried out by conducting bathymetric survey every week jointly & its chart should be plotted by the Contractor in presence of Employer's representative. *However, Contractor shall also ensure measurement of width in each survey and shall carry*

	out the surveys in order to define the minimum width of 45 m as specified in Scope. In case shortcomings in maintaining the specified LAD and width of channel are observed by the Employer's representative, the cross-sectional survey shall be carried out and the cross-sectional interval shall be 10 m apart and soundings shall be taken continuously and plotted at 4 m interval on the cross section The cross-section shall be extended, if necessary, up to 20 m beyond the limits of the channel on each side with a view to determining the remedial measures to be taken by the Contractor. Sounding vessel/ boat, equipment, personal & other logistics required for conducting surveys/ inspection shall be arranged by the Contractor at his cost. Recording type multi-beam echo-sounder with digital output shall be used in all survey work. However, keeping in view the site conditions and practicability/prevailing weather conditions, the Engineer-in-Charge shall after consulting with the Contractor, decide and advise the Contractor as to the method of measurement to be adopted. Joint surveys shall be conducted in Automatic Hydrographic Survey System (HYPACK) and recorded data in soft copy shall be submitted to the Employer.
GCC 40.7	Add new GCC 40.7: "40.7 if the Contractor was, or is, failing to perform any ES obligations or work under the Contract, the value of this work or obligation, as determined by the Project Manager, may be withheld until the work or obligation has been performed, and/or the cost of rectification or replacement, as determined by the Project Manager, may be withheld until rectification or replacement has been completed. Failure to perform includes, but is not limited to the following: (i) failure to comply with any ES obligations or work described in the Works' Requirements which may include: working outside site boundaries, excessive dust, damage to offsite vegetation, pollution of water courses from oils or sedimentation, contamination of land e.g., from oils, human waste, damage to archaeology or cultural heritage features, air pollution as a result of unauthorized and/or inefficient combustion; (ii) failure to regularly review C-ESMP and/or update it in a timely manner to address emerging ES issues, or anticipated risks or impacts;

	(iii) failure to implement the C-ESMP e.g., failure to provide required training or sensitization; (iv) failing to have appropriate consents/permits prior to undertaking Works or related activities; (v) failure to submit ES report/s (as described in Appendix B), or failure to submit such reports in a timely manner; (vi) failure to implement remediation as instructed by the Project Manager within the specified timeframe (e.g., remediation addressing non-compliance/s).
GCC 41.1	Interest Rate for delayed payment is SBI Prime Lending Rate + 2% per annum.
GCC 41.1.1	New Clause added. The amount, exclusive of GST which will be payable by the Employer as legally applicable, in INR. **Payment shall be made monthly to the contractor.** The Contractor shall be eligible to claim payments for services rendered by him during contract period of 3 years as a percentage of the value of the works for the respective month of the year of operation (subject to deductions as per PCC 47.1) in accordance with the details tabulated below:

S. No.	**Month**	**% Applicable for the relevant month of service during contract period**
1.	January	10.0
2.	February	10.0
3.	March	10.0
4.	April	10.0
5.	May	10.0
6.	June	7.50
7.	July	5.0
8.	August	5.0
9.	September	5.0
10.	October	7.5
11.	November	10.0
12.	December	10.0
		100.0

GCC 45.1

GCC 45.1 to be read as:

The contract is subject to price adjustment in accordance with GCC Clause 45 and following information regarding coefficients.

The Price Adjustment will be done on monthly basis.

The amounts certified in each Running Account Bill/payment certificate, after deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the amounts due to the Operator.

The Price adjustment factor for the Works & Services rendered in a month shall be determined using the coefficients/weightings of relevant Indices as under:

Index	Index Description	Source of Index	Weightage
L	**Labour –** All India (CPI) Consumer Price Index for Industrial Workers	Labour Bureau, Ministry & Employment, Government of India	**0.278**
F	**High Speed Diesel** -All India Wholesale Price Index	Office of the Economic Advisor to the Govt. of India. Ministry of Commerce & Industry	**0.50**

Price Adjustment Factor Pc = 0.222 + 0.278 X L_m/L_0 + 0.50 X F_m/F_0

Price Adjustment for Works & Services rendered in a month = **R x (Pc – 1)**

where,

L_m = CPI for the month in which the Works & Services have been provided

L_0 = CPI for the month preceding the deadline for bid submission

F_m = WPI for the month in which the Works & Services have been provided

F_0 = WPI for the month preceding the deadline for bid submission

R = Running Account Bill amount for Works & Services rendered in a month after making deductions (a) as stipulated in PC 47.1 for failure to achieve LAD and Channel Bottom Width, and (b) towards repayment of Advance Payment.

GCC 46.1

Retention Money – Not Applicable.

GCC 47.1

GCC 47.1 to be read as:

The Liquidated Damages (LD) / Deductions is applicable.

If in any section of the channel, available depth or width of channel is found to be less than that specified in Section VII, Work Requirements / Description of Services, as determined during the course of weekly joint surveys conducted in accordance with GCC 40.1, deduction shall be made from the Contractor's monthly bills as following:

S No.	Deductions for the Assured Depth Period of services from the Date of Commencement of Service LAD – 3.0 m & Channel Width - 45 m	Deduction to be applied as percentage of monthly bill for each non-compliance found in a joint weekly survey during the month
1.	On achieving the assured depth of 3.0 m & width of 45 m	Nil
2.	On achieving the assured depth of 2.9 m & width of 45 m	20 % for each weekly default
3.	On achieving the assured depth of 2.8 m & width of 45 m	30 % for each weekly default
4.	On achieving the assured depth of 2.7 m & width of 45 m	50 % for each weekly default
5.	For a depth less than 2.7 m & width of 45 m	100% for each weekly default
6.	a) If a weekly joint survey establishes that the Contractor failed to maintain the navigational marks according to stipulations in Section VII, Description of Services to the Contract, deductions shall also be made from the respective monthly bill @ **5 %** of the verified payable amount for each such weekly default.	
	b) If the contractor consistently fails to provide requisite deliverables during contract period, and total amount of payment deduction and liquidated damages applied under this contract reaches ten percent (**10%**) of total contract price, then it will be considered as fundamental breach of contract under GCC 57.2.	
	c) In the event, if the Dredging Contractor does not provide the minimum 2.7 m LAD & 45 m channel bottom width (CBW) in all four weeks in a month then, apart from the above deductions as per PCC 47.1, an additional penalty @ 1% of the maximum bill that would have been claimed in that month (i.e., in no default condition) shall be recovered in next RA bill of the dredging contractor.	

	d) In the event, the above condition persists continuously for three months, then, penalty applicable shall be @ 2% of the maximum bill that would have been claimed in that month (i.e., in no default condition) shall be recovered in next RA bill of the dredging contractor and this shall be continued to be deducted until the default condition persists. The penalty effected & deduction made on account of Lack of Performance shall not be refundable.

The operation of the above Table shall be as under:

Monthly payment in No-default condition (Mp) = Per Month Amount Quoted by the contractor.
Weekly Amount Payable in No-default condition (Wp) = MP/4
Weekly Default Deductions (Wd)1,2,3,4 = [Mp/4) * % age] where % age of default as per table mentioned above
Monthly Amount to be paid to contractor (Map) = Mp - [Wd1+Wd2+Wd3+Wd4]

Example: ... Suppose,

a. Per Month Amount quoted by the contractor is 1 crore (Mp) and

b. LADs given by contractor in four weekly surveys of December is 2.7 m, 2.9 m, 2.6 m and 3.2 m respectively

Then,

Week 1 deduction amount (Wd1) = Mp/4 X 50% = 12.5 Lakhs
Week 2 deduction amount (Wd2) = Mp/4 X 20% =-5 Lakhs
Week 3 deduction amount (Wd3) = Mp/4 X 100% = 25 Lakhs
Week 4 deduction amount (Wd4) = Mp/4 X 0% = 0

Actual Monthly Amount Payable to contractor, Map = Mp - [Wd1 + Wd2 + Wd3 + Wd4]
=100 Lakhs – [12.5 Lakhs + 5 Lakhs + 25 Lakhs + 0]
= **57.5 Lakhs**

Deduction for not providing sufficient day channel marks-

In case of no default in providing day channel marks (min 220 nos. Day channel marks provided in December)

Monthly Due to Contractor
(Md) = Map = **57.5 Lakhs**

	In case of default in providing day channel marks (Less than 220 nos. Day channel marks provided in any week of December) Monthly Due to Contractor: (Md) = [Map – 5% of Map] = [57.5 Lakh – 5% of 57.5 Lakhs] = **54.625 Lakhs**
GCC 48.1	Deleted
GCC 49.1	GC 49.1 to be read as: The amount of the Advance Payment is ten (10) percent of the Contract Price. The Advance payment will be made after successful verification of the submitted unconditional Advance Bank Guarantee. **Repayment of Advance Payment**: The advance shall be recovered in 24 months (in equal tranches) from the monthly Running Account bills submitted from the 6th RA Bill from the Date of Commencement of Works irrespective of the RA bill amount. In case, the monthly RA bill for any month is less than the advance amount to be recovered, then the balance amount recoverable for this month shall be recovered from the subsequent RA bill along with the recovery of advance for that month. If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination of the Contract, the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Employer. The advance payment security (demand guarantee) shall be issued by a reputable bank or financial institution selected by the Contractor and shall be in the Advance Payment Security Form included in Contract Forms, or in another form approved by the Employer. The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been fully repaid. The amount of the security shall be reduced in proportion to the value of the Works and Services executed by and paid to the Contractor yearly, and shall automatically become null and void when the full amount of the advance payment has been recovered by the Employer. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid. The security shall be returned to the Contractor immediately after full amount of Advance Payment has been repaid.

GCC 50.1	GCC 50.1 is replaced with the following: Environmental, Social, Safety and Health (ESHS) Performance Security The contractor shall within twenty-eight (28) days of the notification of contract award, provide a Performance Security and an Environmental, Social, Safety and Health (ESHS) Performance Security for the due performance of the Contract. • The Performance Security will be in the form of a 'demand guarantee' in the amount of 5% of the contract amount in the types and proportions of the currencies in which the Contract Price is payable, or in a freely convertible currency acceptable to the Employer • The ESHS Performance Security will be in the form of a "demand guarantee" in the amount(s) of 1.5% of the Contract Amount and in the same currency(ies) of the Accepted Contract Amount. • Plus, additional security for unbalanced bids (if any) to be decided during evaluation of bids and informed to Bidders at the time of Pre-award discussions The Bank Guarantee issued in paper shall become operative only when the Bank Guarantee advice transmitted through SFMS is advised to the Beneficiary by the Advising Bank. **Bank details are as given below:** Advising Bank: CANARA BANK Bank Account no.: 87781010014534 IFSC Code: CNRB0018778 Name of beneficiary: IWAI FUND Jal Marg Vikas Branch name: Morna - Sector 18, NOIDA Address: B 16 /17, Ground Floor, Sector-18, NOIDA – 201301 The standard forms of Performance Security, and ESHS performance security, acceptable to the Employer shall be unconditional Bank Guarantees from Scheduled or Nationalized banks in India of the types as presented in Section X of the Bidding Documents. Throughout this bidding document the term 'performance security', unless the context clearly indicates otherwise, means and includes both 'the performance security and the ESHS performance security' to be submitted by the successful bidder in the amounts specified above.

	The Performance Security shall be issued by a reputable bank or financial institution selected by the Contractor, and shall be in the Performance Security Form included in Section IX, Annex to the Particular Conditions – Contract Forms, or in another form approved by the Employer. The ESHS Performance Security shall be issued by a reputable bank selected by the Contractor, and shall be in the ESHS Performance Security Form included in Section IX, Annex to the Particular Conditions – Contract Forms, or in another form approved by the Employer. A foreign institution providing a Performance Security or ESHS Performance Security shall have a correspondent financial institution located in the Employer's Country. The performance security and the ESHS performance security, of a Joint Venture shall be in the name of the Joint Venture specifying the names of all the members. The Contractor shall ensure that the Performance Security and the ESHS Performance Security are valid and enforceable until the Contractor has executed and completed the Works and Services and other obligations (including defect liability and satisfactory performance of the ESHS obligations) under the Contract. If the terms of the Performance Security and ESHS Performance Security specify expiry dates, and the Contractor has not yet executed and completed the Works and Services and other obligations under the Contract, by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security and the ESHS Performance Security until the Works and Services and all other obligations under the Contract have been completed. In case of any dispute with State Govts. (Forest / Mining / Revenue etc.) regarding selling of dredged material, IWAI may forfeit the Performance Security of the contractor.
GCC 54.1	Taking over - Not Applicable Partial completion shall not be accepted, and no partial completion certificate shall be issued.
GCC 56.1	Not Applicable
GCC 56.2	Not Applicable
GCC 57.2 (g)	Not Applicable
GCC 57.2 (l)	Hiding any information regarding changes in roles and responsibilities of JV members, which is not authorized by the Employer, shall also be treated as violation of Appendix A to General Conditions (Fraud and Corruption).
GCC 57.2 (m)	New Clause added:

	The contractor consistently fails to execute the contract and the total amount of payment deductions and liquidated damages applied under this contract as per PC 47.1 reaches Ten percent (**10%**) of total contract amount.
GCC 57.6	**Foreclosure of Contract – New Clause Added** If at any time after acceptance of the tender the Authority decides to abandon or reduce the scope of the works for reasons whatsoever and hence does not require the whole or any part of the works to be carried out, the Engineer-in-Charge (with the prior approval of competent authority) shall give notice in writing to that effect to the contractor. However, pro-rata payment shall be made for the completed works, as agreed mutually
GCC 58.1	The percentage to apply to the value of the work not completed, representing the Employer's additional cost for completing the Works, is 20% if the work is terminated on account of default of the contractor.
GCC 59.1	Not Applicable.
In addition to be above, the following shall also form part of GCC / SCC	
GCC 62.0 Force Majeure (New Clause added)	New Clause added. 62.1 "**Force Majeure**" shall mean any event beyond the reasonable control of the Employer or of the Contractor, as the case may be, insofar as they directly affect the execution of the Services and Works included in this Contract and which is unavoidable notwithstanding the reasonable care of the party affected, and shall include, without limitation, the following: (a) war, hostilities or warlike operations (whether a state of war be declared or not), invasion, act of foreign enemy and civil war; (b) rebellion, revolution, insurrection, mutiny, usurpation of civil or military government, conspiracy, riot, civil commotion and terrorist acts; (c) confiscation, nationalization, mobilization, commandeering, requisition by or under the order of any government or de jure or de facto authority or ruler or any other act or failure to act of any local state or national government authority; (d) strike, sabotage, lockout, embargo, import restriction, port congestion, lack of usual means of public transportation and communication, industrial dispute, shipwreck, shortage or restriction of power supply, epidemics, quarantine and plague; (e) earthquake, landslide, volcanic activity, fire, flood or inundation, tidal wave, typhoon or cyclone, hurricane, storm, lightning, or other inclement weather condition, nuclear and pressure waves or other natural or physical disaster;

(f) Shortage of labor, materials or utilities were caused by circumstances that are themselves Force Majeure.

(g) The event of water level falling below the 'minimum of last 30 years' from the Central Water Commission (CWC) gauge situated at Bateshwar Sthan.

62.2 If either party is prevented, hindered or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances thereof within fourteen (14) days after the occurrence of such event.

62.3 The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or delayed. The Time for Completion shall be extended in accordance with GC Clause 64.

62.4 The party or parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect thereof upon its or their performance of the Contract and to fulfil its or their obligations under the Contract, but without prejudice to either party's right to terminate the Contract under GC Sub-Clause 38.6.

62.5 No delay or non-performance by either party hereto caused by the occurrence of any event of Force Majeure shall

(a) constitute a default or breach of the Contract;

(b) give rise to any claim for damages or additional cost or expense occasioned thereby;

if and to the extent that such delay or non-performance is caused by the occurrence of an event of Force Majeure.

62.6 If the performance of the Contract is substantially prevented, hindered or delayed for a single period of more than sixty (60) days or an aggregate period of more than one hundred and twenty (120) days on account of one or more events of Force Majeure during the currency of the Contract, the parties will attempt to develop a mutually satisfactory solution, failing which either party may terminate the Contract by giving a notice to the other, but without prejudice to either party's right to terminate the Contract under GC Clause 59.

62.7 In the event of termination pursuant to GC Sub-Clause 38.6, the rights and obligations of the Employer and the Contractor shall be as specified in GC Sub-Clauses 59.1.2 and 59.1.3.

	62.8 Notwithstanding GC Sub-Clause 38.5, Force Majeure shall not apply to any obligation of the Employer to make payments to the Contractor herein.
GCC 63 Surveys and Levels	**Surveys and Levels** Before the works of any part thereof begin, the Contractor shall survey and take levels of the site of the works both above and below water level and agree all particulars on which the measurements of the works are to be based. Such particulars shall be recorded and after agreement; the drawings shall be signed by the Employer / Engineer-In-Charge and the Contractor. Similar procedure is to be followed in post dredging survey. Failing such surveys and agreements being prepared and/or signed by the Contractor, the survey carried out by the Engineer shall be final and binding on the Contractor.
GCC 64 Setting out the works (New clause added)	**Setting out the Works (New Clause added):** The Employer shall furnish the relevant existing grid points with bench Mark with reference to permanent bench marks. It shall be Contractor's responsibility to the set out the necessary central points on land and to set out alignment. The Contractor shall have in his employees, an efficient survey team for this purpose and the accuracy of such setting out works shall be Contractor's sole responsibility. Before beginning the work, the Contractor shall work out the control points on ground which, are pre requisite for carrying out hydrographic surveys, accurately, with suitable markers as approved by Employer. All these points and markings shall be checked and approved by Employer's Representative before starting the work. The Contractor shall also provide necessary equipment, labour and other facilities for proper checking of triangulation / bench mark stations and inspection of the points during the survey and dredging operations at no cost to the Employer. The Contractor shall give Engineer-in Charge not less than 24 hours' notice in writing of his intention to set out or give levels for any part of the works so that arrangements may be made for checking the work. Work shall be suspended for such times as necessary for checking lines and levels on any part of the works. The Contractor shall at his own expense provide all assistance which Engineer-in Charge may require for checking the setting out.

GCC 65 Conditions for Dredging Operations (New clause added)	**Conditions for Dredging Operations (New Clause added):** 1) No shifting charges will be paid to the contractor for shifting the dredger and its accessories from one shoal to another shoal or from one area / canal to another area / canal specified above. 2) Normal barge and vessels / crafts movement in the channel shall not be interrupted by the dredging operation. 3) The decision of EIC to accept the work done with or without the Liquidated damages shall be final and binding. 4) The measurement of depth in the navigation channel shall be carried out by conducting bathymetric surveys every week, jointly by the Contractor and the representative of IWAI under the supervision of Engineer-in-charge or his nominee & its chart should be plotted by the contractor in presence of Engineer representatives. In case of shortcomings observed by the Engineer-in-charge or his nominee, the cross-sectional survey is to be carried out and the cross-sectional interval shall be 10 m apart and soundings shall be taken continuously and plotted at 4 m interval on the cross-section. The cross-section shall be extended up to 20 m beyond the limits of the channel on either side. 5) No idle time charges will be paid to the contractor on any account. Local issues / hindrances, if any, would be addressed by the Contractor. IWAI would facilitate with local/govt. agencies. 6) The Contractor shall arrange the transits, buoys, lights, mooring etc. at their own cost as required for dredging and also for cautioning other vessels in the waterway. 7) The Employer / Engineer-in-charge or his representative will inspect, co-ordinate, measure and certify the dredging work. He has the right to inspect at any time during the contract period for which contractor's authorized agent shall be available at site during such inspection. 8) The Contractor shall provide the boat from shore to dredger and back to shore during inspection & supervision by the Employer / Engineer-in-Charge or his representative. 9) The Contractor may execute the work round the clock and on all days including Sundays and Public Holidays except National Holidays subject to such restriction as may be imposed by State Govt./local body.

10) If the Contractor's personnel or any outside labour employed to work during execution of Contract, breaks or damages / destroys any vessel, craft, net, fishing stakes etc. building, road, kerb, water pipe, fence, bund, wires, trees, crop, fruit or cultivated ground during the period of agreement, the same shall be made good by the Contractor at his own expenses or in default the IWAI may cause the same to be made good by other sources and deduct the expenses from any sums that may be then or at any time thereafter may become due to the contractor.

11) The Contractor is fully responsible for solving the disputes with the local fishermen w.r.t. removal of fishing nets, stakes, from the dredged channel. Similarly, all disputes with regard to the dumping of dredge spoil, any prior permission or arrangement on deemed fit for avoiding bank erosion or damage to any property or agriculture would be handled by contractor. The Authority shall not be responsible for solving the disputes related to execution of the dredging. However, on request IWAI may extend the assistance for solving the issues only through the concerned official/dept. of the state or local bodies.

12) The Contractor shall be responsible for dumping of the dredged materials. Any arrangement with respect to the bund around the identified dumping area is to be made by the Contractor at his cost. Any dispute with local, land owner on the dumping of dredging spoil to be sorted out by the Contractor.

13) The Employer may engage the agency on behalf of the Contractor as per the state/central Govt organization on pollution or coastal management authority to carry out the test of the dredged material at regular interval for the regulating the dumping activities. In case of any adverse report, the Contractor shall comply the instruction of EIC.

14) During execution of the work, if any environmental degradation occurs, consequent on dumping of dredged material, re-conveyance of the material shall be done by the Contractor at his cost, without claiming additional payment from IWAI.

15) If the dredging is stopped continuously for more than 3 days due to law and order, the Contractor has to report to EIC the same and take actions mutually in accordance with prevailing local laws for removal of such problem and proceeding further with the work to mutual benefit.

16) Any charge incurred on testing of the dredged material, testing / analysing the quality of water for adopting environmental safe guards, minimizing detrimental impacts, enhancing the beneficial aspects of the

	project and for effective management of the environmental resources affected by the project shall be met by the Contractor. No additional charges on any account shall be payable by IWAI. 17) In case of any anomaly with reference to interfacing chainage and interfacing of the issues relating to execution amongst the adjacent contractors, decision of EIC would be final and binding on both the adjacent contractors executing the project. 18) The Contractor will also be required to deploy its own pilots for assisting cargo and passenger / tourist vessels for their movement based on written request by the end users. For this, the Contractors can charge the fee from the users as per IWAI's regulation. 19) In case any cargo vessel is grounded due to inadequacy of depths or channel marking, the Contractor shall make arrangement for rescue of the vessels by providing rescue tugs at his own cost.
Appendix -1	**Salient features of Labour & Environment Protection Laws.**
Appendix -2	**Salient features of some of the Major Laws that are Applicable for Protection of Environment.**
Appendix -3	**Appointment of Adjudicator.**

Appendix 1
Salient Features of Labour & Environment Protection Laws[34]

SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK

(a) Employees Compensation Act 1923: The Act provides for compensation in case of injury, disease or death arising out of and during the course of employment.

(b) Payment of Gratuity Act 1972: gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years' service or more or on death at the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.

(c) Employees P.F. and Miscellaneous Provision Act 1952 (*since amended*): The Act provides for monthly contribution by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are:

(i) Pension or family pension on retirement or death, as the case may be.
(ii) Deposit linked insurance on the death in harness of the worker.
(iii) Payment of P.F. accumulation on retirement/death etc.

(d) Maternity Benefit Act 1961: The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.

(e) Sexual Harassment of Women at the Workplace (Prevention, Prohibition and Redressal) Act, 2013: This Act defines sexual harassment in the workplace, provides for an enquiry procedure in case of complaints and mandates the setting up of an Internal Complaints Committee or a Local Complaints Committee

(f) Contract Labour (Regulation & Abolition) Act 1970: The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labour.

(g) Minimum Wages Act 1948: The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employments.

(h) Payment of Wages Act 1936: It lays down the mode, manner and by what date the wages are to be paid, what deductions can be made from the wages of the workers.

[34] This list is only illustrative and not exhaustive. Bidders and Contractors are responsible for checking the correctness and completeness of the list. The law as current on the date of bid opening will apply.

(i) Equal Remuneration Act 1976: The Act provides for payment of equal wages for work of equal nature to male and female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.

(j) Payment of Bonus Act 1965: The Act is applicable to all establishments employing 20 or more employees. Some of the State Governments have reduced this requirement from 20 to 10. The Act provides for payments of annual bonus subject to a minimum of 8.33% of the wages drawn in the relevant year. It applies to skilled or unskilled manual, supervisory, managerial, administrative, technical or clerical work for hire or reward to employees who draw a salary of Rs. 10,000/- per month or less. To be eligible for bonus, the employee should have worked in the establishment for not less than 30 working days in the relevant year. The Act does not apply to certain establishments.

(k) Industrial Disputes Act 1947: the Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations, a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.

(l) Trade Unions Act 1926: The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.

(m) Child Labour (Prohibition & Regulation) Act 1986: The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in the Building and Construction Industry.

(n) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979: The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home up to the establishment and back, etc.

(o) The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and the Building and Other Construction Workers Welfare Cess Act, 1996 (BOCWW Cess Act): All the establishments who carry on any building or other construction work and employ 10 or more workers are covered under these Acts. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be notified by the Government. The Employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as Canteens, First – Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

(p) Factories Act 1948: the Act lays down the procedure for approval of plans before setting up a factory engaged in manufacturing processes, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated

authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power.

(q) Weekly Holidays Act -1942

(r) Bonded Labour System (Abolition) Act, 1976: The Act provides for the abolition of bonded labour system with a view to preventing the economic and physical exploitation of weaker sections of society. Bonded labour covers all forms of forced labour, including that arising out of a loan, debt or advance.

(s) Employer's Liability Act, 1938: This Act protects workmen who bring suits for damages against employers in case of injuries endured in the course of employment. Such injuries could be on account of negligence on the part of the employer or persons employed by them in maintenance of all machinery, equipment etc. in healthy and sound condition.

(t) Employees State Insurance Act 1948: The Act provides for certain benefits to insured employees and their families in case of sickness, maternity and disablement arising out of an employment injury. The Act applies to all employees in factories (as defined) or establishments which may be so notified by the appropriate Government. The Act provides for the setting up of an Employees' State Insurance Fund, which is to be administered by the Employees State Insurance Corporation. Contributions to the Fund are paid by the employer and the employee at rates as prescribed by the Central Government. The Act also provides for benefits to dependents of insured persons in case of death as a result of an employment injury.

(u) The Personal Injuries (Compensation Insurance) Act, 1963: This Act provides for the employer's liability and responsibility to pay compensation to employees where workmen sustain personal injuries in the course of employment.

(v) Industrial Employment (Standing Order) Act 1946: It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.

Appendix -2
Major Laws that are applicable for Protection of Environment

SALIENT FEATURES OF SOME OF THE MAJOR LAWS THAT ARE APPLICABLE FOR PROTECTION OF ENVIRONMENT.

1. The Environment (Protection) Act, 1986 and as amended: This provides for the protection and improvement of environment and for matters connected therewith, and the prevention of hazards to human beings, other living creatures, plants and property. 'Environment' includes water, air and land and the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property.

2. The Forest Conservation Act, 1980, as amended, and Forest (Conservation) Rules, 1981 as amended: These provides for protection of forests by restricting conversion of forested areas into non- forested areas and prevention of deforestation, and stipulates the procedures for cutting any trees that might be required by the applicable rules. Permissions under the Act also stipulates the norms and compliance requirements of the employer and any contractor on behalf of the employer.

3. State Tree Preservation Acts as may be in force: These provide for protection of trees of important species. Contractors will be required to obtain prior permission for full or partial cutting, uprooting, or pruning of any such trees.

4. The Wildlife (Protection) Act, 1972, and as amended: This provides for protection of wildlife through notifying National Parks and Sanctuaries and buffer areas around these zones; and to protect individuals of nationally important species listed in the Annex of the Act.

5. The Biological Diversity Act, 2002: This provides for conservation of biological diversity, sustainable use of components of biological diversity, and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and for matters connected therewith or incidental thereto.

6. The Public Liability Insurance Act, 1991 as amended and The Public Liability Insurance Rules, 1991 as amended: These provide for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for mattes connected herewith or incidental thereto. Hazardous substance means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act 1986, and exceeding such quantity as may be specified by notification by the Central Government.

7. The Ancient Monuments and Archaeological Sites and Remains Act, 1958 and the Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, 2010, the Ancient Monuments and Archaeological Sites and Remains Rules, 1959 amended 2011, the National Monuments Authority Rules, 2011 and the similar State Acts: These provide for conservation of cultural and historical remains found in India. Accordingly, area within the radii of 100m and 300m from the "protected property" are

designated as “protected area” and “controlled area” respectively. No development activity (including building, mining, excavating, blasting) is permitted in the “protected area” and development activities likely to damage the protected property is not permitted in the “controlled area” without prior permission of the Archaeological Survey of India (ASI) or the State Departments of Art and Culture or Archaeology as applicable.

8. The Environmental Impact Assessment Notification, 2006 and as amended: This provides for prior environmental clearance for new, modernization and expansion projects listed in Schedule 1 of the Notification. Contractors will be required to ensure that no work starts until applicable clearances under the Notification is not available. Contractors will be responsible for implementation of any environmental management plan stipulated as per the permission under this Notification; and will be required to prepare and submit to the employer and compliance report stipulated in the permission under the Notification.

9. The Water (Prevention and Control of Pollution) Act, 1974 as amended, and the Water (Prevention and Control of Pollution) Rules, 1975 as amended: These provide for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of water. ‘Pollution’ means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water(whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms. Contractors will need to obtain consent for establishment and consent for operation of any item of work or installation of equipment that generates waste water, and observe the required standards of establishment and operation of these items of work or installations; as well as install and operate all required waste water treatment facilities.

10. The Water (Prevention and Control of Pollution) Cess Act, 1977 and The Water (Prevention and Control of Pollution) Cess Rules, 1978: These provide for the levy and collection of a cess on water consumed by persons carrying on certain industries and by local authorities, with a view to augment the resources of the Central Board and the State Boards for the prevention and control of water pollution under the Water (Prevention and Control of Pollution) Act, 1974.

11. The Air (Prevention and Control of Pollution) Act, 1981 as amended, and the Air (Prevention and Control of Pollution) Rules, 1982: These provides for prevention, control and abatement of air pollution. ‘Air Pollution’ means the presence in the atmosphere of any ‘air pollutant’, which means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment. Contractors will need to obtain consent for establishment and consent for operation of any item of work or installation of equipment that generates air pollution such as batching plants, hot mix plants, power generators, backup power generation, material handling processes, and observe the required standards of establishment and operation of these items of work or installations.

12. Noise Pollution (Control and Regulation) Rules, 2000, and as amended: This provides for standards for noise for day and night for various land uses and specifies special standards in and around sensitive receptors of noise such as schools and hospitals. Contractors will need to ensure compliance to the applicable standards, and install and operate all required noise control devices as may be required for all plants and work processes.

13. Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996: This provides for Requirement of preparation of on-site and off-site Disaster Management Plans for accident-prone areas.

14. The Explosives Act 1884 and the Explosives Rules, 2008: These provide for safe manufacture, possession, sale, use, transportation and import of explosive materials such as diesel, Oil and lubricants etc.; and also for regulating the use of any explosives used in blasting and/or demolition. All applicable provisions will need compliance by the contractors.

15. The Petroleum Rules, 2002: This provides for safe use and storage of petroleum products, and will need to be complied by the contractors.

16. The Gas Cylinder Rules 2004 and amendments: This provides for regulations related to storage of gas, and possession of gas cylinder more than the exempted quantity. Contractors should comply with all the requirements of this Rule.

17. Manufacture, Storage and Import of Hazardous Chemical Rules of 1989 and as amended: These provide for use and storage of hazardous material such as highly inflammable liquids like HSD/LPG. Contractors will need to ensure compliance to the Rules; and in the event where the storage quantity exceeds the regulated threshold limit, the contractors will be responsible for regular safety audits and other reporting requirements as prescribed in the Rules.

18. Hazardous & Other Wastes (Management and Transboundary Movement) Rules, 2016: These provide for protection of general public from improper handling storage and disposal of hazardous waste. The rules prescribe the management requirement of hazardous wastes from its generation to final disposal. Contractors will need to obtain permission from the State Pollution Control Boards and other designated authorities for storage and handling of any hazardous material; and will to ensure full compliance to these rules and any conditions imposed in the permit.

19. The Bio Medical Waste Management Rules, 2016: This provides for control, storage, transportation and disposal of bio-medical wastes. As and where the contractor has any first aid facility and dispensaries, established in either temporary or permanent manner, compliance to these Rules are mandatory.

20. Construction and Demolition Waste Management Rules, 2016: This provides for management of construction and demolition waste (such as building materials possible to be reused, rubble and debris or the like); and applies to all those waste resulting from construction, re-modelling, repair or demolition of any civil structure. Contractor will need to prepare a waste disposal plan and obtain required approval from local authorities, if waste generation is more than 20 tons in any day or 300 tons in any month during the

contract period; and ensure full compliance to these rules and any conditions imposed in the regulatory approval.

21. The E-Waste (Management) Rules, 2016: This provides for management of E-wastes (but not covering lead acid batteries and radio-active wastes) aiming to enable the recovery and/or reuse of useful material from e-waste, thereby reducing the hazardous wastes destined for disposal and to ensure the environmentally sound management of all types of waste of electrical and electronic equipment. This Rule applies to every manufacturer, producer, consumer, bulk consumer, collection centers, dealers, e-retailer, refurbisher, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment listed in Schedule I, including their components, consumables, parts and spares which make the product operational.

22. Plastic waste Management Rules, 2016: This provides for control and management of the plastic waste generated from any activity. Contractors will ensure compliance to this Rule.

23. The Batteries (Management and Handling) Rules 2001: This provides for ensuring safe disposal and recycling of discarded lead acid batteries likely to be used in any equipment during construction and operation stage. Rules require proper control and record keeping on the sale or import of lead acid batteries and recollection of the used batteries by registered recyclers to ensure environmentally sound recycling of used batteries. Contractors will ensure compliance to this Rule.

24. The Ozone Depleting Substances (Regulation and Control) Rules, 2000 and as amended: This provides for regulation of production and consumption of ozone depleting substances in the country, and specifically prohibits export to or import from countries not specified in the Rules, and prohibits unless specifically permitted, any use of ozone depleting substance.

25. The Coastal Regulation Zone Notifications, 1991 and as amended: This provides for regulation of development activities within the 500m of high tide line in coastal zone and 100m of stretches of rivers and estuaries influenced by tides. Contractors will be required to ensure that no work starts until applicable clearances under the Notification is not available. Contractors will be responsible for implementation of any plan stipulated as per the permission under this Notification; and will be required to prepare and submit to the employer and compliance report stipulated in the permission under the Notification.

26. The Motor Vehicle Act 1988 as amended (and State Motor Vehicle Acts as may be in force) and the Motor Vehicle Rules, 1989, and as amended (and State Motor Vehicle Rules as may be in force): To minimize the road accidents, penalizing the guilty, provision of compensation to victim and family and check vehicular air and noise pollution. Contractors will be required to ensure full compliance to these rules.

27. Easement Act, 1882: This provides for the rights of landowners on groundwater. Contractors will need to ensure that other landowners' rights under the Act is not affected by any groundwater abstraction by the contractors.

28. State Groundwater Acts and Rules as may be in force and the Guidelines for Groundwater Abstraction for drinking and domestic purposes in Notified Areas and Industry/Infrastructure project proposals in non-Notified areas, 2012: These provide for regulating extraction of ground water for construction/industrial and drinking and domestic purposes. Contractors will need to obtain permission from Central/State Groundwater Boards prior to groundwater abstraction through digging any bore well or through any other means; and will to ensure full compliance to these rules and any conditions imposed in the permit.

29. The Mines Act, 1952 as amended; the Minor Mineral and concession Rules as amended; and the State Mineral (Rights and Taxation) Acts as may be in force: These provide for for safe and sound mining activity. The contractors will procure aggregates and other building materials from quarries and borrow areas approved under such Acts. In the event the contractors open any new quarry and/or borrow areas, appropriate prior permission from the State Departments of Minerals and Geology will need to be obtained. Contractors will also need to ensure full compliance to these rules and any conditions imposed in the permit.

30. The Insecticides Act, 1968 and Insecticides Rules, 1971 and as amended: These provide for regulates the manufacture, sale, transport, distribution, export, import and use of pesticides to prevent risk to human beings or animals, and for matters connected therewith. No one should import or manufacture; sell, stock or exhibit foe sale; distribute, transport, use: (i) any misbranded insecticides, (ii) any insecticide the sale, distribution or use of which is for the time being prohibited under the Act; and (iii) any insecticide except in accordance with the condition on which it was registered under the Act.

31. National Building Codes of India, 2005 and as amended: This provides guidelines for regulating the building construction activities in India. The code mainly contains administrative regulations, development control rules and general building requirements; stipulations regarding materials, structural design and construction; and building and plumbing services. Contractors will be required to comply with all Bureau of Indian Standards Codes dealing with: (i) use and disposal of asbestos containing materials in construction; (ii) paints containing lead; (iii) permanent and temporary ventilations in workplace; (iv) safety, and hygiene at the workplace; (v) prevention of fire; (vi) prevention of accidents from faulty electrical gadgets, equipment and accessories; and all other such codes incidental to the Contract.

Appendix -3[35]

Appointment of Adjudicator

Suggested Draft of **Letter of Appointment of Adjudicators** in civil works contracts

Sub:_____(Name of the Contract)

To
Name and address of the Adjudicator

We hereby confirm your appointment as Adjudicator for the above contract to carry out the assignment specified in this Letter of Appointment.

For administrative purpose_____(*name of the officer representing the Employer*) has been assigned to administer the assignment and to provide the Adjudicator with all relevant information needed to carry out the assignment on behalf of both the Employer and the contractor. The services will be required during the period of contract for the work of (Name of the Contract) _____.

The Adjudicator shall visit the worksite once in 3 (three) months till the completion of the work indicated above or as specifically requested by Employer/ Contractor for the period up to the end of defects liability period with prior intimation to the Employer and the contractor. The duration of each visit shall ordinarily be for one day only. These durations are approximate and (*Name of the Employer and Name of the Contractor*) may find it necessary to postpone or cancel the assignment and/or shorten or extend the duration.

The appointment will become effective upon confirmation of letter by you. The appointment of Adjudicator shall be liable for termination under 30 (thirty) days written notice from the date of issue of the notice, if both Employer and the Contractor so desire. Also, the appointment shall automatically stand terminated 14 days after the defect notice / correction period as stated in Clauses 23 and 24 of the Conditions of Contract is over.

The Adjudicator will be paid a fee of Rs. _____ (Rupees _____only) per each day of visit at the worksite. The actual expenses for boarding and traveling in connection with the assignment will be reimbursed to the Adjudicator. The Adjudicator will submit a pre-receipted bill in triplicate to the Employer indicating the date of the visit, fees for the visit and a proof in support of the actual expenditure [only for items valued above Rs. 200 each] incurred by him against boarding, lodging and traveling expenses after performing the visit on each occasion. The Employer will make the admissible payment (both the Employer's and the Contractor's share) to the Adjudicator within 30 days of the receipt of the bill. The Contractor's share on this account (half the paid amount) will be recovered by the Employer from the Contractor's bills against the work.

[35] If ITB 46 makes provision of an Adjudicator from list provided by an institution, kindly modify Appendix 3 to state that the fee and reimbursable payable to the adjudicator shall be as per the rules of the Institution.

In accepting this assignment, the Adjudicator should understand and agree that he is responsible for any liabilities and costs arising out of risks associated with travel to and from the place of emergency repatriation, loss or damage to personal/professional effects and property. The Adjudicator is advised to effect personal insurance cover in respect of such risks if he does not already have such cover in place. In this regard, the Adjudicator shall maintain appropriate medical, travel, accident and third-party liability insurance. The obligation under this paragraph will survive till termination of this appointment.

Procedures for resolution of disputes by the Adjudicator is described in the contract of _____ (name of the contract) between the Employer and the contractor vide clause no.24 of the General Conditions of Contract. Your recommendation should be given in the format attached, within 28 days of receipt of a notification of dispute.

The Adjudicator will carry out the assignment in accordance with the highest standard of professional and ethical competence and integrity, having due regard to the nature and purpose of the assignment, and will conduct himself in a manner consistent herewith. After visiting the worksite, the Adjudicator will discuss the matter with the Employer and if necessary, with the Contractor before arriving at any decision.

The Adjudicator will agree that all knowledge and information not within the public domain, which may be acquired while carrying out this service shall be all time and for all purpose, regarded as strictly confidential and held in confidence, and shall not be directly or indirectly disclosed to any party whatsoever, except with the permission of the Employer and the contractor. The Adjudicator's decision should be communicated in the form of a speaking order specifying the reasons.

The Adjudicator will agree that any manufacturing or construction firm with which he might be associated with, will not be eligible to participate in bidding for any goods or works resulting from or associated with the project of which this consulting assignment forms a part

Read and Agreed

Name of Adjudicator
Signature

Place:
Date:

Name of Employer
Signature of authorized representative of Employer

Name of the Contractor

Signature of authorized representative of Contractor

Attachment: Copy of contract document between the Employer and contractor and format for recommendation.

SUMMARY OF AJUDICATIOR'S RESPONSIBILITIES

The Adjudicator has the following principal responsibilities:

1. Visit the site periodically.
2. Keep abreast of job activities and developments.
3. Encourage the resolution of disputes by the parties.
4. When a dispute is referred to it, conduct a hearing (no legal presentation), complete its deliberations, and prepare a recommendation in a professional and timely manner (as per sample format)

Sample Format of Adjudicator's Recommendation

[Project Name]
Recommendation of Adjudicator

Dispute No. XX [*NAME OF DISPUTE*]

Hearing Date: _____

Dispute
Description of dispute. A one or two sentence summation of the dispute.

Contractor's Position
A short summation of the contractor's position as understood by the Adjudicator.

Employer's Position
A short summation of the Employer's position as understood by the Adjudicator.

Recommendation
The Adjudicator's specific recommendation for settlement of the dispute. (*The recommended course is consistent with the explanation*).

Explanation
(*This section could also be called Considerations, Rationale, Findings, Discussion, and so on.*)

The Adjudicator's description of how each recommendation was reached.

Respectfully submitted,

Date: _____ _____
Date: _____ _____

Section X - Contract Forms

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security, ES performance security if applicable, and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

Letter of Acceptance

[letterhead paper of the Employer]

[The Letter of Acceptance shall be the basis for formation of the Contract as described in ITB Clause 43. This Standard Form of Letter of Acceptance shall be filled in and sent to the successful Bidder only after evaluation of bids has been completed, subject to any review by the World Bank required under the Loan Agreement.]

[insert date]

Identification No and Title of Contract: *[insert identification number and title of the Contract]*

To: *[insert name and address of the Contractor]*

This is to notify you that your Bid dated *[insert date]* for execution of the *[insert name of the Contract and identification number, as given in the PCC]* for the Contract Price ……. *[insert amount in numbers and words]* as corrected and modified[36] in accordance with the Instructions to Bidders is hereby accepted by our Agency.

[insert one of the following (a) or (b) options]

(a) We accept that *[insert name proposed by bidder]* be appointed as the Adjudicator.[37]

(b) We do not accept that *[insert name proposed by bidder]* be appointed as Adjudicator, and by sending a copy of this Letter of Acceptance to *[insert name of the Appointing Authority]*, we are hereby requesting *[insert name]*, the Appointing Authority, to appoint the Adjudicator in accordance with GCC 23.[38]

We note that as per your bid, you do not intend to subcontract any component of work.

[OR]

We note that as per your bid, you propose to employ M/s. ……. as sub-contractor for executing ……..

[*Delete whatever is inapplicable*]

You are hereby requested to furnish Performance Security, plus additional security for unbalanced bids in terms of ITB clause 40, and ESHS Performance Security ***[Delete ESHS Performance Security if it is not required under the contract]*** in the form detailed

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[36] *Delete "corrected and" or "and modified" if not applicable. See Notes on Standard Form of Agreement, next page.*

[37] *To be used only if the Contractor disagrees in the Bid with the Adjudicator proposed by the Employer in the Instructions to Bidders, and has accordingly offered another candidate.*

[38] *To be used only if the Contractor disagrees in the Bid with the Adjudicator proposed by the Employer in the ITB, has accordingly offered another candidate, and the Employer does not accept the counterproposal.*

in ITB Clause 45 for amounts[39] of Rs. ____ and Rs. _____ within 21 days of the receipt of this letter of acceptance, and visit this office to sign the contract, failing which action as stated in ITB Clause 45.2 will be taken. The securities shall be valid upto 28 days from the date of completion i.e. upto ……. and shall be as per the Performance Security Form and the ESHS Performance Security Form ***[Delete reference to the ESHS Performance Security Form if it is not required under the contract]***, included in Section X - Contract Forms, of the bidding document.

We have reviewed the construction methodology submitted by you alongwith the bid in response to ITB Clause 16 and our comments are given in the attachment. You are requested to submit a revised Program including ESHS requirements as per Clause 26 of General Conditions of Contract within 14 days of receipt of this letter of acceptance.

Yours faithfully,

Authorized Signature……..

Name and Title of Signatory……

Name of Agency……..

[39] *Insert amounts for (i) Performance Security, plus additional security for unbalanced bids; and (ii) ESHS Performance Security respectively.*

Issue of Notice to proceed with the work

(Letterhead of the Employer)

_____ (*date*)

To

_____ (*name and address of the Contractor)*

_____

_____

Dear Sirs:

Pursuant to your furnishing the requisite securities as stipulated in ITB clause 45.1, insurance policy as per GCC 13, construction methodology as stated in letter of acceptance and signing of the contract agreement for the construction of_____@ a Bid Price of Rs._____, you are hereby instructed to proceed with the execution of the said works in accordance with the contract documents.

Yours faithfully,

(Signature, name and title of signatory authorized to sign on behalf of Employer)

Attachment: Contract Agreement

Contract Agreement

THIS AGREEMENT made the . . . . . day of . . . . . ., ..., between . . . . . ***[name of the*** Employer***]***. . . . . (hereinafter "the Employer"), of the one part, and . . . . . ***[name of the Contractor]***. . . . .(hereinafter "the Contractor"), of the other part:

WHEREAS the Employer desires that the Works known as . . . . . ***[name of the Contract]***. . . . .should be executed by the Contractor, and has accepted a Bid by the Contractor for the execution and completion of these Works and the remedying of any defects therein,

The Employer and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.

(a) this Agreement
(b) the Letter of Acceptance
(c) the Contractor's Bid including completed schedules and priced bill of quantities,
(d) the Addenda No's . . . . . ***[insert addenda numbers if any]***. . . . .
(e) the Particular Conditions of contract
(f) the General Conditions of contract;
(g) the Specifications
(h) the Drawings; and
(i) Construction Program, Methodology, Quality Assurance Program, ESHS Management Strategies and Implementation Plans, and Code of Conduct (ESHS)
(j) Joint Venture Agreement [for JVs only]
(k) Post bid correspondences and any other document listed in the contract data as forming part of the contract
(l) Any other document listed in PCC as forming part of the Contract

3. In consideration of the payments to be made by the Employer to the Contractor as indicated in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of India on the day, month and year indicated above.

Signed by:
for and on behalf of the Employer
in the presence of:
Witness, Name, Signature, Address, Date

Signed by:
for and on behalf the Contractor
in the presence of:
Witness, Name, Signature, Address, Date

Performance Security - Bank Guarantee
[including Additional Performance Security for unbalanced bids]

[Guarantor letterhead or SWIFT identifier code]

Performance Guarantee No……*[insert guarantee reference number]*
Date……*[insert date of issue of the guarantee]*

To: _____ *[name of Employer]*
_____ *[address of Employer]*

WHEREAS _____ *[name and address of Contractor[40]]* (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. _____ dated _____ to execute _____ *[name of Contract and brief description of Works]* (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, upto a total of _____ *[amount of guarantee[41]]* _____ *[in words]*, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ *[amount of guarantee]* as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until …… [42], and any demand for payment under it must be received by us at this office on or before that date.

Signature and seal of the guarantor _____
Name of Bank _____
Address _____Date …….

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

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[40] *In the case of a JV, insert the name of the Joint Venture*

[41] *An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract less provisional sum if any, plus additional performance security for unbalanced bids if any, and denominated in Indian Rupees.*

[42] *Insert the date twenty-eight days after the expected completion date as described in GC Clause 53.1. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee*

Environmental, Social, Health and Safety (ESHS) Performance Security - Bank Guarantee

[Guarantor letterhead or SWIFT identifier code]

ESHS Performance Guarantee No.....*[insert guarantee reference number]*
Date.....*[insert date of issue of the guarantee]*
To: _____ *[name of Employer]*
_____ *[address of Employer]*

WHEREAS _____ *[name and address of Contractor[43]]* (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. _____ dated _____ to execute _____ *[name of Contract and brief description of Works]* (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with Environmental, Social, Health and/or Safety (ESHS) obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, upto a total of _____ *[amount of guarantee[44]]* _____ *[in words]*, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ *[amount of guarantee]* as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until ..... [45], and any demand for payment under it must be received by us at this office on or before that date.

Signature and seal of the guarantor _____
Name of Bank _____
Address _____Date .....

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[43] *In the case of a JV, insert the name of the Joint Venture*

[44] *An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract less provisional sum if any, and denominated in Indian Rupees.*

[45] *Insert the date twenty-eight days after the expected completion date as described in GC Clause 53.1. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee*

Advance Payment Security -- Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

Advance Payment Guarantee No……*[insert guarantee reference number]*
Date……*[insert date of issue of the guarantee]*

To: _____ *[name of Employer]*
_____ *[address of Employer]*
_____*[name of Contract]*

Gentlemen:

In accordance with the provisions of the Conditions of Contract, Sub-clause 49.1 ("Advance Payment") of the above-mentioned Contract, _____ *[name and address of Contractor[46]]* (hereinafter called "the Contractor") shall deposit with _____ *[name of Employer]* a bank guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of _____ *[amount of guarantee[47]]* _____ *[in words]*.

We, the _____ *[bank or financial institution]*, as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to _____ *[name of Employer]* on his first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding _____ [amount of guarantee] _____ *[in words]*.

We further agree that no change or addition to or other modification of the terms of the Contract or of Works to be performed thereunder or of any of the Contract documents which may be made between _____ *[name of Employer]* and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until _____ *[name of Employer]* receives full repayment of the same amount from the Contractor. Consequently any demand for payment under this guarantee must be received by us at this office on or before that date.

Yours truly,
Signature and seal: _____
Name of Bank: _____
Address: _____
Date: _____

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[46] In the case of a JV, insert the name of the Joint Venture
[47] An amount shall be inserted by the bank representing the amount of the Advance Payment, and denominated in Indian Rupees.

Retention Money Security – NOT APPLICABLE

Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

_____ *[Ba*
cnk's name and address of issuing branch or office]
Beneficiary: _____ *[Name and Address of Employer]*
Date: _____

RETENTION MONEY GUARANTEE NO.: _____

We have been informed that _____ *[name of contractor[48]]* (hereinafter called "the Contractor") has entered into Contract No. _____ *[reference number of the contract]* dated _____ with you, for the execution of _____ *[name of contract and brief description of Works]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, when the Taking-Over Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment, payment of _____ *[insert* the second half of the Retention Money*]* is to be made against a Retention Money guarantee.

At the request of the contractor, we _____*[name of Bank]* hereby irrevocably undertake to pay you the sum or sums not exceeding in total an amount of _____ *[amount in Rupees]* (_____) *[amount in words[49]]* upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract without cavil or argument.
It is a condition for any claim and payment under this guarantee to be made that the payment of the second half of the Retention Money referred to above must have been received by the Contractor on its account number _____ at _____ *[name and address of Bank].*
This guarantee shall expire, at the latest, 21 days after the date when the Employer has received a copy of the Defects Liability Certificate issued by the Project Manager. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

_____
[Signature(s) and seal of the guarantor]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[48] *In the case of a JV, insert the name of the Joint Venture*
[49] *The Guarantor shall insert an amount representing the amount of the second half of the Retention Money or if the amount guaranteed under the Performance Guarantee when the Taking-Over Certificate is issued is less than half of the Retention Money, the difference between half of the Retention Money and the amount guaranteed under the Performance Security.*

A n n e x u r e ' D '

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Impact of Dredging on Sediment of Krishnapatnam Port, East Coast of India: Implications for Marine Biodiversity

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Abstract: This paper synthesizes the extent and nature of scientific information about how dredging activities potentially affect habitats and key ecological functions supporting recruitment and sustainability of estuarine and marine environment. Fourteen samples were collected after dredging (2008) from fixed sampling stations. The impact on community was estimated at species level (Foraminifera, Protozoan, using statistical analysis). The maximum negative effect on benthic foraminifera was reduction by 60%, for species richness and by 50% for diversity. This data were compared with the data obtained before dredging (2006) in a time services spanning 2 years. Its revealed that reestablishment of directly affected foraminifera and of physico-chemical substrate characteristic with in less than 3 months of the end of dredging, although 2 years later there was a considerable improvement of whole faunal community. Statistical treatment was given to the data sets to know the relation among parameters. Before, this type of activity is undertaken, each case should be studied regarding viability, the environmental medium where it will take place, the best time of year, and the type of dredging to be used. Small-patch dredging operations are proposed when ever possible, since they allow a quick readjustment of the initial sediment structure and benthic foraminifera. These findings will help to underpin improved planning of management strategies for dredging operations in India and other countries.

Key words: Foraminifera, sediment, dredging, ecological impact, krishnapatnam port, east coast of India.

1. Introduction

Dredging operations along the marine marginal bodies are long established human induced disturbances in the marine environment. Those anthropogenic perturbations usually drastically reduce the benthic population and temporarily change the environmental abiotic features [1]. This is mainly due to the natural topography and intensive industrial activities over the past couple of decades which have resulted in the construction of sea walls, break waters and land fills. The removal of sediment and fauna and the resuspension and redeposition of the finest material extracted resulted in various alternatives to the bottoms directly affected, as well as to the fauna of neighboring substances. The effects of dredging an marine organisms and the recolomization of the disturbed areas can be very diverse and have been studied [2-5]. Its physical impacts related to substrate removal, alteration of bottom topography, overflows into the water column and redoposition of material [4]. The potential reifications to the ecological function of sea floor communities and ecosystems have yet to be considered soft-sediment organisms create much of their habitat structure and also have crucial roles in many populations, community and ecosystem processes. Many of these roles are filled by species that are sensitive to habitual disturbance. Functional extension refers to the situation in which species become so rare that they do not fullfil the ecosystem roles that have evolved in the system. This loss to the ecosystem occurs when there are restrictions in the size, density

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and distribution of organisms that threaten the biodiversity, resilience or provision of ecosystem services. Once the functionally important components of an ecosystem are missing, it is extremely difficult to identify and understand ecological thresholds. The extent and intensity of human disturbance to estuarine ecosystems is a significant threat to both structural and functional biodiversity and in many cases, this has virtually eliminated natural systems that might serve as baselines to evaluate these impacts [2].

The dredging activities and the assessment of their environmental, social and economic implications due to contamination sediments has gained increasing importance in recent years in both developing and industrial countries. This is due to the rapid world wide growth of international trade and commerce and to the fact that modern ships are larger and thus require deeper navigation waterways. Ports and harbors must therefore increase the depth of their fairways in order to maintain and enhance their economic competitiveness [6]. Dredging involves the excavation and removal of sediment and rocks from the bottom of rivers, lagoons, channels, and other water bodies in order to deeper and wider the navigation fairways. Dredging can also be used for the environmental restoration of impacted sediment sites [7]. Most commercial ports are located in estuaries and bays that provide shelter and proximity to consume markets (urban and Industrial areas). Although scanty work on the study area was carried on other aspects an investigation of alterations in the sediment type, bioavailabity and potential environmental risks resulting from dredging has heretofore not been conducted. Thus, the objective of this investigation is to verify the potential impact and effects of dredging on the environment based on alterations of bottom sediment and the micro biota with respect to distribution and diversity of benthic foraminifera.

2. Materials and Methods

2.1 Study Area

Krishnapatnam port in Andhra Pradesh, India, is currently a promising port in the mouth of the Uppeteru river accessible by small vessels because of shallow water and sand bar at the mouth of the river (Fig. 1). Currently, iron ore is exported from Chennai, but an alternative port is now required. A favored option is to develop Krishnapatnam port to take this traffic. This requires extensive dredged channel, initially to take Panamax vessels (approx-14 m) and ultimately cape size vessels (approx-18 m). So the proposal to extend training walls either side of the channel out approximately 1 km to the 4 m contour was formulated and executed through dredging. The berths were constructed with in the river mouth and consequently some additional dredging was done for the berth and turning area. Sampling co-ordinates and certain physico-chemical factors were given in Table 1 [8].

Part of study area, especially in the eastern portion of the estuary, is surrounded by mangrove swamps. These mangrove swamps are a major contribution to the load of organic matter and fine grained sediments entering the port channel [6]. The port's navigation fairway is about 2 km long, with varies in depth. Sediments on the bottom are composed primarily of a thick layer of non-consolidated fine sediments (Silt and Clay) with a small portion of sand from the upper basin [8]. Maritime currents vary along the coast, predominantly in the N-E direction according to wind patterns, which are modified by changes in weather systems such as cold waves occasionally [6]. However, the currents in the study area are also affected by the tidal cycles, by the action of waves, the shore line geography and by the presence of different water masses, assuming a predominantly SW-NE direction.

2.2 Sampling

A total of 14 sediment samples were collected by using a Peterson Grab, in less than 4 m deep contour [9]. Sediment samples were transferred into plastic bags and frozen until analyses were carried out. The sediment samples were first washed over a sieve which is an average opening of 0.625 mm. This process helps



Fig. 1 Study area with sampling stations.

Table 1 Sampling stations versus and physico-chemical parameters [8].

Sampling stations	Latitude (N)	Longitude(E)	pH	Temperature (℃)		Depth (meters)	Ec at 25 ℃ (Millimhos/ cm)	Salinity	Dissolved oxygen (mL/L)	Silica (mL/L)	Organic matter (mL/L)
				Air	Bottom water						
1	14.24536	80.10828	7.8	35.6	34.5	1.2	86	36.8	4	14	0.99
2	14.24994	80.11031	7.6	35.8	34.5	2	80	36.3	4.5	16	1.06
3	14.25053	80.11683	7.5	35.9	34.8	1.8	74	35.2	4.6	27	1.98
4	14.24597	80.11613	7.8	35.8	35.7	1.4	59	35.2	4.4	30	1.56
5	14.24475	80.13108	7.9	35.6	34.5	0.9	67	35.2	3.9	30	0.99
6	14.25058	80.12917	7.8	35.7	34.5	0.7	81	35.9	3.5	20	0.98
7	14.25060	80.12639	7.5	35.8	34.5	1.5	86	36.8	4.1	11	1.25
8	14.25061	80.13454	7.2	35.8	35.6	1.8	81	36.2	4.3	26	2.22
9	14.23487	80.10427	7.8	35.7	34.5	2.1	61	35.6	4.2	24	2.37
10	14.24322	80.10842	7.9	38.9	34.7	1.5	68	35.6	4.7	21	1.99
11	14.24003	80.10739	7.8	35.8	34.4	1.6	81	35.2	3.6	19	1.98
12	14.24324	80.10231	7.5	35.5	34.5	1.9	70	36.5	4.5	18	1.35
13	14.25419	80.10961	7.5	35.7	34.5	0.9	71	35.6	4.2	28	1.64
14	14.24981	80.26643	7.9	35.8	34.5	0.7	66	35.2	4.7	35	1.12

to wash the sample free of sea water, fixatives, and the fine silt and clay size particles. Then a sample was air dried and a suitable sample weighing about 100 grams was obtained by coning and quartering. Quantitatively, foraminifera could not be separated easily by washing carbon tetra chloride only, so a mixture of Bromoform (specific gravity 2.8) and Acetone (specific gravity 2.4) were used to obtain about 15 % crop from the sediment [10, 11]. The residue was examined under a stereo binocular microscope for any left out fauna. Such tests were handpicked by a very fine pointed long haired welted Windsor Newton sable hair brush (“0”). The fauna thus obtained was sorted, counted and identified under a stereo binocular microscope using medium to high magnifications (6.3×2.5; 6.3×4.0). The sampling procedures especially sieving and drying reduce the number of the most fragile arenaceous foraminifera (Table 2). Statistical analysis were done by mul-

tivariate analysis, correlation analysis was applied to compare and correlate the post-dredging data from pre-dredging data [12].

3. Results and Discussion

The marine biota is remarkably diverse. There are over 50 phyla and only one is strictly terrestrial; all the rest have marine representatives. Interestingly, all these phyla had differentiated by the dawn of the Cambrian, almost 600 my and all evolved in the sea [3]. Of all these soft-sediment dwellers, single celled microorganism is foraminifera. We consider biodiversity in terms of species distribution (richness) and species diversity. The dredging impacts include: animal injury, behavioral effects, the effects of removing a measured amount of productivity from the landscape, and ecosystem-scale changes due to changes in estuarine circulation. The common dredging effects can include entrainment of organisms, increased turbidity at the dredging site, micro benthos injury associated with exposure to suspended sediments and decreased dissolved oxygen and micro biota effects due to the effects of noise. Based on documented life-history strategy similarities shared with those species reported in the above studies, this paper expands the analysis of potential behavior effects to include a wider range of species using estuarine and marine near shore habitats (Figs. 2a & 2b). Correlation analyses were made to verify correlations among variables (Table 3).

3.1 Pearson Correlation Matrix

The comparative data for post monsoon of 2006 and 2008 were given in Table 3. During pre dredging (2006) it shows low negative correlation with *Ammonia beccarii* (-0.170), *Ammonia dentata* (-0.194), *Asterorotalia trispinosa* (-0.223), *Elphidium excavatum* (-0.294), *Elphidium macellum* (-0.273.), *Elphidium norvangi* (-0.259), *Hanzawaia nipponica* (-0.172), *Rolshausenia rolshauseni*(-0.138) and *Spiroloculina depressa* (-0.225) where as after dredging (2008) it shows negative correlation only with *Elphidium macellum*(-0.343). This means correlation among species is not significant. *Ammonia beccarii* during post monsoon 2006 shows a negative correlation with all other variable species with exception of positive *Elphidium norvangi* (0.425) (Tables 3 and 4), where as in 2008 it shows positive correlation with exception of *Ammonia dentata* (-0.437). However, both the seasons species like *Ammobaculites exiguous, Ammonia beccarii* and *Ammonia dentata* indicate strong correlation matrix with rest of other species where as *Elphidium macellum*, *Elphidium norvangi, Hanzawaia nipponica*, *Rolshausenia rolshauseni*, and *Spiroloculina depressa* have a weak correlation with rest of the species (Table 3).

3.2 Factor Analysis

Foraminiferal species data set for two seasons (2006 and 2008) were subjected to statistical treatment by applying factor analysis [13]. The analysis yielded three factors such as Factor I (34.0; 44.81) Factor II (19.61; 23.99) and Factor III (17.79; 11.56). Factor loadings were very significant accounting for 71.35% and 80.36% for post monsoon of 2006 and 2008 respectively. Factor loadings were almost significant for relative species shoiwed in bold (Tables 5 and 6).

3.2.1 Fcator I

In Factor I, dominant species includes *Asterorotalia trispinosa* (0.952), *Rolshausenia rolshauseni* (0.938), *Ammonia dentata* (0.894), *Hanzawaia nipponica* (0.854) in post monsoon 2006. After dredging (2008), the dominant species in factor slightly changes as *Elphidium excavatum* (0.862), *Asterorotalia trispinosa* (0.816) and *Ammonia beccarii* (0.706) (Tables 5 and 6).

3.2.2 Factor II

It includes dominant species such as *Elphidium excavatum* (-0.965) and *Spiroloculina depressa* (-0.942) in 2006. After dredging there is a variation in this factor which was represented by *Elphidium macellum* (0.855) and *Elphidium norvangi*(0.491).

3.2.3 Factor III

This factor dominated by only one species *Ammonia*

Table 2 Faunal distribution versus sampling stations.

S.No	Species	Sampling stations															
		Post monsoon 2006								Post monsoon 2008 (After dredging)							
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
1	Adelosina laevigata				8				7								
2	Adelosina semistrata					3		8	2							1	2
3	Ammobaculites exiguous					54	8	12				30	20	35		4	8
4	Ammonia beccarii	176	86	420	328	155	162	5	54	105	15	54	108	110	81	8	64
5	Ammonia dentata	9				2		1	26	14	104	141			10		6
6	Asterorotalia trispinosa				2			2	16	40	12	20	45	36		5	8
7	Cibicides lobatulus							1	8	15							
8	Elphidium advena	11	60	5		1			2								
9	Elphidium crispum	23		6				5									
10	Elphidium delicatulum	45		1		1		2									
11	Elphidium excavatum	46		5			5		14	16				20		7	6
12	Elphidium macellum			2	1				9	16							
13	Elphidium norvangi	6	5	8		2			2	12		10					
14	Hanzawaia nipponica	2		1				8	8	14			70	30		5	8
15	Haplopharagmiodeshanckoki	3		1		1	4	1									
16	Miliolinella subrotunda		8	2		4			2								
17	Nonion grateloupi	1		8		6			2								
18	Nonionella labradorica		11						12	17		20				4	10
19	Pararotalia nipponica	4							12								
20	Poroeponides lateralis	2						8	1								
21	Quinqueloculina agglutinans							12	9								
22	Quinqueloculina bicornis	4		5	8			5									
23	Quinqueloculina lamarckiana			2				1	5								
24	Quinqueloculina milletti	2	20			2		2	4								
25	Quinqueloculina seminula	4						1	2								
26	Quinqueloculina sp	4		5	1	6			8	8							
27	Rolshausenia rolshauseni							5	7			10		25		10	8
28	Siphogenerina raphanus	2		2				2	8								
29	Spiroloculina communis	23				6			2								
30	Spiroloculina depressa	45							5	10				10		12	4
31	Spiroloculina henbesti	46			50				8								
32	Textularia agglutinans				1			8	1								
33	Triloculina striatitrigonula	6	28			9											
34	Triloculina trigonula	2															
35	Trochammina globigeriniformis						1										
	Total (# specimens/ 10 grams of dry)	476	218	473	449	535	180	90	229	267	131	285	243	266	91	56	125
	Diversity (No.of specimen/sample)	22	7	15	8	14	5	19	27	11	3	7	4	7	2	8	13

Faunal distribution for Pre monsoon-2006 Note: Stations 9-14 are not given as they have no fauna. Faunal distribution for Post monsoon, 2008-present study Note: Stations 9-14 are not given as they have no fauna.

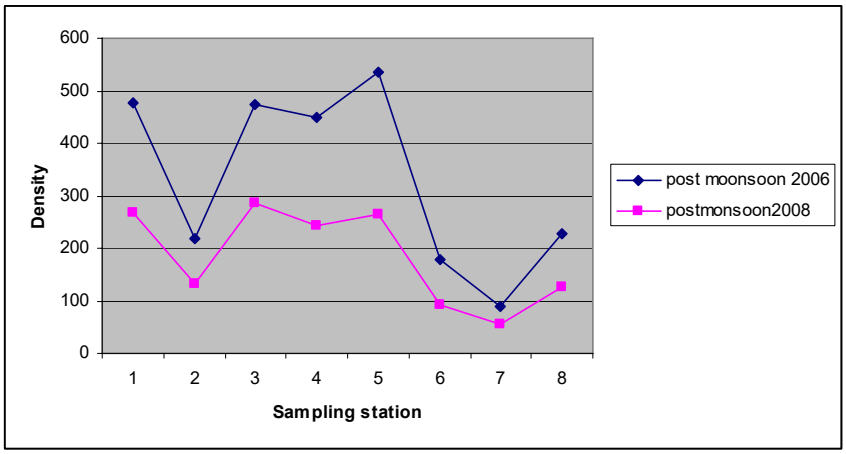


Fig. 2a Total crop v / s sampling stations both in post monsoon 2006 and post monsoon 2008.

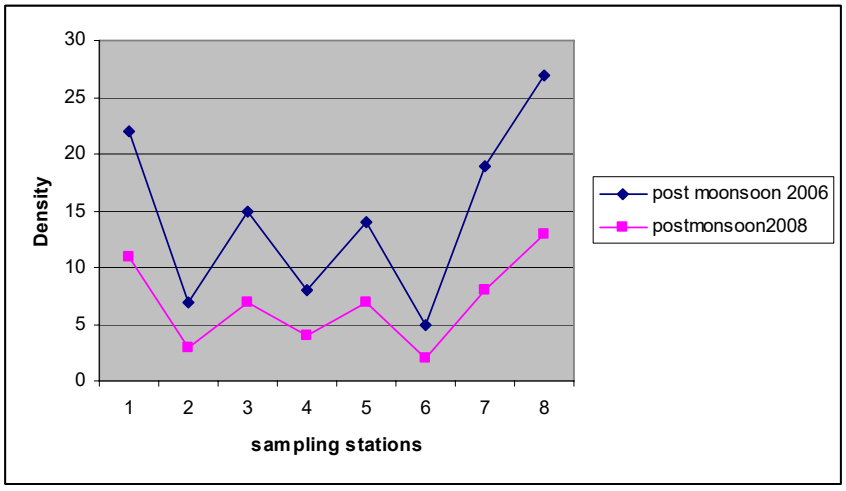


Fig. 2b Diversity v/s sampling stations.

Note: Total foraminifera and diversity have not shown for sampling stations 8-14 as the fauna was absent in those stations in post monsoon 2006 and 2008.

Table 3 Pearson correlation matrix for post monsoon 2006.

Variables	Ammobaculites exiguous	Ammonia beccarii	Ammonia dentata	Asterorotalia trispinosa	Elphidium excavatum	Elphidium macellum	Elphidium norvangi	Hanzawaia nipponica	Rolshausenia rosshausenia	Spiroloculina depressa
Ammobaculites exiguous	1									
Ammonia beccarii	0.386	1								
Ammonia dentata	0.170	-0.437	1							
Asterorotalia trispinosa	0.479	0.715	-0.153	1						
Elphidium excavatum	0.229	0.436	-0.462	0.442	1					
Elphidium macellum	-0.343	0.367	-0.148	0.448	0.503	1				
Elphidium norvangi	0.065	0.207	0.413	0.359	0.201	0.730	1			
Hanzawaia nipponica	0.412	0.618	-0.440	0.766	0.096	-0.031	-0.210	1		
Rolshausenia rosshausenia	0.726	0.109	-0.107	0.107	0.602	-0.305	-0.146	0.015	1	
Spiroloculina depressa	-0.012	0.033	-0.519	0.162	0.838	0.418	0.110	-0.044	0.501	1

Table 4 Pearson correlation matrix for post monsoon 2008.

Variables	Ammobaculites exiguous	Ammonia beccarii	Ammonia dentata	Asterorotalia trispinosa	Elphidium excavatum	Elphidium macellum	Elphidium norvangi	Hanzawaia nipponica	Rolshausenia rosshausenia	Spiroloculina depressa
Ammobaculites exiguous	1									
Ammonia beccarii	-0.170	1								
Ammonia dentata	-0.194	-0.370	1							
Asterorotalia trispinosa	-0.223	-0.359	0.916	1						
Elphidium excavatum	-0.294	-0.024	0.442	0.080	1					
Elphidium macellum	-0.273	-0.140	0.890	0.962	0.090	1				
Elphidium norvangi	-0.259	0.425	0.004	-0.213	0.417	-0.007	1			
Hanzawaia nipponica	-0.172	-0.690	0.636	0.704	0.096	0.563	-0.282	1		
Rolshausenia rosshausenia	-0.138	-0.609	0.720	0.840	-0.022	0.729	-0.335	0.962	1	
Spiroloculina depressa	-0.225	-0.031	0.296	-0.074	0.976	-0.087	0.400	0.029	-0.128	1

Table 5 Factor loadings for post monsoon 2006.

Species	F1	F2	F3
Ammobaculites exiguous	0.406	-0.615	-0.065
Ammonia beccarii	0.706	-0.085	-0.409
Ammonia dentata	-0.413	0.040	-0.121
Asterorotalia trispinosa	0.816	-0.057	-0.522
Elphidium excavatum	0.862	0.137	0.487
Elphidium macellum	0.503	0.855	-0.127
Elphidium norvangi	0.241	0.491	-0.156
Hanzawaia nipponica	0.522	-0.401	-0.525
Rolshausenia rosshausenia	0.446	-0.561	0.585
Spiroloculina depressa	0.595	0.222	0.650

Table 6 Factor loadings for post monsoon 2008.

Species	F1	F2	F3
Ammobaculites exiguous	-0.190	0.305	-0.223
Ammonia beccarii	-0.545	-0.212	0.664
Ammonia dentata	0.894	-0.295	0.134
Asterorotalia trispinosa	0.952	0.053	0.263
Elphidium excavatum	0.184	-0.965	-0.184
Elphidium macellum	0.861	-0.032	0.507
Elphidium norvangi	-0.208	-0.536	0.285
Hanzawaia nipponica	0.854	0.108	-0.303
Rolshausenia rosshausenia	0.938	0.221	-0.133
Spiroloculina depressa	0.051	-0.942	-0.305

beccarii (0.664) in 2006. But there is a variation after dredging in 2008 such as *Spiroloculina depressa* (0.650) and *Rolshausenia rolshauseni*(0.585) have dominated. The above three factors clearly indicate the effect of dredging on foraminiferal diversity.

3.3 Factor Loadings Cross Plot

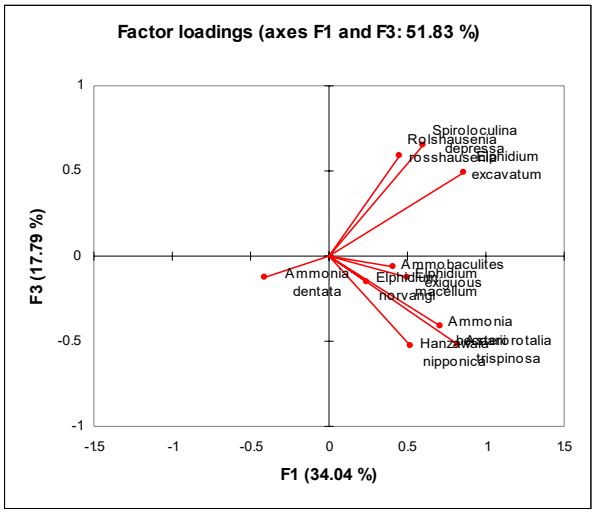
A cross plot of Factors I and II was done, which yielded two assemblages viz., assemblage I (including *Spiroloculina depressa, Rolshausenia rolshauseni* and *Elphidium excavatum) and* assemblage II (including *Ammobaculites exiguous, Elphidium norvangi, Ammonia, Hanzawaia nipponica).* A cross plot of Factor I and Factor II yield only one assemblage. Excluding *Ammonia dentata* all the nine species are included in premonsoon 2006 (Fig. 3). After dredging, the cross plot of Factor I and Factor III yielded three assemblages and Factor I and factor II produced two assemblages. This shows that after dredging, the grouping of assemblages were more than before dredging (Fig. 4) indicating the foraminiferal dissociation.

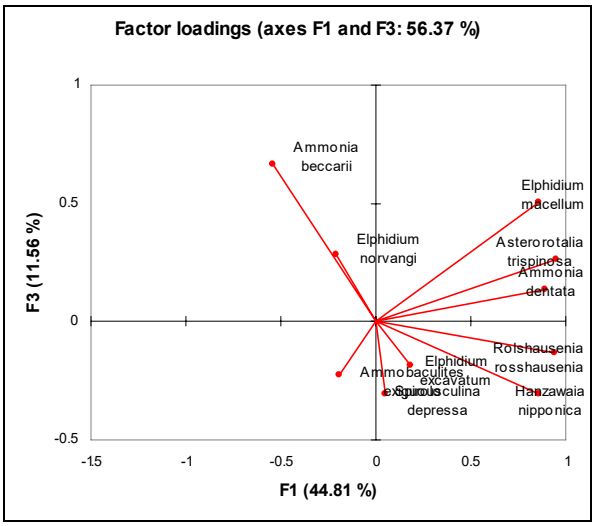
3.4 Entrainment

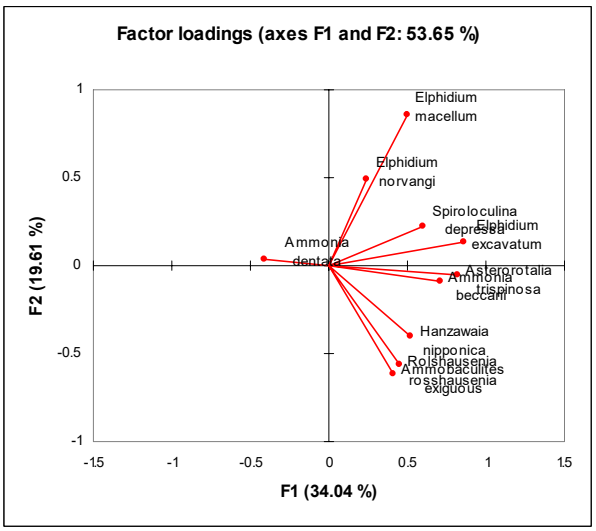
Entrainment occurs when organisms are trapped during uptake of sediments and water by dredging machinery. Benthic foraminifera was particularly vulnerable to being entrained by dredging uptake but mobile epi benthic and demersal organisms such as burrowing ships, crabs and fish may also be susceptible to entrainment under same condition. Some species like *Elphidium macellum* and *Spiroloculina depressa* were entrained.

3.5 Turbidity

Turbidity is natural character of estuarine habitats. It







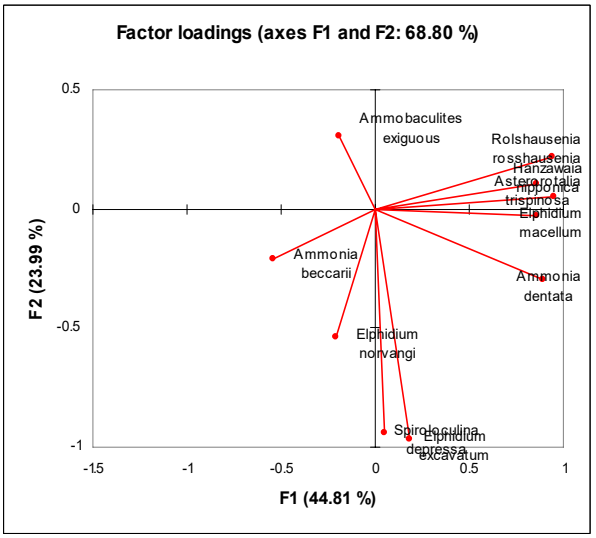


Fig. 3 A cross plot of factors for Post monsoon 2006.

Fig. 4 A cross plot of factors for Post monsoon 2008.

is a product of the receipt of sediments and organic particulates from uplands and fresh water drainage and estuarine and primary production levels, combined with the effects of tidal flows, currents and storms. Turbidity-sensitive species like *Hanzawaia nipponica* and *Rolshausenia rolshauseni* were in low counts (st.7 and 8).

3.6 Contaminated Sediments and Water

Potential cumulative and long term effects of dredging include delayed detrimental responses of biota to changes in habitat, water quality, and other conditions that many occur after the dredging activity. For instance, contaminant mobilization contaminant leaching bioaccumulation, and tropic transfer through the food web can occur during or as a result of the dredging or disposal of contaminated sediments but may not be immediately manifested in exposed biota. However, the contaminant effects were signatured on the test morphology of foraminifera in almost all station (st. 1-14).

3.7 Alterations to Estuarine Circulation and Salinity Structure

Estuarine biota is more likely to be subjected to long term shifts in critical factors such as salinity distribution of dredging significantly changes estuarine bathymetry in regions of sharp salinity gradients. (e. g.,

within the region of salinity intrusion), effects species like *Elphidium, Nonion, Quinqueloculina* etc., deepings estuarine on estuarine channel can alter the degree and form of estuarine mixing as the extent of mixing of fresh waters and salt waters in estuaries is dependent, impart, on channel bathymetry, fluvial and tidal energy, substrate margines and other lesser factors. Estuarine agglutinated fauna viz,. *Textularia agglutinaus* was also missing.

3.8 Productivity Changes

For both rural and industrialized urban estuaries, the action of sediment removal and consequently the removal of plants and animals associated with the sediments remove some level of productivity from the system. Such changes to alter some, typical undocumented degree the habitat structure and ecosystem landscape processes beyond the local influence of the dredge or disposal site. Depending on sediment characteristics, recovery rates have been found to range from within three months, for some benthic foraminifera, in general, consistent long-term productivity, recolonization, and recovery rates are unavailable due to lack of long-term pre and post project monitoring to incorporate seasonal and natural variabilities. The production of species like *Ammonia beccarii* and *Elphidium excavatum* were hampered (Tables 3 and 4).

4. Conclusions

The main physical effects of the dredging operations carried out in the study area was the change of the sediment structure. This study indicated that sediments from dredged channel of the Krishnapatnam port are negatively impacted the micro benthos [6]. In connection with the macro benthic community, the present study has shown that the main immediate effect of dredging is the elimination of many of the benthic organisms. According to the review in Ref. [14], dredging can be expected to reduce species diversity by 30-70% and number of individuals by 40-95%. In the present study, the species diversity is reduced by 50% and individuals by 60%. Dredging effects to marine micro biota can be minimized through: i) reducing the volumes of dredged material removed; ii) reducing the frequency of dredging; iii) avoiding dredging activities that convert inter tidal to sub tidal habitat; iv) requiring that dredges and barges completely contain dredged material to minimize turbidity increases; v) employing best management practices to reduce changes to ambient light conditions; vi) avoiding geoduck losses by avoiding dredging in geoduck tracts, and vii) technological tools such as the “silent Inspector” should be considered when ever particularly sensitive habitats or organisms are at risk due to dredging proximal to sensitive habitats or in projects where sediments both suitable and unsuitable for unconfirmed open water disposal will be dredged adjacent to each other.

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Dredging damage to trees - Mechanical arm hits branches while dumping canal slush

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SOUMEN BHATTACHARJEE | Published 17.03.09, 12:00 AM



The mechanical arm of the dredger scythes through trees on the canal bank. Picture by Soumen Bhattacharjee

Damage to trees during the dredging of Kestopur canal has prompted the forest department to ask the Housing Infrastructure Development Corporation (Hidco) to stop the work, if necessary.

“We are yet to examine how many trees were damaged and to what extent. It seems the mechanical arm of the dredger might have hit trees while dumping muck from the canal bed on the bank on the VIP Road side,” said a forest department official.

According to sources in the department, over two dozen full-grown trees have been fatally damaged this way since the dredging started about three months ago.

Hidco officials claimed that other agents, too, were responsible for the damage to trees.

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Residents of buildings along VIP Road, and in Bangur, Lake Town and Dum Dum Park disputed the claim. “I saw the gigantic iron arm of the dredger hit branches of mature trees several times. I asked the operator to avoid the trees but he ignored my pleas. Reckless operation is the main reason for the damage,” alleged Sanjay Ghosh, a resident of Lake Town.

“The dredging should have been carried out more carefully. The green cover along VIP Road is precious, especially with the rise in the number of vehicles,” said Bangur resident Sunil Seth.

Trees are packed most closely in the Lake Town-Golaghata area and residents fear that many more trees would be damaged if the portion of the canal on the stretch is dredged without adequate precautionary measures.

Hidco officials supervising the dredging said they were aware of the damage. “But it is very difficult to control the mechanical arm of the dredger precisely and branches are breaking easily. The dredger operator is dumping the muck very carefully so that the trees suffer minimum damage,” said a Hidco official. The general manager of Hidco, Pradyut Biswas, promised to look into the matter.

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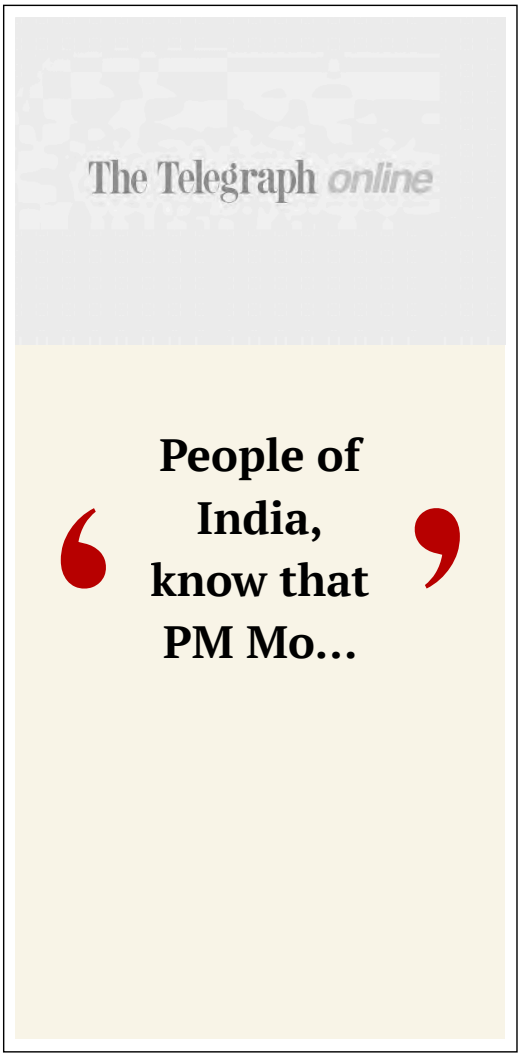


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Bindhtoli residents stage a protest on Wednesday. Picture by Amit Kumar

The residents of Bindhtoli diara in the district have forced the water resource department to stop removing sand deposits in the river, fearing the action might threaten their existence.

Along with the Inland Waterways Authority, officials of the water resources department had on Tuesday night sent two dozers to Bindhtoli to remove the deposits and save the damaged embankments along the northern course of the river towards Naugachia.

However, the residents of Bindhtoli opposed the action and claimed that removal of the sand deposits would eventually divert the course of the Ganga. Hundreds of them came out of their homes and staged a demonstration, compelling the water resources department officials to stop the work.

“We were shocked to find the dozers in our area. If the river changes its course because of the removal of the sand deposits, more than 40,000 people living in the eastern part of the Shankerpur Choubaniya diara falling under Nathnagar block would be in danger,” said Ramdev Mandal, 55, a small-time farmer.

“The water resources department is not bothered about the people living in the diara areas. The river will wash away our villages if it changes course. The fertile cultivated lands of the villagers of 10 mouzas (revenue villages) would be lost,” said Anadi Mandal, a resident of Mohonpur diara.

Water resources department superintendent engineer Devendra Kumar said: “We had started dredging the 14-km stretch of river bed passing through the area following a decision of our minister, Vijay Kumar Choudhary. The work had started near Buranath temple and Bishanpur.”

The residents of Shankerpur have decided to knock on the doors of the authorities concerned to prevent the dredging in the diara areas.

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“About 60 years ago, the Ganga used to flow through the area from the side of Buranath Ghat and it was the natural course of the river. The Ganga usually shifts its course in an interval of 70-75 years. However, the water resources department is trying to change the course of the river with help of machines. This might spell a doom for us,” alleged Shambu Mandal, an elderly resident of Shankerpur.

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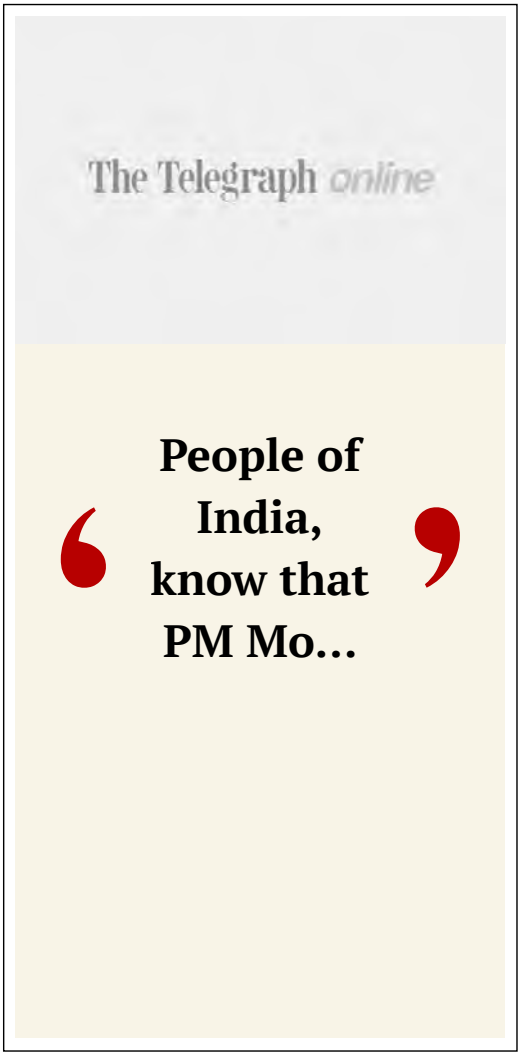
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'Rampal plant to affect Sundarbans' wildlife, aquatic resources'

Huge dredging of the rivers in and around the Sundarbans and transportation of coal for Rampal power plant will seriously affect the fish, wildlife and other aquatic resources in that region, scientists said in a new report today.

"Dredging and sediment disposal in estuarine and coastal waters such as the Sundarbans Reserve Forest and Bay of Bengal will increase turbidity and sedimentation, affecting light availability for marine organisms" it said.

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It will affect the growth and survival of organisms living at the water bottom and dolphins, fish and water birds, said the report titled "critical review of shipping and dredging plans to facilitate coal transport for the coal-fired power plant at Rampal".

Weekly 8 to 16 ships will transport coal through the rivers passing inside the Sundarbans, and the coal would be loaded and unloaded at Akram Point, according to the report.

"Excessive sound and lighting will affect the water life. As a result, they would move away," said agriculture and environment expert Prof Anwar Hossain of Bangladesh Agriculture University, while presenting the report.

Dr William Kleindl, research faculty at Montana State University & the University of Montana, US, and Dr Jon Brodie, professional research fellow at ARC Centre of Excellence for Coral Reef Studies at the James Cook University, Australia, prepared it early this year on request from The National Committee for Saving the Sundarbans free of cost.

They reviewed Bangladesh government's five documents, including final report on environmental impact assessment (EIA) of Rampal power plant; consulting services on coal sourcing, transportation and handling; summary of EIA on dredging and feasibility study for dredging in ur River from Mongla Port to Rampal.

The National Committee on Saving the Sundarbans and Bangladesh Paribesh Andolon (BAPA) revealed it at a press conference at the Prof Sirajul Islam Auditorium of Dhaka University.

Citing Bangladesh government's reports, the review report said over 33 million tons of dredge spoil are proposed to be removed from the Bay of Bengal and Passur river to create channel for coal transport to the Rampal project site.

In 2015, the World Heritage Committee had requested Bangladesh to conduct a separate EIA for dredging as it found the EIA for Rampal power plant inadequate with respect to the threats posed by dredging.

Bangladesh government in August 2016 released two additional documents related to dredging, but those documents are not independent, comprehensive or scientifically sound, the review report said.

"They do not meet the guidelines of the World Heritage Advice Note on Environmental Assessment, which ıdes rigorous environmental assessment early in the decision process," it said.

According to the report, Bangladesh government in a document claims the dredge spoil would be dumped in the upstream of Passur river, but in another document it said it would fill up the low land of Rampal plant area and build a dyke so the spoil does not go to the river again.

Scientists, however, observed there are high potentials that the said low land would be flooded as this area is one meter higher than the sea level. Thus, it would pollute the river and underground water.

On the other hand, as per the government document, the 30 million tons of sediments removed in between Akram Point and the Bay of Bengal will be dumped into the Bay of Bengal. This will put the aquatic ecology, dolphins and the Sundarbans under serious threat, Dr Anwar Hossain said.

UNESCO and International Union for Conservation of Nature recommended an effective action plan and emergency response facility to respond to shipping accidents. Bangladesh government claims it has adhered to the recommendations with the creation of National Oil Spill ingency Plan, but it does not reflect the reality.

"On January 13 this year, coal ship MV Aichgati sank at the mouth of the Passur River, spilling over 1000 tons of coal and hundreds of gallons of fuel oil adjacent to the Sundarbans. The government, however, has made no effort to date to remove the ship or spilled toxic fuels," said Prof Anwar Hossain.

The review report says Bangladesh clearly recognizes that during operation of the plant, vessel movement through the rivers passing inside the Sundarbans will increase significantly for transporting coal and oil. Trans-shipping 472 to 944 ships annually mean about 145 days of active trans-shipment at Akram Point.

This is, however, clear violation of the Bangladesh Environment Conservation Act 1995 and the Forest Act 1927 as these acts make the Sundarbans as reserve forest and protected area where there would be no commercial activities that damage forest and wildlife resources.

"If these activities are allowed to operate at Akram Point, then the EIA has not sufficiently assessed the threats to forest and wildlife resources within the Sundarbans," the report said.

India's state-owned National Thermal Power Corporation and Bangladesh Power Development Board are constructing the 1,320 megawatt plant on 1,834 acres of land in Rampal of Bagerhat, 14km north of Sundarbans, the world's largest mangrove forest, also a Unesco world heritage site.

Green groups have been protesting its construction near the Sundarbans, which acts as a natural barrier against cyclones.

Global environment organization, Greenpeace, early last month said Rampal power plant would cause at least 6,000 premature deaths and low birth weights of 24,000 babies during its 40-year life due to air pollution from coal burning.

Dr Abdul Matin, member secretary of the National Committee on Saving the Sundarbans, said international scientists have so far prepared 12 reports assessing the damages to be caused by the Rampal power project.

"We have released nine of those. The government, however, has been rejecting the reports," he said and added that after the Eid they would meet the authorities concerned and formally present the scientific findings.

BAPA Vice President Rasheda K Chowdhury, Dhaka University economics Professor MM Akash, geology professor Badrul Imam and geology and environment professor M Shahidul Islam also spoke.

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OC in trouble for demanding biriyani, sweets

Shayestaganj OC accused of demanding food items worth over Tk 10 lakh from 3 companies to entertain guests invited on the occasion of Police Day and Durga Puja.



Shayestaganj Police Station officer-in-charge (OC) has been accused of sending letters to three local companies demanding food items worth over Tk 10 lakh to entertain guests invited on the occasion of Police Day and Durga Puja.

The Habiganj district police formed a committee to investigate the allegation last night after learning of the matter from police officials, local media outlets, and social media, Habiganj Additional Superintendent of Police Khalilur Rahman told our Moulvibazar correspondent this morning.

Sheikh Nazmul Kamal requested food items worth Tk 3.5 lakh from each of the three companies via letters delivered by his constables.

Each letter asked for 300 plates of biryani, 30kg of jilapi, 30kg of sweets, 300 packets of curd, and 500 bottles of water, Khalilur added.

The committee is headed by ASP Samshul Haque and the other members are ASP Khalilur and Special Branch Inspector Rafiqul Islam. They will submit the probe report within three working days.

The letters were addressed to the managing director of Square Denims Ltd in Olipur, the MD of Tafrid Cotton Mills in the same area, and the general manager (administration) of PRAN-RFL Group at Habiganj Industrial Park.

Contacted, Touhiduzzaman, assistant general manager (PR) at PRAN-RFL Group, confirmed that they had

received the letter.

This correspondent tried to contact OC Kamal for his comment on the allegation, but he did not pick up the phone despite multiple calls.

On Gyantapas Abdur Razzaq's PhD thesis: 'Political Parties in India'

In a book launch held at the capital's Bengal Shilpalay on January 29 of this year, Gyantapas Abdur Razzaq Foundation and University Press Limited (UPL) held a discussion session on Professor Razzaq's *Political Parties in India*, the scholar's 1950 PhD thesis for the London School of Economics, published now for the first time in book form.

"Publishing this book is a matter of great pride for us", UPL Managing Director, Mahrukh Mohiuddin, said in her opening remarks. "It will be of

interest not only to political scientists, but also to historians and experts of our political and academic sphere".

Professor Rounaq Jahan, a student of Professor Razzaq in DU who first discovered his thesis from the footnotes in a book by Khaled bin Sayeed, shared her earliest impressions of reading the document.

"It didn't read like a thesis. It read like a book", she recalls.

In her Foreword to the UPL edition, which has been edited by Ahrar Ahmed, professor emeritus at Black Hills State University in the US, and director general of Gyantapas Abdur Razzaq Foundation, Rounak Jahan offers a synopsis of the basic arguments presented in the thesis.

That political parties of then India operated more in the form of political protest was Professor Razzaq's basic hypothesis. He argued that they failed to align with the basic principles of democratic political parties—that parties should operate as part of an economic programme, while those in India were working primarily to dismantle colonial rule in India; that politics must offer space for dialogue and peaceful adjustment of different opinions; that politics must have rotational power; that everyone must

have equal opportunity to participate; and that no one party can become a permanent majority or minority.

"I mention these points because they are still relevant, because we still do not have these things in Bangladesh", Professor Jahan said. As with his style of speaking, she added, his book, too, is provocative and passionate, reflecting his tendency to treat any form of received wisdom by questioning it, rejecting it, and proposing an alternative hypothesis.

Aired live on UPL's Facebook and YouTube channels at 4 PM, the panel discussion included theoretician, analyst and academic Badruddin Umar, former Finance Secretary and Minister for Finance, Government of Bangladesh, M Syeduzzaman, human rights activist Hameeda Hossain, CPD chairman Rehman Sobhan, distinguished fellow at CPD, Rounaq Jahan, founder trustee of the Liberation War Museum, Mofidul Hoque, Professor at University of Liberal Arts Bangladesh, Salimullah Khan, editor and publisher of *The Daily Star*, Mahfuz Anam, and *Prothom Alo* editor, Matiur Rahman. Historian and writer, Muntassir Mamoon, could not attend the programme due to ill health.

"We have all been part of the great adventure of Professor Razzaq's thesis at various stages in our numerous encounters with him", Professor Rehman Sobhan recalled. "This always used to be greeted with loud laughter. I'm not sure whether the laughter was an act of discouragement or inducement for us to be foolish enough to go ahead and do something about it."

"He had an image of a scholar, a truly dedicated teacher, and we students of DU were disciples of that myth even if I wasn't directly taught by him. I thank Professor Ahrar Ahmad for the intellectual labour, dedication, and sincerity he has put into this project", Editor Mahfuz Anam said.

Looking back upon the genesis of Gyantas Abdur Razzaq Foundation, Abul Khair Litu, Chairman of Bengal Group Ltd and member, Board of Trustees of the Foundation, said of his uncle, "Professor Razzaq taught us that if someone does you injustice or even writes against you, but if he is a good and educated human being, then accept him as he is. On behalf of my family, I have tried to fulfill my duties towards continuing to further his work".

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