

**Bidding Document**  
National Competitive Bidding  
( Two –Envelope Bidding Process with e-procurement)  
(Without Prequalification)



**Procurement**  
**for**  
**Providing and maintaining Least Available Depth (LAD)**  
**of 3.0 meter and**  
**Bottom width of 70 – 239m during 5 years in the Channel**  
**for**  
**Re-Engineering of Bends - Bend in Approach Channel**  
**U/S of Farakka Navigation Lock of National Waterway 1**  
**by dredging / dry excavation or combination thereof.**

Contract Package no  
NCB No : IN-IWAI-96065-CW-RFB  
May -2019

**Project Management Unit**

Capacity Augmentation of the National Waterway – 1 Project (Jal Marg Vikas)

**INLAND WATERWAYS AUTHORITY OF INDIA**

(Ministry of Shipping, Government of India)

Head Office: A-13, Sector – 1, Noida - 201301

Phone: 0120-2544004, Fax: 0120-2543976; website: [www.iwai.nic.in](http://www.iwai.nic.in) ; email: [vc.iwai@nic.in](mailto:vc.iwai@nic.in)

**Inland waterways Authority of India  
( Ministry of Shipping, Govt of India)  
PROJECT – Capacity Augmentation of River Ganga ( NW-1)**

File Ref:- IN / IWAI / WB / NW-1/ 4/14 / 2018.

IFB NO IN-IWAI-96065-CW-RFB

**NATIONAL COMPETITIVE BIDDING**

<b>NAME OF WORK</b>	<b>“Providing and maintaining Least Available Water Depth (LAD) of 3.0 meter and bottom width of 70 – 239m during 5 years in the Channel for Re-Engineering of Bends - Bend in Approach Channel U/S of Farakka Navigation Lock of National Waterway 1 by dredging / dry excavation or combination there of”</b>
<b>PERIOD OF SALE OF BIDDING DOCUMENT</b>	<b>27.05.2019 to 14.08.2019</b>
<b>TIME AND DATE OF PRE-BID CONFERENCE</b>	<b>12.06.2019 at 15.00 hrs</b>
<b>LAST DATE AND TIME FOR BID SUBMISSION / RECEIPT OF BIDS</b>	<b>14.08.2019 Up to 15.00 hrs</b>
<b>TIME AND DATE OF OPENING</b>	<b>14.08.2019 Up to 15.30 hrs</b>
<b>Place of Bid Opening</b>	<b>Inland Waterways Authority of India Project Management Unit – JMVP Jal Marg Vikas Project A-13, Sector -1, Noda [UP]</b>
<b>OFFICER INVITING BIDS</b>	<b>Project Director [JMVP]</b>

Package No	Name of Work	Bid Security * Rs.	Cost of Document Rs.	Period of Completion
1	2	3	4	5
Bend in Approach Channel U/S of Farakka Navigation Lock of National Waterway 1	Providing and maintaining Least Available Water Depth (LAD) of 3.0 meter and bottom width of 70 – 239m during 5 years in the Channel for Re-Engineering of Bends - Bend in Approach Channel U/S of Farakka Navigation Lock of National Waterway 1 by dredging / dry excavation or combination thereof”	INR 1.22 Crores	INR 5000	5 years

# Invitation for Bids (IFB)

INDIA

CAPACITY AUGMENTATION OF NATIONAL WATERWAY – 1

Loan No.: 8752-IN

Employer: Inland Waterways Authority of India, Ministry of Shipping, Government of India

**“Providing and maintaining Least Available Water Depth (LAD) of 3.0 meter and bottom width of 70 – 239m during 5 years in the Channel for Re-Engineering of Bends - Bend in Approach Channel U/S of Farakka Navigation Lock of National Waterway 1 by dredging / dry excavation or combination there of”**

## E-Procurement Notice

**(Two-Envelope e-Procurement Bidding Process without Prequalification)**

Contract/Bid No.: Contract Package no: IN-IWAI-96065-CW-RFB

IWAI - File ref:- IWAI/WB/NW-1/4/14/2018/LAD

1. This Invitation for Bids follows the General Procurement Notice for this Project that appeared in *Development Business*, issue no. Nil of 11 September, 2014.
2. The *Inland Waterways Authority of India, Ministry of Shipping, Government of India* has received financing from the *International Bank for Reconstruction and Development* toward the cost of *Capacity Augmentation of National Waterway – 1 (Jal Marg Vikas)*, and it intends to apply part of the proceeds of this loan to payments under the Contract for **“Providing and maintaining Least Available Water Depth (LAD) of 3.0 meter and bottom width of 70 – 239m during 5 years in the Channel for Re-Engineering of Bends - Bend in Approach Channel U/S of Farakka Navigation Lock of National Waterway 1 by dredging / dry excavation or combination there of”**
3. The *Inland Waterways Authority of India, Ministry of Shipping, Government of India* now invites sealed bids from eligible and qualified bidders for **“Providing and maintaining Least Available Water Depth (LAD) of 3.0 meter and bottom width of 70 – 239m during 5 years in the Channel for Re-Engineering of Bends - Bend in Approach Channel U/S of Farakka Navigation Lock of National Waterway 1 by dredging / dry excavation or combination there of”** to be completed in 5 years from the date of award.
4. Bidding will be conducted through the National Competitive Bidding (NCB) procedures specified in the World Bank’s *Guidelines: Procurement under IBRD Loans and IDA Credits*, and is open to all eligible as defined in the Guidelines.<sup>5</sup>
5. Interested eligible bidders may obtain further information from *Inland Waterways Authority of India, Ministry of Shipping, Government of India; Project Director*, e-mail [vc.iwai@nic.in](mailto:vc.iwai@nic.in) and inspect the Bidding Documents at the address given below from 0930 to 1800 hrs IST.
6. Qualifications requirements are provided in the bidding document. Additional details are provided in the Bidding Documents.
7. A complete set of Bidding Documents in *English* may be download from NIC- e-procure web site, by interested bidders against the payment of a non refundable fee of Rs. 5,000/-. The method of payment will be *Demand Draft*, to be submitted along with the bid.

8. Bids must be delivered to the address below at or before **1500 hrs on 14.08.2019**. Electronic bidding *will* be permitted. Late bids will be rejected. Bids will be opened in the presence of the bidders' representatives who choose to attend in person at the address below at **1530 hrs on 14.08.2019**

All bids must be accompanied by a "Bid Security" of **INR 1,22,00,000.00 [Indian Rupees One Crore Twenty Two Lac]**

9. The address referred to above is:

*Project Director, JMVP*

*Project Management Unit, Jal Marg Vikas Project*

*Address: A-13, Sector – 1*

*City: Noida, Gautam Buddha Nagar, Uttar Pradesh*

*ZIP Code: 201301*

*Country: India*

*Telephone: +91 120- 2424544*

*Electronic mail address: vc.iwai@nic.in.*

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FB-1004	Excavation Plan and Sections (Sheet 5 of 5)
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Annexure C: Relevant Extracts from Report of Geo-technical Investigations

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## Instructions to Bidders

### A. General

<b>1. Scope of Bid</b>	<p>1.1 The Employer, as defined in the <b>Bidding Data Sheet (BDS)</b>, invites bids for the Services, as described in the Appendix A to the Contract. The name and identification number of the Contract is <b>provided in the BDS</b>.</p> <p>1.2 The successful Bidder will be expected to complete the performance of the Services by the Intended Completion Date <b>provided in the BDS</b>.</p>
<b>2. Source of Funds</b>	<p>2.1 The Borrower, as <b>defined in the BDS</b>, intends to apply part of the funds of a loan from the World Bank, <b>as defined in the BDS</b>, towards the cost of the Project, <b>as defined in the BDS</b>, to cover eligible payments under the Contract for the Services. Payments by the World Bank will be made only at the request of the Borrower and upon approval by the World Bank in accordance with the Loan Agreement, and will be subject in all respects to the terms and conditions of that Agreement. Except as the World Bank may specifically otherwise agree, no party other than the Borrower shall derive any rights from the Loan Agreement or have any rights to the loan proceeds.</p>
<b>3. Corrupt or Fraudulent Practices</b>	<p>3.1 It is the Bank’s policy to require that Borrowers (including beneficiaries of Bank loans), as well as Bidders, suppliers, and contractors and their sub-contractors under Bank-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. <sup>1</sup> In pursuance of this policy, the Bank:</p> <p>(a) defines, for the purposes of this provision, the terms set forth below as follows:</p> <p>(i) “corrupt practice”<sup>2</sup> is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;</p> <p>(ii) “fraudulent practice”<sup>3</sup> is any act or omission, including a misrepresentation, that knowingly or</p>

<sup>1</sup> In this context, any action taken by a bidder, supplier, contractor, or a sub-contractor to influence the procurement process or contract execution for undue advantage is improper.

<sup>2</sup> For the purpose of these SBDs, “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.

<sup>3</sup> For the purpose of these SBDs, “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.

	<p>recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;</p> <p>(iii) “collusive practice”<sup>4</sup> is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;</p> <p>(iv) “coercive practice”<sup>5</sup> 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;</p> <p>(v) “obstructive practice” is</p> <p>(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 it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or</p> <p>(bb) acts intended to materially impede the exercise of the Bank’s inspection and audit rights provided for under para. 1.14 (e) of the Bank’s Procurement Guidelines.</p> <p>(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;</p> <p>(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</p>
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<sup>4</sup> For the purpose of these SBDs, “parties” refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, non-competitive levels.

<sup>5</sup> For the purpose of these SBDs, “party” refers to a participant in the procurement process or contract execution.

	<p>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;</p> <p>(d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank’s sanctions procedures,<sup>6</sup> 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<sup>7</sup>;</p> <p>(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.</p>
	<p>3.2 Furthermore, bidders shall be aware of the provision stated in Sub-Clauses 1.7 (Inspection &amp; audit by the Bank) and 2.6.1 (Termination by the Employer) of the General Conditions of Contract.</p>
<p><b>4. Eligible Bidders</b></p>	<p>4.1 A bidder may be a firm that is a private entity, a state-owned enterprise or institution in the Employer’s Country —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. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority of the Firm/JV to conduct all business for and on behalf of any and all the</p>

<sup>6</sup> 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.

<sup>7</sup> 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.

	<p>members of the JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution. Unless specified in the BDS, there is no limit on the number of members in a JV.</p> <p>4.2 A Bidder shall not have a conflict of interest. Any Bidder 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:</p> <ul style="list-style-type: none"> <li>(a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or</li> <li>(b) receives or has received any direct or indirect subsidy from another Bidder; or</li> <li>(c) has the same legal representative as another Bidder; or</li> <li>(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</li> <li>(e) or any of its affiliates participated as a consultant in the preparation of the Employer’s Requirements (including Activities Schedules, Performance Specifications and Drawings) for the Non-Consulting Services that are the subject of the Bid; or</li> <li>(f) or any of its affiliates has been hired (or is proposed to be hired) by the Employer or Borrower for the Contract implementation; or</li> <li>(g) 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 1.1 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</li> <li>(h) 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 document 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.</li> </ul>
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	<p>4.3 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.6. 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 subcontractors or sub-consultants for any part of the Contract including related Services.</p> <p>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.</p> <p>4.5 Bidders that are state-owned enterprises or institutions in the Employer’s Country may be eligible to compete and be awarded a Contract(s) only if they can establish, in a manner acceptable to the Bank, that they: (i) are legally and financially autonomous; (ii) operate under commercial law; and (iii) are not under supervision of the Employer</p> <p>4.6 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.</p> <p>4.7 A Bidder shall not be under suspension from bidding by the Employer as the result of the execution of a Bid–Securing Declaration.</p>
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<p><b>5. Qualification of the Bidder</b></p>	<p>5.1 All bidders shall provide in Section IV, Bidding Forms, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.</p> <p>5.2 Bidder shall furnish the following with his bid:</p> <ul style="list-style-type: none"> <li>(a) List of major items of equipment proposed to carry out the contracted services using the format provided in Section IV - Bidding Forms</li> <li>(b) Detailed methodology to indicate how various activities will be carried out to achieve the performance parameters laid down in Appendix A to the contract – Description of the Services.</li> <li>(c) The bidder should submit detailed dredging management plan (including disposal of dredged material) along with dredger deployment plan (No. of dredgers to be deployed at various point of time along with dredging capacities and manpower) and frequency of bathymetric survey along with details of equipment and manpower to be deployed by him to meet the LAD requirements in the concerned stretch.</li> <li>(c) 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.</li> <li>(d) Wherever an Bidding Form requires an Bidder to state a monetary amount, Bidders should indicate the USD equivalent using the rate of exchange determined as follows:   For construction turnover or financial data required for each year - Exchange rate prevailing on the last day of the respective calendar year (in which the amounts for that year is to be converted) was originally established.   Value of single contract - Exchange rate prevailing on the date of the contract.   Exchange rates shall be taken from the publicly available source as. Source of exchange rate: BC Selling exchange rates of RBI ( Reserve Bank of India ) or State Bank of India, Main Branch, New Delhi  Date: as prevailing on the last date of bid submission  Any error in determining the exchange rates in the Bidding may be corrected by the Employer.   Currency chosen for the purpose of conversion to a common currency: INR</li> </ul>
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	<p>5.3 If the Employer has not undertaken prequalification of potential bidders, all bidders shall include the following information and documents with their bids in Section IV, unless otherwise <b>stated in the BDS</b>:</p> <ul style="list-style-type: none"> <li>(a) copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the Bid to commit the bidder;</li> <li>(b) total monetary value of Services performed for each of the last five years;</li> <li>(c) experience in Services of a similar nature and size for each of the last five years, and details of Services under way or contractually committed; and names and address of clients who may be contacted for further information on those contracts;</li> <li>(d) list of major items of equipment proposed to carry out the Contract;</li> <li>(e) qualifications and experience of key site management and technical personnel proposed for the Contract;</li> <li>(f) reports on the financial standing of the bidder, such as profit and loss statements and auditor’s reports for the past five years;</li> <li>(g) evidence of adequacy of working capital for this Contract (access to line(s) of credit and availability of other financial resources);</li> <li>(h) authority to the Employer to seek references from the bidder’s bankers;</li> <li>(i) information regarding any litigation, current or during the last five years, in which the bidder is involved, the parties concerned, and disputed amount; and</li> <li>(j) Proposals for subcontracting components of the Services amounting to more than 10 percent of the Contract Price.</li> </ul> <p>5.4 Bids submitted by a joint venture of two or more firms as partners shall comply with the following requirements, unless otherwise stated in the <b>BDS</b>:</p> <ul style="list-style-type: none"> <li>(a) the Bid shall include all the information listed in ITB Sub-Clause 5.3 above for each joint venture partner;</li> </ul>
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	<p>(b) the Bid shall be signed so as to be legally binding on all partners;</p> <p>(c) the Bid shall include a copy of the agreement entered into by the joint venture partners defining the division of assignments to each partner and establishing that all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms; alternatively, a Letter of Intent to execute a joint venture agreement in the event of a successful bid shall be signed by all partners and submitted with the bid, together with a copy of the proposed agreement;</p> <p>(d) one of the partners shall be nominated as being in charge, authorized to incur liabilities, and receive instructions for and on behalf of any and all partners of the joint venture; and</p> <p>(e) The execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.</p> <p>5.5 To qualify for award of the Contract, bidder shall meet the following minimum qualifying criteria:</p> <p>(a) annual volume of Services of at least the amount <b>specified in the BDS;</b></p> <p>(b) experience as prime Contractor in the provision of at least two service contracts of a nature and complexity equivalent to the Services over the last 5 years (to comply with this requirement, Services contracts cited should be at least 70 percent complete) <b>as specified in the BDS;</b></p> <p>(c) proposals for the timely acquisition (own, lease, hire, etc.) of the essential equipment <b>listed in the BDS;</b></p> <p>(d) a Contract Manager with five years' experience in Services of an equivalent nature and volume, including no less than three years as Manager; and</p> <p>(e) Liquid assets and/or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, of no less than the amount specified in the <b>BDS.</b></p> <p>A consistent history of litigation or arbitration awards against the Bidder or any partner of a Joint Venture shall result in disqualification.</p> <p>5.6 The figures for each of the partners of a joint venture shall be added together to determine the bidder's compliance with the</p>
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	<p>minimum qualifying criteria of ITB Sub-Clause 5.5(a), (b) and (e); however, for a joint venture to qualify the partner in charge must meet at least 40 percent of those minimum criteria for an individual bidder and other partners at least 25% of the criteria. Failure to comply with this requirement will result in rejection of the joint venture's Bid. Sub-Contractors' experience and resources will not be taken into account in determining the bidder's compliance with the qualifying criteria, unless otherwise <b>stated in the BDS</b>.</p> <p>5.6.1 Unless otherwise stated in the BDS, the Employer does not intend to execute any specific elements of the Works by sub-contractors selected in advance by the Employer.</p> <p>5.6.2 The Employer may decide to permit subcontracting for certain specialized works as indicated in Section III 4.2, Experience. The Employer may do so at its own initiative or at the request of the Bidders during the prequalification process (if justified). When subcontracting is permitted by the Employer, the specialized sub-contractors experience shall be considered for evaluation. Section III describes the qualification criteria for sub-contractors.</p> <p>5.6.3 Bidders may propose subcontracting to the percentage of the total value of the contract or the volume of works mentioned in the BDS.</p>
<p><b>6. One Bid per Bidder</b></p>	<p>6.1 Each Bidder shall submit only one Bid, either individually or as a partner in a joint venture. A Bidder who submits or participates in more than one Bid (other than as a sub-contractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the Bidder's participation to be disqualified.</p>
<p><b>7. Cost of Bidding</b></p>	<p>7.1 The Bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will in no case be responsible or liable for those costs.</p>
<p><b>8. Site Visit</b></p>	<p>8.1 The Bidder, at the Bidder's own responsibility and risk, is encouraged to visit and examine the Site of required Services and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for the Services. The costs of visiting the Site shall be at the Bidder's own expense.</p>

<b>B. Bidding Documents</b>	
<p><b>9. Content of Bidding Documents</b></p>	<p>9.1 The set of bidding documents comprises the documents listed in the table below and addenda issued in accordance with ITB Clause 11:</p> <p><b>Part 1 .. Bidding Procedures</b></p> <p>Section I Instructions to Bidders</p> <p>Section II Bidding Data Sheet</p> <p>Section III Qualification Criteria and Requirements</p> <p>Section IV Bidding Forms</p> <p>Section V Eligible Countries</p> <p><b>Part 2 .. Specifications for Works and Services</b></p> <p>Section VI Activity Schedule</p> <p><b>Part 3 .. Condition of Contract and Contract Forms</b></p> <p>Section VII General Conditions of Contract</p> <p>Section VIII Special Conditions of Contract</p> <p>Section IX Performance Specifications and Drawings (if Applicable)</p> <p>Section X Contract Forms</p>
	<p>9.2 The Invitation for Bids issued by the Employer is not part of the Bidding Document.</p>
	<p>9.3 The Employer is not responsible for the completeness of the Bidding Documents and their addenda, if they were not obtained directly from the source stated by the Employer in the Invitation for Bids.</p>
	<p>9.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or to submit a bid not substantially responsive to the bidding documents in every respect will be at the Bidder's risk and may result in the rejection of its bid. Sections IV, VI, and X should be completed and returned with the Bid in the number of copies specified in the <b>BDS</b>.</p>
<p><b>10. Clarification of Bidding Documents &amp; Pre-Bid Meeting</b></p>	<p>10.1 A Bidder requiring any clarification of the bidding documents shall notify the Employer through the e-procurement portal specified in the BDS or raise its enquiries during the pre-bid meeting if provided for in accordance with ITB 10.2.</p> <p>The Employer's response to the clarification, including a description of the inquiry but without identifying its source will be made available through the e-procurement portal provided</p>

	<p>that such request is uploaded no later than fourteen (14) days prior to the deadline for submission of bids. Should the clarification result in changes to the essential elements of the Bidding Documents, the Employer shall amend the Bidding Documents in the e-procurement portal following the procedure under ITB 11.</p> <p>10.2 If so <b>specified in the BDS</b>, the Bidder’s designated representative is invited to attend a pre-bid meeting. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage. The Bidder is requested to submit any queries / Clarifications questions in one LOT through e-mail or maximum on the date of Pre-Bid Meeting, e–procurement portal, not later than one week before the meeting.</p> <p><b>Subsequent to Pre-bid meeting, no further Queries shall be entertained.</b></p> <p>10.3 Minutes of the pre-bid meeting, if applicable, including the text of the questions asked by Bidders, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be posted in the e-procurement portal. 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 in the e-procurement portal pursuant to ITB 11 and not through the minutes of the pre-bid meeting. Non-attendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.</p> <p>It is the bidder’s responsibility to check the e-procurement portal from time to time for any addendum or corrigendum to the bidding documents. The Employer will not issue any notifications separately to the bidders.</p>
<p><b>11. Amendment of Bidding Documents</b></p>	<p>11.1 At any time prior to the deadline for submission of bids, the Employer may amend the bidding documents by issuing addenda, which will be uploaded on the e-Procurement Portal.</p> <p>11.2 Any addendum thus issued shall be part of the bidding documents and it will be binding on all Bidders. It is the Bidder’s responsibility to check the e-procurement portal for any update.</p> <p>11.3 To give bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer shall extend, as necessary, the deadline for submission of bids, in accordance with ITB Sub-Clause 21.2 below. For this purpose, addendum/ notification of extension of deadline for bid submission will be</p>

	uploaded on the e-Procurement Portal and shall be available online.
<b>C. Preparation of Bids</b>	
<b>12. Language of Bid</b>	12.1 The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Employer shall be written in the language <b>specified in the BDS</b> . Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified in the Bidding Data Sheet, in which case, for purposes of interpretation of the Bid, the translation shall govern.
<b>Cost of Bidding</b>	12.2 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
<b>13. Documents Comprising the Bid</b>	<p>13.1 The Bid shall comprise two Parts, namely the Technical Part and the Financial Part. These two Parts shall be submitted simultaneously.</p> <p>13.2 The <b>Technical Part</b> shall contain the following:</p> <ul style="list-style-type: none"> <li>(a) <b>Letter of Bid - Technical Part:</b> prepared in accordance with Section IV.</li> <li>(b) <b>Bid Security:</b> in accordance with ITB 17.</li> <li>(c) <b>Alternative Bid - Technical Part:</b> if permissible in accordance with ITB 18.</li> <li>(d) <b>Authorization:</b> written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 19 , and in accordance with ITB 5.4 in case of a JV;</li> <li>(e) <b>Qualification:</b> documentary evidence in accordance with ITB 27 establishing the Bidder’s qualification to perform the Contract if its Bid is accepted;</li> <li>(f) <b>Conformity:</b> a technical proposal in accordance with ITB 27.1 ;</li> <li>(g) <b>Construction Methodology:</b> as detailed in Para 1.1 of Section III Evaluation Criteria;</li> <li>(h) Contractor Registration certificate (as per IFB); and</li> <li>(i) any other document required <b>in the BDS</b>.</li> </ul>

	<p>13.3The <b>Financial Part</b> shall contain the following:</p> <ul style="list-style-type: none"> <li>(a) <b>Letter of Bid – Financial Part:</b> prepared in accordance with Section-VI , Part-II</li> <li>(b) <b>Completed schedules, including priced Bill of Quantities:</b> completed online in accordance with ITB 14;</li> <li>(c) <b>Alternative Bid - Financial Part;</b> if permissible in accordance with ITB 18,the Financial Part of any Alternative Bid;</li> <li>(d) any other document <b>required in the BDS.</b></li> </ul> <p>13.4The Technical Part shall not include any financial 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.</p> <p>13.5In addition to the requirements under ITB 13.2, Bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all partners. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Bid shall be signed by all partners and submitted with the Bid, together with a copy of the proposed Agreement.</p> <p>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.</p>
<p><b>14. Bid Prices</b></p>	<p>14.1 The Contract shall be for the Services, as described in</p> <ul style="list-style-type: none"> <li>• Appendix A to the contract and in the Specifications,</li> <li>• Section IX, based on the priced Activity Schedule,</li> <li>• Section VI, submitted by the Bidder.</li> </ul> <p>14.2 The Bidder shall fill in rates and prices for all items of the Services described in the Specifications in Section IX and listed in the Activity Schedule, Section VI. Items for 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 other rates and prices in the Activity Schedule.</p> <p>14.3 All duties, taxes, and other levies payable by the Service Provider under the Contract, or for any other cause, as of the date 28 days prior to the deadline for submission of bids, shall be included in the total Bid price submitted by the Bidder.</p> <p>14.4 If <b>provided for in the BDS</b>, the rates and prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract in accordance with and the provisions of Clause</p>

	<p>6.6 of the General Conditions of Contract and/or Special Conditions of Contract. The Bidder shall submit with the Bid all the information required under the Special Conditions of Contract and of the General Conditions of Contract.</p> <p>14.5 For the purpose of determining the remuneration due for additional Services, a breakdown of the lump-sum price shall be provided by the Bidder in the form of Appendices D and E to the Contract</p>
<p><b>15. Currencies of Bid and Payment</b></p>	<p>15.1 The lump sum price shall be quoted by the Bidder separately in the following currencies:</p> <ul style="list-style-type: none"> <li>(a) for those inputs to the Services which the Bidder expects to provide from within the Employer’s country, the prices shall be quoted in the currency of the Employer’s country, unless otherwise <b>specified in the BDS</b>; and</li> <li>(b) for those inputs to the Services which the Bidder expects to provide from outside the Employer’s country, the prices shall be quoted in up to any three currencies of any member country of the Bank.</li> </ul> <p>15.2 Bidder shall indicate details of their expected foreign currency requirements in the Bid.</p> <p>15.3 Bidder may be required by the Employer to justify their foreign currency requirements and to substantiate that the amounts included in the Lump Sum are reasonable and responsive to ITB Sub-Clause 15.1.</p>
<p><b>16. Bid Validity</b></p>	<p>16.1 Bids shall remain valid for the period <b>specified in the BDS</b>.</p> <p>16.2 In exceptional circumstances, the Employer may request that the Bidder extend the period of validity for a specified additional period. The request and the Bidder’s responses shall be made in writing or by cable. A Bidder may refuse the request without forfeiting the Bid Security. A Service Provider agreeing to the request will not be required or permitted to otherwise modify the Bid, but will be required to extend the validity of Bid Security for the period of the extension, and in compliance with ITB Clause 17 in all respects.</p> <p>16.3 In the case of contracts in which the Contract Price is fixed (not subject to price adjustment), if the period of bid validity is extended by more than 60 days, the amounts payable in local and foreign currency to the Bidder selected for award, shall be increased by applying to both the local and the foreign currency component of the payments, respectively, the factors specified in the request for extension, for the period of delay beyond 60</p>

	<p>days after the expiry of the initial bid validity, up to the notification of award. In the case of adjustable price contracts, no adjustment shall be made. In any case, bid evaluation will be based on the Bid prices without taking the above correction into consideration.</p>
<p><b>17. Bid Security</b></p>	<p>17.1 The Bidder shall furnish, as part of the Bid, a scanned copy of the Bid Security or a Bid-Securing Declaration, if required, as <b>specified in the BDS</b>. The original Bid Security shall be submitted along with other specified originals in accordance with the procedure specified in <b>ITB 20.3 and BDS 20.3</b>.</p> <p>17.2 The Bid Security shall be in the amount <b>specified in the BDS</b> and denominated in the currency of the Employer’s Country or a freely convertible currency, and shall:</p> <ul style="list-style-type: none"> <li>(a) at the bidder’s option, be in the form of either a letter of credit, or a bank guarantee from a banking institution, or a bond issued by a surety;</li> <li>(b) be issued by a reputable institution selected by the bidder and located in any eligible country. If the institution issuing the bond is located outside the Employer’s Country, it shall have a correspondent financial institution located in the Employer’s Country to make it enforceable.</li> <li>(c) be substantially in accordance with the form of Bid Security included in Section IV - Bidding Forms, or other form approved by the Employer prior to bid submission;</li> <li>(d) be payable promptly upon written demand by the Employer in case the conditions listed in ITB Sub-Clause 17.5 are invoked;</li> <li>(e) be submitted in its original form; copies will not be accepted;</li> <li>(f) remain valid for a period of 45 days beyond the validity period of the bids, or beyond any period of extension if requested under ITB Sub-Clause 16.2;</li> </ul> <p>17.3 If a Bid Security or a Bid- Securing Declaration is required in accordance with ITB Sub-Clause 17.1, any bid not accompanied by a substantially responsive Bid Security or Bid Securing Declaration in accordance with ITB Sub-Clause 17.1, shall be rejected by the Employer as non-responsive.</p> <p>17.4 The Bid Security of unsuccessful Bidder shall be returned as promptly as possible upon the successful Bidder’s furnishing of the Performance Security pursuant to ITB Clause 35.</p>

	<p>17.5 The Bid Security may be forfeited or the Bid Securing Declaration executed:</p> <ul style="list-style-type: none"> <li>(a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Bid Submission Form, except as provided in ITB Sub-Clause 16.2; or</li> <li>(b) if the successful Bidder fails to: <ul style="list-style-type: none"> <li><i>(i) Sign the Contract in accordance with ITB Clause 34;</i></li> <li><i>(ii) Furnish a Performance Security in accordance with ITB Clause 35.</i></li> </ul> </li> </ul> <p>17.6 The Bid Security or Bid- Securing Declaration of a JV must be in the name of the JV that submits the bid. If the JV has not been legally constituted at the time of bidding, the Bid Security or Bid-Securing Declaration shall be in the names of all future partners as named in the letter of intent to constitute the JV.</p> <p>17.7 if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid Form, except as provided in ITB 16.2, or</p> <ul style="list-style-type: none"> <li>(a) if the successful Bidder fails to: <ul style="list-style-type: none"> <li>(i) sign the Contract in accordance with ITB .....; or</li> <li>(ii) furnish a performance security and if required in the BDS, the Environmental, Social, Health and Safety (ESHS) Performance Security, in accordance with ITB 35.</li> </ul> </li> </ul> <p><b>“ESHS” means environmental, social (including Sexual Exploitation and Abuse (SEA) and Gender Based violence (GBV)), health and safety.</b></p> <p>the Borrower may, <b>if provided for in the BDS</b>, declare the Bidder ineligible to be awarded a contract by the Borrower for a period of time <b>as stated in the BDS</b>.</p>
<p><b>18. Alternative Proposals by Bidders</b></p>	<p>18.1 Unless otherwise indicated in the BDS, <b><u>alternative bids shall not be considered.</u></b></p> <p>18.2 When alternative times for completion are explicitly invited, a statement to that effect will be <b>included in the BDS</b>, as will the method of evaluating different times for completion.</p> <p>18.3 Except as provided under ITB Sub-Clause 18.4 below, bidder wishing to offer technical alternatives to the requirements of the bidding documents must first submit a Bid that complies with the requirements of the bidding documents, including the scope, basic technical data, graphical documents and specifications. In addition to submitting the basic Bid, the</p>



	<p>Bidder shall provide all information necessary for a complete evaluation of the alternative by the Employer, including calculations, technical specifications, breakdown of prices, proposed work methods and other relevant details. Only the technical alternatives, if any, of the lowest evaluated Bidder conforming to the basic technical requirements shall be considered by the Employer. Alternatives to the specified performance levels shall not be accepted.</p> <p>18.4 When Service Provider are <b>permitted in the BDS</b> to submit alternative technical solutions for specified parts of the Services, such parts shall be described in the Specifications (or Terms of Reference) and Drawings, Section IX. In such case, the method for evaluating such alternatives will be as <b>indicated in the BDS</b>.</p>
<p><b>19. Format and Signing of Bid &amp; Power of Attorney</b></p>	<p>19.1 The Bidder shall prepare the documents comprising the bid as described in ITB 13 and upload them in the e-procurement portal as specified in ITB 20.</p> <p>Alternative bids, if permitted in accordance with ITB 18, shall be clearly marked "ALTERNATIVE."</p> <p>In addition, the Bidder shall produce originals of the Bid Security, Power of Attorney and Affidavit referred to in ITB 13.1 (d), in the manner specified in ITB 20.3. In the event of any discrepancy between the original and the uploaded documents, the original shall prevail.</p> <p>19.2 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 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.</p> <p>19.3 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.</p>
<p><b>D. Electronic Submission of Bids</b></p>	
<p><b>20. Electronic Submission of Bids</b></p>	<p>20.1 The Bidder shall submit the bid electronically, including alternative bids, if permitted in accordance with ITB 18, through the e-procurement portal following the system described in the <b>BDS</b>. All the documents are required to be signed digitally by the bidder. Any document submitted through any other means will not be considered as part of the Bid except for the Originals</p>

specified in ITB 20.3. However bids shall be submitted along with documents listed at ITB13.viz,

- (a) *Bidder's Bid Form (in the format provided in Section IV);*
- (b) *Scanned copy of Bid Security, in accordance with ITB 17;*
- (c) *Priced Activity Schedule; Section VI. Part-II*
- (d) *Affidavit affirming correctness of information, documents and certificates submitted with the bid as per Format in Section IV – Bidding Forms;*
- (e) *Alternative offers { if invited };*  
*And any other materials required to be completed and submitted by Bidder, as **specified in the BDS.***

20.2 The bid submitted by the bidder online at e-Procurement Portal shall comprise the following:

- (i) ***Scanned copy of filled in and signed Bid Form***
- (ii) ***Priced Activity Schedules - to be filled in online and digitally signed***

***Bidder shall upload scanned copies of following documents with the above mentioned two documents.***

- (iii) List of major items of equipment proposed to carry out contracted services in accordance with ITB 5.2 read with BDS 5.2.1
- (iv) Detailed methodology to indicate how various activities would be undertaken in accordance with ITB 5.2 read with BDS 5.2.1
- (v) Bid Security in the acceptable form for the specified amount and validity in accordance with ITB 17.2;
- (vi) Power of Attorney of signatory of the Bid/documents submitted with the Bid in accordance with ITB 19.2 & 19.3;
- (vii) An Affidavit, as per ITB 13.1 (d) affirming that information, documents and certificates furnished with the bid are correct to the best of knowledge and belief of the bidder;
- (viii) Break-down of the lump-sum prices quoted in the Priced Activity Schedule, in the form of Appendices D and E to the Contract in accordance with ITB 14.5;
- (ix) Authorized address and contact details of the bidder having the following information:
  - a. Name of Firm
  - b. Address for communication
  - c. Telephone Number: Office
  - d. Mobile Number
  - e. Facsimile (FAX) No.

	<p>f. Electronic Mail Identification (E-mail ID)</p> <p>(x) Any other information/documents required to be completed and submitted by the bidder, as specified in ITB section.</p> <p><b>20.3 Submission of Original Documents</b></p> <p>Bidders are also required to ensure that following documents in original are submitted in the manner specified here under:</p> <p>(a) <b>Original Bid Security</b> for the amount specified in ITB 17.2 / BDS 17.2 in the specified format,</p> <p>(b) <b>Original Power of Attorney of the signatory of the Bid</b> and documents submitted with the bid and also the Power of Attorney in favour of the partner-in-charge in case of a JV in accordance with ITB 19.3 and</p> <p>(c) <b>Original Affidavit</b> in accordance with ITB 13.1</p> <p>(d) <b>Affirming correctness of the information</b>, documents and certificates furnished with the bid are received in the Employer’s Office as specified in the <b>Bid Data Sheet</b>, on or before the date and time of opening of Bids, either by registered post or by hand, failing which the bids shall be declared non-responsive. In this regard, bidders shall comply with the following:</p> <p>(i) The above documents should be submitted in one envelope &amp; addressed to the employer in accordance with BDS 20.3</p> <p><b>20.4</b> Employer (or the IT Service Provider entrusted with the responsibilities in respect of e-Procurement Portal) is not responsible for any failure such as a bad internet connection or power failure outside of their control. The bidder is responsible to ensure that it has sufficient time to submit an electronic bid prior to the deadline for bid submission. In case of any fault/failure in the e-Procurement Portal system occurring around the closing time for bid submission that may affect the bidding process, the Employer may at its sole discretion extend the deadline for bid submission for at least 24 hours from the time system is restored fully to allow bidders sufficient time to submit their bids.</p>
<p><b>21. Deadline for Submission of Bids</b></p>	<p>21.1 Bids shall be submitted in the e-procurement system no later than the time and date <b>specified in the BDS.</b></p>

	<p>21.2 The Employer may extend the deadline for submission of bids by issuing an amendment in accordance with ITB Clause 11, in which case all rights and obligations of the Employer and the bidder previously subject to the original deadline will then be subject to the new deadline.</p>
<b>22. Late Bids</b>	<p>22.1 The e-Procurement system would not allow any late submission of bids after due date &amp; time as per server system.</p>
<b>23. Modification and Withdrawal of Bids</b>	<p>23.1 A Bidder may modify its bid submitted online, before the deadline for submission of bids. For bid modification and consequent re-submission, the Bidder is not required to withdraw its bid submitted earlier. Modification and consequent re-submission of bids is allowed any number of times. 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.</p> <p>The Bidder may withdraw its bid by uploading its request before the deadline for submission of bids.</p> <p><b>However, if the bid is withdrawn, re-submission of the bid is not allowed.</b></p> <p>23.2 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 Bid Form or any extension thereof.</p>
<b>E. Bid Opening of Technical Parts of Bids and Evaluation</b>	
<b>24. Bid Opening</b>	<p>24.1 The Employer shall open the bids online that were submitted prior to the Submission Deadline at the date, time and place <b>specified in the BDS</b>, in the presence of Bidders' designated representatives and anyone who choose to attend the opening. Bidders, who do not attend the bid opening, can view the bid opening by logging on to the e-procurement system.</p> <p>24.2 The withdrawn bid will not be available in the system therefore will not be read. Only the last modified bid shall be available in the system which shall be opened and read along with other bids. Only bids that are opened and read out at bid opening shall be considered further.</p> <p>24.3 All other bids shall be opened one at a time, reading out: the name of the Bidder and whether there is a modification; the total Bid Price, per lot (contract) if applicable, including any discounts and alternative bids; the presence or absence of a bid security, if required; and any other details as the Employer may consider appropriate. Only discounts and alternative bids read</p>

	<p>out at bid opening shall be considered for evaluation. The Employer shall neither discuss the merits of any bid nor reject any bid.</p> <p>24.4 The Employer shall prepare a record of the bid opening that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, substitution, or modification; the Bid Price, per lot (contract) if applicable, including any discounts and alternative bids; and the presence or absence of a bid security, its amount and validity. The Bidders' representatives who are present in the office of the Employer to witness the bid opening shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. Employer shall upload minutes of Bid opening on the e-procurement Portal immediately after the Bid opening has been completed.</p>
<p><b>25. Process to Be Confidential</b></p>	<p>25.1 Information relating to the examination, clarification, evaluation, and comparison of bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process until the award to the successful Bidder is notified. Any effort by a Bidder to influence the Employer's processing of bids or award decisions may result in the rejection of his Bid.</p> <p>25.2 Any effort by the Bidder to influence the Employer in the Employer's bid evaluation or contract award decisions may result in the rejection of the Bidder's bid.</p>
<p><b>26. Clarification of Bids</b></p>	<p>26.1 To assist in the examination, evaluation, and comparison of bids, the Employer may, at the Employer's discretion, ask any Bidder for clarification of the Bidder's Bid, including breakdowns of the prices in the Activity Schedule, and other information that the Employer may require. The request for clarification and the response shall be in writing or by cable, telex, or facsimile, but no change in the price or substance of the Bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the bids in accordance with ITB Clause 28.</p> <p>26.2 Subject to ITB Sub-Clause 26.1, no Bidder shall contact the Employer on any matter relating to its bid from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Employer, he should do so in writing.</p> <p>26.3 If a Service Provider 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.</p>

<p><b>27. Examination of Bids and Determination of Responsiveness</b></p>	<ul style="list-style-type: none"> <li>• Prior to the detailed evaluation of bids, the Employer will determine whether each Bid (a) meets the eligibility criteria defined in ITB Clause 4; (b) has been properly signed; (c) is accompanied by the required securities; and (d) is substantially responsive to the requirements of the bidding documents.</li> <li>• A substantially responsive Bid is one which conforms to all the terms, conditions, and specifications of the bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Services; (b) which limits in any substantial way, inconsistent with the bidding documents, the Employer’s rights or the Bidder’s obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other Bidders presenting substantially responsive bids.</li> </ul> <p>If a Bid is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.</p>
<p><b>27.1 Documents Comprising the Technical Proposal</b></p>	<p>The Bidder shall furnish a Technical Proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in Section IV, in sufficient detail to demonstrate the adequacy of the Bidders’ proposal to meet the requirements of Section VI, Specifications.</p>
<p><b>27.2 Documents Establishing the Qualifications of the Bidder</b></p>	<ul style="list-style-type: none"> <li>• To establish its qualifications to perform the Contract in accordance with Section VI, Evaluation and Qualification Criteria, the Bidder shall provide the information requested in the corresponding information sheets included in Section IV, Forms.</li> <li>• Domestic Bidders, individually or in joint ventures, applying for eligibility for preference shall supply all information required to satisfy the criteria for eligibility described in ITB 33.</li> </ul>
<p><b>27.3 Qualification of the Bidder</b></p>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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 documents), or any other firm different from the Bidder.</li> </ul>

	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Only Bids that are both substantially responsive to the bidding documents, and meet all Qualification Criteria shall have the Financial Parts of their Bids opened at the second public opening.</li> </ul>
<p><b>27.4 Subcontractors</b></p>	<ul style="list-style-type: none"> <li>• <b>Unless</b> otherwise stated <b>in the BDS</b>, the Employer does not intend to execute any specific elements of the Works by subcontractors selected in advance by the Employer.</li> <li>• Bidders may propose subcontracting up to the percentage of total value of contracts or the volume of works as specified <b>in the BDS</b>. Subcontractors proposed by the Bidder shall be fully qualified for their parts of the Works.</li> <li>• The subcontractor’s qualifications shall not be used by the Bidder to qualify for the Works unless their specialized parts of the Works were previously designated by the Employer <b>in the BDS</b> as can be met by subcontractors referred to hereafter as ‘Specialized Subcontractors’, in which case, the qualifications of the Specialized Subcontractors proposed by the Bidder may be added to the qualifications of the Bidder.</li> </ul>
<p><b>E. Bid Opening of Financial Parts of Bids and Evaluation</b></p>	
<p><b>28. Correction of Errors</b></p>	<p>28.1 The electronic system of online bid submission automatically calculates the total amount from the unit rates and the quantities and the system also automatically inserts the amount in words from the amount in figures.</p> <p>The Exchange Rate for the purpose of Conversion by the system shall be automatically the Date of Closing of Bid ( and to be entered by Bid Opening Committee )</p> <p>Hence it is expected that there will be no room for discrepancy. However, 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, unless in the opinion of the Employer there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected. Further, if there is an error in a total corresponding to the addition of subtotals, the subtotals shall prevail and the total shall be corrected.</p> <p>28.2 The amount stated in the Bid will be adjusted by the Employer in accordance with the above procedure for the correction of</p>

	<p>errors and, with the concurrence of the Bidder, shall be considered as binding upon the Bidder.</p> <p>If the Bidder does not accept the corrected amount, the Bid will be rejected and the EMD forfeited.</p>
<p><b>29. Currency for Bid Evaluation</b></p>	<p>29.1 The Employer will convert the amounts in various currencies in which the Bid Price, corrected pursuant to ITB Clause 28, is payable (excluding Provisional Sums but including Day work where priced competitively) to either:</p> <p>(a) the currency of the Employer’s country at the selling rates established for similar transactions by the authority specified in the BDS on the date stipulated in the BDS; Rate of Conversion shall be the Last Date of Closing of the Bid. or</p> <p>(b) a currency widely used in international trade, such as the U.S. dollar, stipulated in the BDS, at the selling rate of exchange published in the international press as stipulated in the BDS.</p>
<p><b>30. Evaluation and Comparison of Bids</b></p>	<ol style="list-style-type: none"> <li>1. The Employer will evaluate and compare only the bids determined to be substantially responsive in accordance with ITB Clause 27.</li> <li>2. The Employer shall use the factors, methods, criteria, and requirements defined in Section III, Qualification Criteria and Requirements, to evaluate the qualifications of the Bidders, and no other methods, criteria, or requirements shall be used.</li> <li>3. Bidders planning to subcontract more than 25% 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 sub-contractors proposed shall be fully qualified for their work proposed, and meet the specified criteria in Section III, failing which such sub-contractors will not be permitted to participate. The qualification and experience of sub-contractors proposed by the Bidder 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 prequalification criteria.</li> <li>4. In case of multiple contracts, Bidders should indicate in their Bid the individual contract or combination of contracts in which they are interested.</li> <li>5. The Employer shall qualify each Bidder for the maximum combination of contracts for which the Bidder has thereby indicated its interest and for which the Bidder meets the appropriate aggregate requirements.</li> <li>6. The Qualification Criteria and Requirements are mentioned in Section III. However, with respect to the specific experience</li> </ol>



under item 4.2 (a) of Section III, the Employer will select any one or more of the options as identified below:

*N is the minimum number of contracts*

*V is the minimum value of a single contract*

*Qualification for one Contract:*

Option 1: (i) N contracts, each of minimum value V;  
Only the qualifications of the Bidder shall be considered. In particular, the qualifications of a parent or other affiliated company that is not party to the Bidder under a JV in accordance with ITB 4.1 (or participating as a sub-contractor as per ITB 5.6) shall not be considered.

7. In evaluating the bids, the Employer will determine for each Bid the evaluated Bid price by adjusting the Bid price as follows:
  - a. making any correction for errors pursuant to ITB Clause 28;
  - b. excluding provisional sums and the provision, if any, for contingencies in the Activity Schedule, Section VI, but including Day work, when requested in the Performance Specifications Section IX; and ( Terms of Reference / Description of Services at Appendix A )
  - c. making an appropriate adjustment for any other acceptable variations, deviations, or alternative offers submitted in accordance with ITB Clause 18; and
  - d. making appropriate adjustments to reflect discounts or other price modifications offered in accordance with ITB Clause 23
  - e. ***determining aggregate of the Net Present Value (NPV) of five 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.***
8. The Employer reserves the right to accept or reject any variation, deviation, or alternative offer. Variations, deviations, and alternative offers and other factors, which are in excess of the requirements of the bidding documents or otherwise result in unsolicited benefits for the Employer will not be taken into account in Bid evaluation.
9. The estimated effect of any price adjustment conditions under Sub-Clause 6.6 of the General Conditions of Contract, during the period of implementation of the Contract, will not be taken into account in Bid evaluation.

<b>31. Preference for Domestic Service Provider</b>	31.1 Domestic bidder shall not be eligible for any margin of preference in Bid evaluation.
<b>Comparison of Financial Parts</b>	<ul style="list-style-type: none"> <li>• The Employer shall compare all substantially responsive bids to determine the lowest evaluated bid, in accordance with ITB 30.</li> <li>• After application of the criteria established in ITB 30, the Evaluated Bid Price for comparison of Bids will be: <ul style="list-style-type: none"> <li>a) the NPV value of the lump-sum price offered by the Bidder for the Maintenance Services; plus</li> <li>b) the total price of the priced Bill of Quantities for the Development Dredging Works, if the bidding documents require prices for this type of works; plus</li> <li>c) the total price of the priced Bill of Quantities for the Improvement Works, if the bidding documents require prices for this type of works; plus</li> <li>d) the total price of the priced Bill of Quantities for the Emergency Works; plus</li> <li>e) The total price of the priced Bill of Quantities for the Mobilization/ Demobilization, Set-up and Establishment (including ESHS).</li> </ul> </li> </ul> <p>“ESHS” means environmental, social (including Sexual Exploitation and Abuse (SEA) and Gender Based violence (GBV)), health and safety.</p>
<b>F. Award of Contract</b>	
<b>32. Award Criteria</b>	<p>32.1 Subject to ITB Clause 33, the Employer will award the Contract to the Bidder whose Bid has been determined to be substantially responsive to the bidding documents and who has offered the lowest evaluated Bid price, provided that such Bidder has been determined to be (a) eligible in accordance with the provisions of ITB Clause 4, and (b) qualified in accordance with the provisions of ITB Clause 5.</p> <p>32.2 If, pursuant to ITB Sub-Clause 13.2 this contract is being let on a “slice and package” basis, the lowest evaluated Bid Price will be determined when evaluating this contract in conjunction with other contracts to be awarded concurrently. Taking into account any discounts offered by the Bidder for the award of more than one contract.</p>
<b>33. Employer’s Right to Accept</b>	33.1 Notwithstanding ITB Clause 32, the Employer reserves the right to accept or reject any Bid, and to cancel the bidding process

<p><b>any Bid and to Reject any or all Bids</b></p>	<p>and reject all bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the Employer’s action.</p>
<p><b>34. Notification of Award and Signing of Agreement</b></p>	<p>34.1 The Bidder whose Bid has been accepted will be notified of the award by the Employer prior to expiration of the Bid validity period by cable, telex, or facsimile confirmed by registered letter from the Employer. This letter (hereinafter and in the Conditions of Contract called the “Letter of Acceptance”) will state the sum that the Employer will pay the Service provider in consideration of the execution, completion, and maintenance of the Services by the Service provider as prescribed by the Contract (hereinafter and in the Contract called the “Contract Price”).</p> <p>34.2 The notification of award will constitute the formation of the Contract.</p> <p>34.3 The Contract, in the form provided in the bidding documents, will incorporate all agreements between the Employer and the successful Bidder. It will be signed by the Employer and sent to the successful Bidder with the Letter of Acceptance. Within 21 days of receipt of the Contract, the successful Bidder shall sign the Contract and return it to the Employer, together with the required performance security pursuant to Clause 35.</p> <p>34.4 Upon fulfilment of ITB Sub-Clause 34.3, the Employer will promptly notify the unsuccessful Bidders of the results of the bidding on the Employer’s website and on e-procurement Portal and shall publish in the UNDB online the results identifying the bid package and the following information:</p> <ul style="list-style-type: none"> <li>(i) name of each Bidder who submitted the Bid;</li> <li>(ii) bid prices as read out at bid opening;</li> <li>(iii) name and evaluated prices of each Bid that was evaluated;</li> <li>(iv) name of bidders whose bids were rejected and the reasons for their rejection; and</li> <li>(v) Name of the successful Bidder, and the price it offered, as well as the duration and summary scope of the contract awarded.</li> </ul> <p>34.5 If, after notification of award, a Bidder wishes to ascertain the grounds on which its bid was not selected, it should address its request to the Employer. The Employer will promptly respond in writing to the unsuccessful Bidder. Any request for</p>

	<p>explanation from one Bidder should relate only to its own bid; information about the bid of competitors will not be addressed.</p>
<p><b>Signing of Contract</b></p>	<ul style="list-style-type: none"> <li>• Promptly after notification, the Employer shall send the successful Bidder the Contract Agreement.</li> <li>• Within twenty-eight (28) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Employer along with (a) the performance security in accordance with ITB Clause 44; and (b) if the successful bidder is a JV, the JV agreement duly signed by all the partners, if it had submitted only a letter of intent to execute the JV agreement.</li> </ul>
<p><b>35. Performance Security</b></p>	<p>35.1 Within twenty-eight (28) 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, Social, Health and Safety (ESHS) Performance Security, in accordance with the Conditions of Contract, subject to ITB 35.5, using for that purpose the Performance Security and ESHS Performance Security Forms included in Section IX, Annex to the Particular Conditions - Contract Forms, or another form acceptable to 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 if required in the BDS the ESHS performance security, of a Joint Venture shall be in the name of the Joint Venture specifying the names of all partners.</p> <p><i>"ESHS" means environmental, social (including Sexual Exploitation and Abuse (SEA) and Gender Based violence (GBV)), health and safety.</i></p> <p>35.2 Failure of the successful Bidder to submit the above-mentioned Performance Security and, if required in the BDS, the Environmental, Social, Health and Safety (ESHS) Performance Security, or sign the Contract 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</p> <p><i>"ESHS" means environmental, social (including Sexual Exploitation and Abuse (SEA) and Gender Based violence (GBV)), health and safety.</i></p> <p>35.3 If the Performance Security is provided by the successful Bidder in the form of a Bank Guarantee, it shall be issued either (a) at the Bidder's option, by a bank located in the country of the Employer or a foreign bank through a correspondent bank</p>

	<p>located in the country of the Employer, or (b) with the agreement of the Employer directly by a foreign bank acceptable to the Employer.</p> <p>35.4 If the Performance Security is to be provided by the successful Bidder in the form of a Bond, it shall be issued by a surety which the Bidder has determined to be acceptable to the Employer.</p> <p>35.5 Failure of the successful Bidder to comply with the requirements of ITB Sub-Clause 35.1 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Bid Security.</p> <p>In that Event the Employer may re-tender the contract.</p>
<b>36. Advance Payment and Security</b>	36.1 The Employer will provide an Advance Payment on the Contract Price as stipulated in the Conditions of Contract, subject to the amount stated in the BDS.
<b>37. Adjudicator</b>	37.1 The Employer proposes the person named in the BDS to be appointed as Adjudicator under the Contract, at daily basis fee specified in the BDS, plus reimbursable expenses. If the Bidder disagrees with this proposal, the Bidder should so state in the Bid. If, in the Letter of Acceptance, the Employer has not agreed on the appointment of the Adjudicator, the Adjudicator shall be appointed by the Appointing Authority designated in the Special Conditions of Contract at the request of either party.
<b>38. Extension of Contract</b>	38.1 The employer reserves the right to extend the period of the Contract on the terms of the Original Contract for further two years based on the performance of the service provider and subject to the approval of the World Bank.

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## Section II. Bidding Data Sheet

### A. General

ITB Clause ref.	Bidding Data Sheet provision
1.1	The number of the Invitation of Bid is : IN - IWAI - 96065 – CW – RFB
1.1	The Employer is <b>Project Director, Jal Marg Vikas Project, Inland Waterways Authority of India, Ministry of Shipping, Government of India A-13, Sector-1 Noida - Uttar Pradesh– India</b> <a href="mailto:vc.iwai@nic.in">vc.iwai@nic.in</a>
1.1	The name and identification number of the Contract is : NCB for “Providing and maintaining Least Available Water Depth (LAD) of 3.0 meter and bottom width of 70 – 239m during 5 years in the Channel for Re-Engineering of Bends - Bend in Approach Channel U/S of Farakka Navigation Lock of NW1 by dredging / dry excavation or combination there of”
1.1	The number and identification of lots comprising this bidding process is: <b>The Service is not divided into lots.</b>
1.2	The Intended Completion Date is <i>5 years from the Date of Commencement of Service.</i>
2.1	The Borrower is <i>Government of India</i> The Project is <i>Capacity Augmentation of National Waterways – 1</i> The loan Agreement No- 8752 - IN
ITB 4.1 (a)	<b>Replace ITB 4.1 (a) with the following:</b> “all partners of the joint venture shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms, and a statement to this effect shall be included in the authorization mentioned under (d) above, as well as in the bid and in the Agreement [in case of a successful bid]“ Consortium is not permitted.

<b>ITB 4.1</b>	<p>Add at the end of ITB 4.1 the following:</p> <ul style="list-style-type: none"> <li>(c) the joint venture agreement should indicate precisely the role of all partners of JV in respect of planning, design, construction equipment, utilities, key personnel, carrying out of the Works, performance of the Services, and financing of the project etc. All partners 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;</li> <li>(d) one of the partners shall be nominated as the Representative, and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the partners;</li> <li>(e) the Representative shall be authorized to incur liabilities and receive instructions for and on behalf of any and all partners of the joint venture and the entire execution of the contract, including payment, shall be done exclusively with the Representative;</li> <li>(f) In order for a Joint Venture to qualify, each of its partners must meet the criteria listed in Section III and all partners together must meet the qualification in full. Failure to comply with this requirement will result in rejection of the joint venture's bid; and</li> <li>(g) In the event of any default by any partner/(s) of Joint Venture, the other partners shall accept the liability and execute the contract in full.</li> <li>(h) Unless specified <b>in the BDS</b>, there is no limit on the number of members in a JV.</li> </ul>
<b>ITB 4.1(h)</b>	<p><b>Maximum number of members in the JV shall be: 3 ( Three )</b></p> <p><b>Consortium is not permitted / acceptable.</b></p>
<b>ITB 4.3 (i)</b>	<p><b>In ITB 4.3(i) replace the word 'Engineer' with 'Project Manager or Supervision Consultant'.</b></p> <p><b>Throughout this document 'Project Manager' may also mean and include 'Supervision Consultant', if so appointed by the Employer.</b></p> <p><b><i>[Note: the term 'Supervision Consultant' may be modified to the nomenclature used for the Consultant appointed by the Employer for providing these services.]</i></b></p>
<b>ITB 4.4</b>	<p>A list of debarred firms and individuals is available on the Bank's external website: <a href="http://www.worldbank.org/debarr">http://www.worldbank.org/debarr</a>.</p>
5.3, 5.4(a) & 5.5	<p>These Clauses are not applicable</p>

5.6.3	<p>Maximum percentage of subcontracting permitted is <b>25 % of the total value of the contract.</b></p> <p>Bidders planning to subcontract more than 25 % of total volume of works 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 works to be subcontracted failing which such sub-contractors will not be permitted to participate.</p> <p>Sub-contractors' qualification and experience will not be considered for evaluation of the Bidder.</p> <p>The Bidder on its own (without taking into account the qualification and experience of the sub-contractor) should meet the prequalification criteria.</p>
<b>B. Bidding Documents</b>	
9.0	<p><b>Replace ITB 9.3 with the following:</b></p> <p>“Unless obtained directly from the Employer, the Employer is not responsible for the completeness of the bidding document, responses to requests for clarification, the minutes of the pre-Bid meeting (if any), or Addenda to the bidding document in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Employer shall prevail”</p>
10.1	<p>The e-procurement portal for this bid is: <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a></p> <p>The prospective Bidder can seek clarifications only through the e-procurement portal mentioned above. Clarifications sought through any other mode shall not be entertained.</p>
10.2	<p><b>A Pre-Bid meeting will take place at the following date, time and place:</b></p> <p><b>Date: <u>12.06.2019</u></b>  <b>Time: <u>1500 hrs IST</u></b></p> <p><i>Inland Waterways Authority of India  Project Director, Jal Marg Vikas Project  A-13, Sector-1, Noida, Gautam Buddha Nagar, UP - 201301  +91 120 2424544</i></p> <p><i>Email: <a href="mailto:vc.iwai@nic.in">vc.iwai@nic.in</a> and <a href="mailto:rkant.iwai@nic.in">rkant.iwai@nic.in</a></i></p>
<b>C. Preparation of Bids</b>	
12.1	<p>Language of the bid: <i>English</i></p> <p>All correspondence exchange shall be in <b>English</b> language.</p>



	Language for translation of supporting documents and printed literature is <b>English.</b>
13.2	<p>The Bidder shall submit the following additional documents in its Bid: <b>[list any additional document not already listed in ITB 13.2 that must be submitted with the Bid. The list of additional documents should include the following:]</b></p> <p>(a) <i>Dredging Management Plan – Methodology</i></p> <p style="padding-left: 40px;"><i>Detailed methodology to indicate how various activities will be carried out to achieve the performance parameters laid down in Appendix A to the contract – <b>Description of the Services.</b></i></p> <p>(b) <i>Detailed Dredger deployment plan with respect to:</i></p> <ul style="list-style-type: none"> <li>• <i>Dredging Management Plan – Methodology (including disposal of dredged material)</i></li> <li>• <i>No. of dredgers to be deployed at various points of time along with dredging capacities and manpower.</i></li> <li>• <i>Frequency of bathymetric survey alongwith details of equipment and manpower to be deployed by them to meet the LAD requirements in the concerned stretch.</i></li> </ul> <p>(c) <i>List of major items of equipment proposed to carry out the contracted services using the format provided in Section IV - Bidding Forms</i></p> <p>(d) <i>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.</i></p> <p>(e) <i>Bidder to indicate whether they are presenting Single Entity Bid or Joint Venture Bid</i></p> <p style="padding-left: 40px;"><i>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 &amp; proposed in the Bid along with their credentials like ( Experience, Financials &amp; Profile) –</i></p> <p style="padding-left: 40px;"><i>Each of the JV member will be required to furnish legally enforceable JV Operating Agreement along with its Techno-commercial Bid holding themselves jointly &amp; severally responsible and liable to IWAI to perform all contractual obligations, valid for entire period of Contract.</i></p> <p><i>As per the format enclosed in the bidding documents.</i></p> <p><i>Further,</i></p> <ul style="list-style-type: none"> <li>• <i>No change in the composition of the JV without the written consents of the Employer after submission of Bid shall be allowed.</i></li> <li>• <i>The leader should maintain at least 51% share in the JV at all the time during the period of contract</i></li> <li>• <i>The Technical Member of the JV should meet at least 25% of the financial requirement.</i></li> </ul>

(f) *Wherever Bidding Form requires Bidder to state a monetary amount for Qualification purpose. Bidders should indicate the USD equivalent using the rate of exchange determined as follows:*

*For construction turnover or financial data required for each year - Exchange rate prevailing on the last day of the respective calendar year (in which the amounts for that year is to be converted) was originally established.*

*Value of single contract - Exchange rate prevailing on the date of the contract.*

*Exchange rates shall be taken from the publicly available source as Source of exchange rate: Exchange rates of RBI ( Reserve Bank of India )*

- ***Date: as prevailing on the last date of bid submission***
- ***Any error in determining the exchange rates in the Bidding may be corrected by the Employer.***

Currency chosen for the purpose of conversion to a common currency: INR

### **Code of Conduct (ESHS)**

The Bidder shall submit its Code of Conduct that will apply to its employees and subcontractors, to ensure compliance with its Environmental, Social, Health and Safety (ESHS) obligations under the contract.

*“ESHS” means environmental, social (including Sexual Exploitation and Abuse (SEA) and Gender Based violence (GBV)), health and safety.*

*[Note: Complete and include the risks to be addressed by the Code in accordance with Section VI-Works’ Requirements, e.g. Risks associated with: labor influx, spread of communicable diseases, sexual harassment, gender based violence, sexual exploitation and abuse, illicit behavior and crime, and maintaining a safe environment etc.]*

In addition, the Bidder shall detail 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.

The Contractor shall be required to implement the agreed Code of Conduct upon contract award.

### **Management Strategies and Implementation Plans (MSIP) to manage the (ESHS) risks**

The Bidder shall submit Management Strategies and Implementation Plans (MSIP) to manage the following key Environmental, Social, Health and Safety (ESHS) risks.

*“ESHS” means environmental, social (including Sexual Exploitation and Abuse (SEA) and Gender Based violence (GBV)), health and safety.*

The Bidder is required to assess which of the following risks are applicable for this contract and accordingly submit the MSIP along with the bid.

	<ul style="list-style-type: none"> <li>• [e.g. Traffic Management Plan to ensure safety of local communities from construction traffic];</li> <li>• [e.g. Water Resource Protection Plan to prevent contamination of drinking water, Swamp Protection Plan, Dredged Material Disposal Plan, Biological Environment Plan];</li> <li>• [e.g. Boundary Marking and Protection Strategy for mobilization and construction to prevent offsite adverse impacts];</li> <li>• [e.g. Strategy for obtaining Consents/Permits prior to the start of relevant works such as opening a quarry or borrow pit];</li> <li>• [e.g. Gender based violence and sexual exploitation and abuse (GBV/SEA) prevention and response action plan.]</li> </ul> <p>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.</p> <p><i>[Note: The extent and scope of these requirements should reflect the significant ESHS risks or requirements set out in Section VI as advised by the Environmental/Social specialist/s. The key risks to be addressed by the Bidder should be identified by Environmental/Social specialist/s, for example, from the Environmental and Social Impact Assessment (ESIA), Environmental and Social Management Plan (ESMP), Resettlement Action Plan (RAP), and/or Consent Conditions (regulatory authority conditions attached to any permits or approvals for the project), up to a maximum of four. The risks may arise during mobilization, construction, development dredging, improvement, or maintenance services and may include construction traffic impacts on the community, pollution of drinking water, depositing on private land and impacts on rare species etc. The management strategies and/or implementation plans to address these could include, as appropriate: mobilization strategy, strategy for obtaining consents/permits, traffic management plan, water resource protection plan, bio-diversity protection plan and a strategy for marking and respecting work site boundaries etc.]</i></p> <p><i>“ESHs” means environmental, social (including Sexual Exploitation and Abuse (SEA) and Gender Based violence (GBV)), health and safety.</i></p>
	<p><b>Note for Bidders:</b> 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-procurement 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.</p>
	<p>For submission of original documents, the Employer’s address is:</p> <p style="text-align: center;"><i>Inland Waterways Authority of India Project Director, Jal Marg Vikas Project A-13, Sector-1, Noida, Gautam Buddha Nagar, UP - 201301</i></p>

	<p>Email: <a href="mailto:vc.iwai@nic.in">vc.iwai@nic.in</a> and <a href="mailto:rkant.iwai@nic.in">rkant.iwai@nic.in</a></p>
	<p><b>C. Process of Bid Preparation and Submission</b></p> <p><b>The Letter of Bid – Technical Part, Letter of Bid – Financial Part and Schedules including Bill of Quantities shall be prepared using the relevant forms furnished in Section IV, Bidding Forms.</b> 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.</p> <p><b>Entire Bid including the Letter of Bid – Technical Part, Letter of Bid – Financial Part and filled-up Schedules including Bill of Quantities shall be submitted online on e-procurement system specified in ITB 13.</b> Details and process of online submission of the bid and relevant documents are given in the website mentioned above. Scanned copies of documents listed in clauses 13 should also be uploaded on this website.</p> <p><b>Submission of Original Documents:</b> The bidders are required to separately submit (i) original payment documents towards the cost of bid document and registration on e-procurement website (if not previously registered) (as per IFB); (ii) original bid security in approved form; and (iii) original affidavit regarding correctness of information furnished with bid document, with the office specified in the BDS, before deadline for submission of Bids, either by registered/speed post/courier or by hand, failing which such 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.</p>
<b>14.3</b>	<p>All duties, taxes and other levies payable by the Service Provider shall be included in the bid prices.</p> <p>However, GST which will be payable extra as legally applicable shall be excluded.</p>
<b>14.4</b>	<p>The Contract is subject to price adjustment in accordance with SCC Clause 6.6.1.</p> <p>The currency(ies) of the bid and the payment currency(ies) shall be in accordance with and as described below:</p> <p><b>Bidders to quote entirely in local currency</b></p> <p>(a) The unit rates and the prices shall be quoted by the Bidder in the Bill of Quantities, entirely in <b>Indian Rupees</b>, the name of the currency of the Employer's country, and further referred to as "the local currency".</p>
<b>16.1</b>	<p><b><i>The period of Bid validity shall be 120 days after the deadline for Bid submission specified in the BDS.</i></b></p>
<b>17.1</b>	<p>The Bidder shall provide Bid Security using the form included in Section IV, Bidding Forms.</p> <p>A Bid Security shall be in the form of a Bank Guarantee issued by a bank located in the Purchaser's country (Nationalized or Scheduled commercial Bank in India) or issued by a reputed foreign Bank and routed through a correspondent Bank (Nationalized or Scheduled commercial Bank in India).</p>

<b>17.2</b>	<p><b>The amount of Bid Security shall be INR 1.22 Crs</b>  The Bidder shall provide Bid Security using the form included in Section IV, Bidding Forms.</p> <p><b><u>Bank details are as given below:</u></b></p> <p><b><u>Advising Bank: Syndicate Bank</u></b>  <b><u>Bank Account no.: 87782140000890</u></b>  <b><u>Name of beneficiary: IWAI – JMVP Fund</u></b>  <b><u>Branch name: Sector 18, NOIDA (Morna)</u></b>  <b><u>Address: Sector 18, NOIDA (Morna) - 201301</u></b>  <b><u>IFSC Code: SYNB0008778</u></b></p>
<b>18.1</b>	Alternative bids <i>are not</i> permitted.
<b>18.2</b>	Alternative time for completion <i>is not</i> permitted.
<b>18.4</b>	Alternative technical solutions shall be permitted for the following parts of the Services: <i>N/A</i> .
<b>D. Submission of Bids</b>	
<b>20.1</b>	<p><b>The deadline for bid submission is:</b>  <b>Date: 14.08.2019 ... Time: up to 15.00 hrs</b></p> <p>For bid submission purposes only, the Employer’s address is :  <i>Project Director, ( JMVP)</i>  <i>Inland Waterways Authority of India</i>  <i>Project Management Unit</i>  <i>Address: A–13, Sector – 1</i>  <i>City: Noida, Gautam Buddha Nagar, Uttar Pradesh</i>  <i>ZIP Code: 201301</i>  <i>Country: India</i>  <i>Telephone: +91 12022424544</i></p> <p>Electronic mail address:  vc.iwai@iwai.gov.in ; rkant.iwai@nic.in ; iwaipmuskp@gmail.com</p> <p>a) Bidders shall have the option of submitting their bids electronically only.  b) The Bidder shall upload the bid on the e-Procurement Portal <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a>, following the system described below.  c) Possession of valid Digital Signature Certificate (DSC) and enrollment / registration of the contractors / bidders on the eprocurement / etender portal is a prerequisite for e- tendering.  d) Bidder should do the enrollment in the e - Procurement site using the <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a> option available on the home page. Portal enrollment is generally free of charge. During</p>

	<p>enrollment / registration, the bidders should provide the correct / true information including valid email_id. All the correspondence shall be made directly with the contractors/bidders through email_id provided.</p> <p>e) Bidder need to login to the site thro' their user ID / password chosen during enrollment / registration.</p> <p>f) Then the Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by SIFY / TCS / nCode / eMudra or any Certifying Employer recognized by CCA India on eToken / SmartCard, should be registered.</p> <p>g) The DSC that is registered only, should be used by the bidder and should ensure safety of the same.</p> <p>h) Contractor / Bidder may go through the tenders published on the site and download the required tender documents / schedules for the tenders he / she is interested.</p> <p>i) After downloading / getting the tender document / schedules, the Bidder should go through' them carefully and then submit the documents as asked.</p> <p>j) If there are any clarifications, this may be obtained online through' the tender site, or thro' the contact details. Bidder should take into account of the corrigendum published before submitting the bids online.</p> <p>k) Bidder then logs in to the site through the secured log in by giving the user id/ password chosen during enrolment / registration and then by giving the password of the eToken / SmartCard to access DSC.</p> <p>l) Bidder selects the tender which he/she is interested in by using the search option &amp; then moves it to the 'my favourites' folder.</p> <p>m) From my favourites folder, bidder can select the tender to view all the details indicated.</p> <p>n) It is construed that the bidder has read all the terms and conditions before submitting their offer. Bidder should go through the tender schedules carefully and upload the documents as asked, otherwise, the bid will be rejected.</p> <p>o) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / xls / rar / jpg / dwf formats. If there is more than one document, they can be clubbed together and can be provided in the requested format. Each document to be uploaded through online for the tenders should be less than 2 MB. If any document is more than 2MB, it can be reduced through zip / rar and the same can be uploaded, if permitted.</p> <p>p) If there are any clarifications, this may be obtained through the site, or during the pre-bid meeting if any. Bidder should take into account the corrigendum published from time to time before submitting the online bids.</p> <p>q) The Bidders can update well in advance, the documents such as certificates, annual report details etc., under My Space option and these can be selected as per tender requirements and then send along with</p>
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	<p>bid documents during bid submission. This will facilitate the bid submission process faster by reducing upload time of bids.</p> <p>r) Bidder should submit the Tender document Fee/ EMD as specified in the tender. The original payment instruments should be posted/couriered/given in person to the Tender Inviting Employer within the due date as mentioned in this tender document. Scanned copy of the instrument should be uploaded as part of the offer, if asked for.</p> <p>s) While submitting the bids online, the bidder reads the terms &amp; conditions and accepts the same to proceed further to submit the bid packets.</p> <p>t) The bidder has to select the payment option as offline to pay the TFEE / EMD as applicable and enter details of the instruments.</p> <p>u) The details of the DD / any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise submitted bid will not be acceptable.</p> <p>v) The bidder has to digitally sign and upload the required bid documents one by one as indicated. Bidders to note that the very act of using DSC for downloading the bids and uploading their offers shall be deemed to be a confirmation that they have read all sections and pages of the bid document including General conditions of contract without any exception and have understood the entire document and are clear about the requirements of the tender requirements.</p> <p>w) The bidder has to upload the relevant files required as indicated in the cover content. In case of any irrelevant files, the bid will be rejected.</p> <p>x) If the price bid format is provided in a spread sheet file like BoQ_xxxx.xls, the rates offered should be entered in the allotted space only and uploaded after filling the relevant columns. The Price Bid/BOQ template must not be modified / replaced by the bidder, else the bid submitted is liable to be rejected for this tender.</p> <p>y) The bidders are requested to submit the bids through online e-tendering system to the Tender Inviting Employer (TIA) well before the bid submission end date &amp; time (as per Server System Clock). The TIA will not be held responsible for any sort of delay or the difficulties faced during the submission of bids online by the bidders at the eleventh hour.</p> <p>z) After the bid submission, the acknowledgement number, given by the e-tendering system should be printed by the bidder and kept as a record of evidence for online submission of bid for the particular tender and will also act as an entry pass to participate in the bid opening date.</p> <p>aa) The bidder should ensure / see that the bid documents submitted should be free from virus and if the documents could not be opened, due to virus, during tender opening, the bid is likely / liable to be rejected.</p> <p>bb) The time settings fixed in the server side &amp; displayed at the top of the tender site, will be valid for all actions of requesting, bid submission, bid opening etc., in the e-tender system. The bidders should follow this time during bid submission.</p>
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	<p>cc) All the data being entered by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered will not be viewable by unauthorized persons during bid submission &amp; not be viewable by any one until the time of bid opening.</p> <p>dd) Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid openers public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.</p> <p>ee) The confidentiality of the bids is maintained since the secured Socket Layer 128 bit encryption technology is used. Data storage encryption of sensitive fields is done.</p> <p>ff) The bidder should logout of the tendering system using the normal logout option available at the top right hand corner and not by selecting the (X) exit option in the browser.</p> <p><b>For any queries regarding e-tendering process ,</b>  the bidders are requested to contact through the modes given below:  E mail:- vc.iwai@nic.in, vc.iwai@iwai.gov.in , rkant.iwai@nic.in;  iwaipmuskp@gmail.com  Tel. No. : 0120- 2424544,  In case of non-receipt of these original documents, the bid will be declared non- responsive.  Web Site:- www.iwai.gov.in  Tel. Nos: 0120- 2424544  In person: Vice Chairman &amp; Project Director (Jal Marg Vikas Project)</p>
<p><b>20.3</b></p>	<p>The original documents mentioned in ITB 20.3 shall be submitted in the manner specified therein to the Employer at the address mentioned below on or before the date and time for opening of bids specified in BDS 24.0.</p> <p>Address:  Vice Chairman &amp; Project Director PMU,  Inland Waterways Authority of India,  A-13 Sector-1 Noida - 201301 (UP), INDIA  Tel. Nos: 0120- 2544004, 0120-2424539, Fax No. – 0120-2543976</p>
<p><b>21.1</b></p>	<p><b>The deadline for uploading the bids for</b>  Providing and maintaining Least Available Water Depth (LAD) of 3.0 meter and bottom width of 70 – 239m during 5 years in the Channel for Re-Engineering of Bends - Bend in Approach Channel U/S of Farakka Navigation Lock of National Waterway 1 by dredging / dry excavation or combination thereof”</p> <p><b>Date: 14.08.2019 Time: 1500 hrs IST</b></p> <p><b>Class of DSC required is : CLASS II.</b></p>
<p><b>E. Online Submission and Opening of Bids – Technical</b></p>	
<p><b>24.0</b></p>	<p><b>Opening of Bids,</b>  <b>Date: 23.04.2019 Time: 15.30 Hrs IST</b></p>



Owners Address is:

*Project Director ( JMVP)*

*Inland Waterways Authority of India*

*Project Management Unit*

*Address: A-13, Sector – 1*

*City: Noida, Gautam Buddha Nagar, Uttar Pradesh – 201301*

*Country: India*

*Telephone: +91 120 2424544*

*mail address: [vc.iwai@iwai.gov.in](mailto:vc.iwai@iwai.gov.in) , [samir@iwai.gov.in](mailto:samir@iwai.gov.in)*

*Telephone: +91 120 2424544*

If electronic bid submission is permitted in accordance with ITB sub-clause 23.1, and bids shall be opened in following manner:

***The Electronic Envelope I – containing Technical proposal*** along with following details shall be opened for only those bidders, whose Original documents stipulated at ITB- 20.1 have been received.

- a. Bid Security, POA, Affidavit, etc
- b. JV Agreement ( if applicable)
- c. Qualification Requirements
- d. Technical Proposal, viz,
  - Dredging Management Plan
  - Dredger Deployment Plan
  - List of Other Equipments ,
  - & other details sought

***Original documents and the Electronic Bids will be opened on 14.08.2019 at 15.30 hrs.***

at the following address:

**Office of**

**Vice chairman & Project Director**

**Inland Waterways Authority of India,**

**A-13, Sector-1, Noida, Uttar Pradesh, India - 201301.**

***The Electronic Envelope II – containing Price Proposal***

Along with breakup of prices will be opened for only those bidders who have fulfilled the Qualification Criteria and Technical requirements & Eligibility Criteria. And has been found meeting all the requirements as stipulated in this document, at a later date.

The shortlisted bidders shall be informed about such date.

Electronic Envelope-II - Price Proposal

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.

24.1	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.
<b>Evaluation of Technical Parts of Bid</b>	
27.3	<p>Contractor's proposed subcontracting: Maximum percentage of subcontracting permitted is: <i>25% of the total contract amount.</i></p> <p>Bidders planning to subcontract more than 25% of total volume of work shall specify, in the Letter of Bid, the activity (ies) or parts of the Works to be subcontracted along with complete details of the subcontractors and their qualification and experience.</p> <p>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.</p> <p><i>[Note-Work should not be split into small parts and sub-contracted].</i></p>
<b>E2. Online Opening of Bids – Price</b>	
	<p>Following the completion of the evaluation of the Technical Parts of the Bids, the Employer will notify all Bidders of the location, date and time of the online public opening of Financial Parts. <i>[Note: Financial Parts of the bids shall not be opened earlier than seven (7) days from the communication of technical evaluation results to the bidders]</i></p> <p>In addition to the above the Employer shall publish a notice of the public opening of the Financial Parts of the Bid on its website <a href="http://www.iwai.nic.in">www.iwai.nic.in</a></p>
<b>Evaluation of Financial Parts of Bid</b>	
29.0	<p>The currency that shall be used for Bid evaluation and comparison purposes to convert at the selling exchange rate all Bid prices expressed in various currencies into a single currency is: INR</p> <p>The source of exchange rate shall be: Market exchange rates established by the Reserve Bank of India.</p> <p>The date for the exchange rate shall be: the deadline for submission of bids.</p> <p>The currency(ies) of the Bid shall be converted into a single currency in accordance with the procedure under Alternative B that follows:</p> <p><b><i>Alternative B: Bidders quote in local and foreign currencies</i></b></p> <p>The Employer will convert the amounts in various currencies in which the Bid Price, corrected pursuant to ITB 36, is payable (excluding Provisional Sums but including Daywork where priced competitively) to the single currency identified above at the rates established for similar transactions by the authority specified and on the date stipulated above.</p>
30.7 . e	<b>Discount factor to be used for calculation of NPV shall be 10%</b>
<b>F. Award of Contract</b>	
34.0	The Contract Award Notice shall also be published on the e-portal or on a National website (Gol website <a href="http://tenders.gov.in">http://tenders.gov.in</a> or Gol Central Public Procurement Portal <a href="https://eprocure.gov.in/cppp/">https://eprocure.gov.in/cppp/</a> ) or on the Employer's

	website with free access if available, or in at least one newspaper of national circulation in the Employer’s Country, or in the official gazette.
<b>35.0</b>	<p>The Performance Security acceptable to the Employer shall be the in the Standard Form of Bank Guarantee for an amount equivalent to 10% of the Contract Price.</p> <p>The successful Bidder shall be required to submit an Environmental, Social, Health and Safety (ESHS) Performance Security.</p> <p><i>[Note: 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 in GC/ PC 53.3]</i></p> <p><i>“ESHS” means environmental, social (including Sexual Exploitation and Abuse (SEA) and Gender Based violence (GBV)), health and safety.</i></p>
<b>36.1</b>	Interest free Mobilisation advance of Ten (10%) percent against the Bank Guarantee.
<b>37.1</b>	The Adjudicator proposed by the Employer is _____. The fee for this proposed Adjudicator shall be Rs 10,000/- per day of effective hearing, exclusive of boarding, lodging and transportation expenses which shall be reimbursed as per actuals. The CV of the proposed Adjudicator is appended.

## Section III. Qualification Criteria and Requirements

This Section contains all the methods, criteria, and requirements that the Employer shall use to evaluate Bids with respect to eligibility of the bidders. The information to be provided in relation to each requirement and the definitions of the corresponding terms are included in the respective Bidding Forms.

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Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
A	<b>Nature of Bidder</b>	Bidder to indicate whether they are presenting a Single Entry Bid or Joint Venture Bid or Intends to Sub Contract on Later Date				Sub-Contracting List Of Sub-Contractors against each time likely to be deployed along with the bid as per format.  The Contractor shall select and employ its subcontractor from such list.	In the Event of Sub Contracting, the details of the Sub-Contractor likely to be identified in this Proposal.  Details & Profile of Sub-Contracting firms
<b>1.</b>	<b>Eligibility</b>						
1.1	<b>Nationality</b>	Nationality in accordance with ITB 4.3	Must meet requirement	Must meet requirement	Must meet requirement	Must meet requirement	Forms ELI – 1.1 and 1.2, with attachments
1.2	<b>Conflict of Interest</b>	No conflicts of interest in accordance with ITB 4.2	Must meet requirement	Must meet requirement	Must meet requirement	Must meet requirement	Bid Submission Form
1.3	<b>Bank Eligibility</b>	Not having been declared ineligible by the Bank, as described in ITB 4.4	Must meet requirement	Must meet requirement	Must meet requirement	Must meet requirement	Bid Submission Form
1.4	<b>United Nations resolution or Borrower's country law</b>	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 4.6 and Section V.	Must meet requirement	Must meet requirement	Must meet requirement	Must meet requirement	Forms ELI – 1.1 and 1.2, with attachments

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
<b>2. Historical Contract Non-Performance</b>							
2.1	<b>History of Non-Performing Contracts</b>	Non-performance of a contract <sup>8</sup> did not occur as a result of contractor's default since 1 <sup>st</sup> January 2012.	Must meet requirement	Must meet requirements	Must meet requirement <sup>9</sup>	Must meet requirement	Form CON-2
2.2	<b>Suspension Based on Execution of Bid Securing Declaration by the Employer</b>	Not under suspension based on execution of a Bid Securing Declaration pursuant to ITB 4.7.	Must meet requirement	Must meet requirement	Must meet requirement	Must meet requirement	Bid Submission Form
2.3	<b>Pending Litigation</b>	Bidder's financial position and prospective long term profitability still sound according to criteria established in 3.1 below and assuming that all pending litigation will be resolved against the Bidder.	Must meet requirement	N/A	Must meet requirement	N/A	Form CON – 2
2.4	<b>Litigation History</b>	No consistent history of court/arbitral award decisions against the Bidder <sup>10</sup> since 1 <sup>st</sup> January 2012	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Form CON – 2
2.5	<b>Declaration: Environmental, Social, Health, and Safety (ESHS) past performance</b>	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 <sup>11</sup> .	Must make the declaration. Where there are Specialized Sub-contractor/s,	N/A	Each must make the declaration. Where there are Specialized Sub-contractor/s, the Specialized Sub-	Each must make the declaration. Where there are Specialized Sub-contractor/s, the Specialized Sub-	Form CON-3 ESHS Performance Declaration

<sup>8</sup> Non-performance, as decided by the Employer, shall include all contracts where (a) non-performance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) 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 applicant have been exhausted.

<sup>9</sup> This requirement also applies to contracts executed by the Applicant as JV member.

<sup>10</sup> The Applicant shall provide accurate information on the related Bid Form about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last five years. A consistent history of awards against the Applicant or any member of a joint venture may result in failure of the Bid.

<sup>11</sup> 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 (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
			the Specialized Sub-contractor/s must also make the declaration.		contractor/s must also make the declaration.	contractor/s must also make the declaration.	
<b>3. Financial Situation and Performance</b>							
3.1	Historical Financial Performance	Submission of audited balance sheets or if not required by the law of the bidder's country, other financial statements acceptable to the Employer, for the last three [3 ] years to demonstrate the current soundness of the bidders financial position and its prospective long term profitability. a. Positive Net Worth	Must meet requirement	N / A	Must meet requirement to the minimum extent of 30%	Lead Partner must meet the requirement	Form FIN – 3.1, with attachments
3.2	Average Annual Dredging Turnover	Minimum average annual dredging turnover of INR 22.00 Crores,	Must meet requirement	Must meet requirement	Must meet twenty five percent (25%) of the requirement	Must meet fifty percent (50%) of the requirement	Form FIN – 3.2
3.3	Financial Resources	The Bidder must demonstrate access to, or availability of, financial resources such as liquid assets, unencumbered real assets, lines of credit, and other financial means, other than any contractual advance payments to meet: (i) the following cash-flow requirement of INR 8.8 Crores. Towards cash flow at peak construction period for the subject contract(s) net of the Bidder's other commitments; and (ii) The overall cash flow requirements for this contract and its current commitments and for future contract commitments.	Must meet requirement	Must meet requirement	Must meet twenty five percent (25%) of the requirement	Must meet fifty percent (50%) of the requirement	Form FIN – 3.2

4. Experience							
4.1 (a)	<b>General Dredging Experience in Ports / River, Management of Vessel, Manning of Vessel or Vessel related Marine Works</b>	Experience under dredging contracts in the role of prime contractor, JV member, sub-contractor, or management contractor for at least the last 5 years, starting Financial Year 2012 – 2018	Must meet requirement	In case one member is not able to meet 100% of requirement, all parties combined must meet 150% of the requirement	N/A	Must meet requirement	Form EXP – 4.1
4.2 (a)	<b>Specific Dredging &amp; Contract Management Experience</b>	(i) A minimum number of similar contracts specified below that have been satisfactorily and substantially <sup>12</sup> completed as a prime contractor, joint venture member <sup>13</sup> , management contractor or sub-contractor <sup>13</sup> between Financial: Year 2012-2013 and bid submission deadline: 1 contract of minimum value <b>INR 90 Crores; or</b> 2 contracts, each of minimum value <b>INR 56 Crores. or</b> 3 contracts, each of minimum value <b>INR 45 Crores</b>	Must meet requirement	In case one member is not able to meet 100% of the requirement, all parties combined must meet 150% of the requirement	N/A	Must meet requirement	Form EXP 4.2(a)
4.2 (b)		From the above and or any other contracts completed and under implementation as prime contractor, joint venture member, management contractor or sub-contractor <sup>13</sup> between last five years Financial Year 2012-13 and bid submission deadline, a minimum dredging experience of 3 years in fields of a. River Dredging and management of dredge materials, b. Use of dredged material used in reclamation of port / harbour will also be considered.	Must meet requirements	Must meet requirements	N/A	Lead Partner Must meet the following requirements for the key activities listed below: <i>Dredging experience for Port / Harbour or River.</i>	Form EXP – 4.2 (b)

<sup>12</sup> Substantial completion shall be based on 80% or more works completed under the contract.

<sup>13</sup> For contracts under which the Applicant participated as a joint venture member or sub-contractor, only the Applicant's share, by value, shall be considered to meet this requirement.



5. Quality Requirements							
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
5.1	<b>ISO 9001-2008/2015 Quality management system requirements</b>	Quality management certificate issued by an international standards organization	Must meet requirement	Must meet requirement	Must meet requirement	Must meet requirement	Valid ISO 9001 Certification.
5.2	<b>International Standards for Hydrographic Surveys (IHO)</b>	Experience in at least 3 contracts over the last 5 years where surveying (to quantify dredging or other need) has been done.	Desirable	Desirable	N/A	Desirable	information on use of at least 3 contracts using IHO standard surveys
5.3	<b>OHSAS 18001 - Occupational Health and Safety Assessment Series</b>	Relevant OHSAS certificate and Experience in occupational health and safety management over the last 2 years, starting 1 <sup>st</sup> January 2010.	Desirable	Desirable	N/A	Desirable	Valid OHSAS certificate.
5.4	<b>ISO 14001:2004/2015 Environmental Management systems</b>	Relevant Environmental management certificate and experience with environmental management systems over the last 2 years, starting 1 <sup>st</sup> January 2010.	Desirable	Desirable	Desirable	N/A	Valid ISO 14001:2004/2015 certificate.
5.5	<b>International Association of Dredging Companies (IADC) Quality Standards</b>	Membership of IADC / WODA / EADA / CEDA	Must meet requirement	Must meet requirement	N/A	Lead partner must meet requirement	Membership certificate of IADC.
5.6	<b>Safety Management Certificate (SMC)</b>	Safety management certificate for safety of vessels of more than 500 GT in compliance with ISM standard	Desirable	Desirable	Desirable	N/A	Valid SMC certificate.
5.7	<b>Document of Compliance (DOC)</b>	Document of Compliance of the contractors safety management system according to the International Management Code for the safe Operation of ships and for pollution prevention (ISM Code)	Desirable	Desirable	Desirable	N/A	Valid Document of compliance.

6.0	<b>Equipment - The Bidder must demonstrate that it has the key equipment and manpower listed hereafter:</b>				
	<b>Equipment</b>	<b>Equipment Type and Characteristics Minimum Capacity ;</b>	<b>Max. age (years)</b>	<b>Minimum Quantity</b>	
1	Dredger	400-600 cum solids per hour	12	2 ( Two) No.	These equipment must be either owned or hired or to be procured by bidder and by member of JV ( in case of JV) at the time of bidding
2	Survey Vessels	Min. equipment's – equipped with multi-beam eco-sounder, Altimeter	05	1 ( one) No.	
3	Tug Boats	Main engines min. 2 nos. 270 HP each, Bollard pull of min. 6 T	10	1 No.	Desirable at the time of bidding
4	Accommodation Boats	To accommodate operational staff	10	1 No.	
5	Details of Equipment	To Be Hired with the details of the Equipment as per Format(Ref BDS 5.2) As on with the agreement copy			
7.0	<b>Manpower The bidders must have minimum of following manpower</b>				
1	Project Manager	Project Manager with five years' experience in Services of an equivalent nature and volume, including no less than three years as Manager; { Refer 5.5 (d) of ITB }			Bidder to provide the details at the time of bid submission.
2	Sub - Contracting	Details of the Sub-Contracting as per (BDS 5.6.3)			
3	Dredging Management Plan	The bidder should submit detailed dredging management plan (including disposal of dredged material) along with dredger deployment plan (No. of dredgers to be deployed at various point of time along with dredging capacities and manpower) and frequency of bathymetric survey along with details of equipment and manpower to be deployed by him to meet the water depth and channel width requirements in the concerned stretch.			
4	Details of Other Manpower	Hydrographic Surveyor etc.			Desirable at the time of bidding

## Section IV. Bidding Forms

### Table of Forms

1	Bid Submission Form / letter of Bid		
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**Bid Submission Form / Letter of Bid**

Date: .....  
 NCB No. and title:.....

To:  
 Vice Chairman & Project Director JMVP  
 Inland Waterways Authority of India,  
 A-13 Sector-1 Noida - 201301 (UP)  
 INDIA

We, the undersigned, apply to be qualified for the referenced NCB and declare that:

- (a) We have examined and have no reservations to the Qualification Document, including Addendum(s) No(s)., issued in accordance with Instructions to Bidders (ITB) 11: *[insert the number and issuing date of each addendum]*.
- (b) We have no conflict of interest in accordance with ITB 4.2;
- (c) We meet the eligibility requirements as stated ITB 5.2 & 5.2.1 we have not been suspended by the Employer based on execution of a Bid Securing Declaration in accordance with ITB 4.7;
- (d) We, plan to subcontract the following key activities and/or parts of the works:  

*[Insert any of the key activities identified in Section III- 4.2(a) or (b) which the Employer has permitted under the Prequalification document and which the Bidder intends to subcontract along with complete details of the sub-contractors, their qualification and experience]*
- (e) We declare that the following commissions, gratuities, or fees have been paid or are to be paid with respect to the prequalification process, the corresponding bidding process or execution of the Contract:

<u>Name of Recipient</u>	<u>Address</u>	<u>Reason</u>	<u>Amount</u>
[insert full name for each occurrence]	[insert street/number/city/country]	[indicate reason]	[specify amount currency, value, exchange rate and US\$ equivalent]
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

---

*[If no payments are made or promised, add the following statement: "No commissions or gratuities have been or are to be paid by us to agents or any third party relating to this Bid]*

- (f) We understand that you may cancel the bidding process at any time and that you are neither bound to accept any Bid that you may receive nor to invite new bid for the contract subject, in accordance with ITB 33.1.
- (g) All information, statements and description contained in the Bid are in all respect true, correct and complete to the best of our knowledge and belief.

Signed. ....

*[Authorized representative(s) of the Bidder]*

Full Name .....

*[Person signing the Bid]*

In the capacity of .....

*[Capacity of person signing the Bid]*

Duly authorized to sign the Bid for and on behalf of: Bidder's

Name Full Name .....

*[Insert full name of Bidder or the name of the JV]*

Address .....

*[Insert street number/town or city/country address]*

Dated on

*[Insert day number] day of [insert month], [insert year]*

[For an a joint venture, either all members shall sign or only the authorized representative, in which case the power of attorney to sign on behalf of all members shall be attached]

## Bidder's Bid Price Form

[date]

To:  
Vice Chairman and Project Director,  
Jal Marg Vikas Project  
Inland Waterways Authority of India  
A-13, Secot-1, Noida – 201301, Uttar Pradesh, India

Having examined the bidding documents including addenda No .....,  
 We offer to execute the [name and identification number of Contract] in accordance with the Conditions of Contract, specifications, drawings and activity schedule accompanying this Bid for the Contract Price as tabulated below.

Dredging in all types of Soil Such as Sand, Silt, Coarse Sand or mixture of above materials to be dredged and "Providing and maintaining Least Available Water Depth (LAD) of 3.0 meter and bottom width of 70 – 239m during 5 years in the Channel for Re-Engineering of Bends - Bend in Approach Channel U/S of Farakka Navigation Lock of NW1 by dredging / dry excavation or combination & disposal there of" include mobilization, de-mobilisation, shifting charges from one shoal to another Shoal & other charges excluding of GST. in each year of the Contract Period					Bid price for the services to be provided as inclusive of all taxes but excluding of ( GST) Goods and Service tax - Year wise		NPV factor (Consider discount factor of 10% per annum	NPV of the quoted Bid Price Col 6 X Col 8 (INR)/(Currency)(only for the purpose of evaluation)
Period	Depth	Width	Quantity	* Unit / CUM	In figures	In words		
1	2	3	4	5	(6=4*5)	7	8	( 9 = 6 *8)
Year 1	3M	70 -239 M	11,95,900				0.909	
Year 2	3M	70 -239 M	8,96,925				0.826	
Year 3	3M	70 -239 M	6,72,694				0.751	
Year 4	3M	70 -239 M	5,04,520				0.683	
Year 5	3M	70 -239 M	3,78,390				0.621	
<b>Total for 5 years → CUM</b>			36,48,429					
<b>Good &amp; Service Tax ( GST)</b>								
<ul style="list-style-type: none"> <li>The Rates Quoted above shall be inclusive of idling Cost &amp; idling period of Equipment and will be applicable for the month wise work done towards dredging / excavation &amp; disposals.</li> </ul>								
Refer ITB clause 30.6 (e) determining aggregate of the Net Present Value (NPV) of five years' prices for Services quoted in the Priced Activity Schedule, by discounting these prices to the Date of Commencement of Services, <i>assuming only for purpose of the evaluation</i> 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								

**[The figures above are based on the prices quoted in the Priced Activity Schedule]**

We accept the appointment of .....[name proposed in the Bidding Data Sheet] as the Adjudicator.

---

**[or]**

We do not accept the appointment of ..... [Name proposed in the Bidding Data Sheet] as the Adjudicator, and propose instead that ..... [Name] be appointed as Adjudicator, whose daily fees and biographical data are attached.

This Bid and your written acceptance of it shall constitute a binding Contract between us. We understand that you are not bound to accept the lowest or any Bid you receive.

We hereby confirm that this Bid complies with the Bid validity and Bid Security required by the bidding documents and specified in the Bidding Data Sheet.

Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below:

Name and address of agent	Amount and Currency	Purpose of Commission or gratuity

We hereby confirm that the prequalification information submitted originally with our Prequalification Application remains essentially correct as of the date of bid submission.

OR

We wish to inform that the prequalification information submitted originally with our Prequalification Application has undergone a change and updated information in respect of such change is being submitted with the bid, on the same format as used in our Pre-qualification Application.

Authorized Signature: \_\_\_\_\_

Name and Title of Signatory: \_\_\_\_\_

Name of Bidder: \_\_\_\_\_

Address: \_\_\_\_\_

**Form ELI -1.1**

**Bidder Information Form**

Bidder's Name		<i>[insert full name]</i>
Date:		<i>[insert day, month, year]</i>
Joint Venture Member Name		<i>[insert full name]:</i>
NCB No. and title		<i>[insert NCB number and title]</i>
Page...		<i>[insert page number] of [insert total number] pages</i>
1	Bidder's name	<i>[insert full name]</i>
2	In case of Joint Venture (JV), name of each member:	<i>[insert full name of each member in JV]</i>
3	Bidder's actual or intended country of registration:	<i>[indicate country of Constitution]</i>
4	Bidder's actual or intended year of incorporation:	<i>[indicate year of Constitution]</i>
5	Bidder's legal address [in country of registration]:	<i>[insert street/ number/ town or city/ country]</i>
6	Bidder's authorized representative information	Name: <i>[insert full name]</i> Address: <i>[insert street/ number/ town or city/ country]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers, including country and city codes]</i> E-mail address: <i>[indicate e-mail address]</i>
<p>1. Attached are copies of original documents of</p> <p><input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.3.</p> <p><input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1.</p> <p><input type="checkbox"/> In case of Government-owned enterprise or institution, in accordance with ITB 4.8 documents establishing:</p> <ul style="list-style-type: none"> <li>• Legal and financial autonomy</li> <li>• Operation under commercial law</li> <li>• Establishing that the Bidder is not dependent agency of the Employer</li> </ul> <p>2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.</p>		



**Form ELI -1.2**

**Bidder's JV Information Form**

*[The following form is additional to Form ELI – 1.1., and shall be completed to provide information relating to each JV member (in case the Bidder is a JV) as well as any Specialized Sub-contractor proposed to be used by the Bidder for any part of the Contract resulting from this prequalification]*

Bidder's Name		<i>[insert full name]</i>
Date:		<i>[insert day, month, year]</i>
Joint Venture Member Name		<i>[insert full name]:</i>
NCB No. and title		<i>[insert NCB number and title]</i>
Page...		<i>[insert page number] of [insert total number] pages</i>
1	Bidder's name	<i>[insert full name]</i>
2	Bidder's JV Member's name:	<i>[insert full name of each member in JV]</i>
3	Bidder's JV Member's country of registration:	<i>[indicate country of Constitution]</i>
4	Bidder JV Member's year of constitution:	<i>[indicate year of Constitution]</i>
5	Bidder JV Member's legal address in country of constitution:	<i>[insert street/ number/ town or city/ country]</i>
6	Bidder JV Member's authorized representative information	Name: <i>[insert full name]</i> Address: <i>[insert street/ number/ town or city/ country]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers, including country and city codes]</i> E-mail address: <i>[indicate e-mail address]</i>
<p>1. Attached are copies of original documents of</p> <p><input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.3.</p> <p><input type="checkbox"/> In case of a Government-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and absence of dependent status, in accordance with ITB 4.8.</p> <p>2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.</p>		

**Form CON – 2**

**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	<i>[insert full name]</i>
Date:	<i>[insert day, month, year]</i>
Joint Venture Member Name	<i>[insert full name]:</i>
NCB No. and title	<i>[insert NCB number and title]</i>
Page...	<i>[insert page number] of [insert total number] pages</i>

Non-Performed Contracts in accordance with Section III, Qualification Criteria and Requirements

Contract non-performance did not occur since 1<sup>st</sup> January *[insert year]* specified in Section III, Qualification Criteria and Requirements, Sub-Factor 2.1.

Contract(s) not performed since 1<sup>st</sup> January *[insert year]* specified in Section III, Qualification Criteria and Requirements, requirement 2.1

<b>Year</b>	<b>Non-performed portion of contract</b>	<b>Contract Identification</b>	<b>Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)</b>
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for non-performance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>

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.

Pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2 as indicated below.

<b>Year of dispute</b>	<b>Amount in dispute (currency)</b>	<b>Contract Identification</b>	<b>Total Contract Amount)</b>
<i>[insert year]</i>	<i>[insert amount]</i>	Contract Identification: <i>[indicate complete contract name, number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Matter in dispute: <i>[indicate main issues in dispute]</i> Party who initiated the dispute: <i>[indicate "Employer" or "Contractor"]</i> Status of dispute: <i>[Indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]</i>	<i>[insert amount]</i>

- No pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2.
- Pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2 as indicated below.

<b>Year of award</b>	<b>Outcome as percentage of Net Worth</b>	<b>Contract Identification</b>	<b>Total Contract Amount</b>
<i>[insert year]</i>	<i>[insert percentage]</i>	Contract Identification: <i>[indicate complete contract name, number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Matter in dispute: <i>[indicate main issues in dispute]</i> Party who initiated the dispute: <i>[indicate "Employer" or "Contractor"]</i> Status of dispute: <i>[Indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]</i>	<i>[insert amount]</i>

**Form FIN – 3.1**

**Financial Situation and Performance**

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

Bidder's Name	<i>[insert full name]</i>				
Date:	<i>[insert day, month, year]</i>				
Joint Venture Member Name	<i>[insert full name]:</i>				
NCB No. and title	<i>[insert NCB number and title]</i>				
Page...	<i>[insert page number] of [insert total number] pages</i>				
<b>1. Financial data</b>					
<b>Type of Financial information in (INR)</b>	<b>Historic information for previous <i>_[insert number] years, [insert in words]</i> (amount in currency,</b>				
	Year 1	Year 2	Year 3	Year4	Year 5
Statement of Financial Position (Information from Balance Sheet)					
Total Assets	(TA)				
Total Liabilities	(TL)				
Total Equity/Net Worth	(NW)				
Current Assets	(CA)				
Current Liabilities	(CL)				
Working Capital	(WC)				
Information from Income Statement					
Total Revenue)	(TR				
Profits Before Taxes	(PBT)				
Cash Flow Information					
Cash Flow from Operating Activities					

\* Refer BDS 29.1 for the exchange rate

**2. Sources of Finance**

---

[The following table shall be filled in for the Bidder and all parties combined in case 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 (US\$ equivalent)
1		
2		
3		

### 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 3.1. The financial statements shall:

- (a) Reflect the financial situation of the Bidder or in case of JV member , and not an affiliated entity (such as parent company or group member).
  - (b) Be independently audited or certified in accordance with local legislation.
  - (c) Be complete, including all notes to the financial statements.
  - (d) Correspond to accounting periods already completed and audited.
- Attached are copies of financial statements<sup>14</sup> for the [number] years required above; and complying with the requirements

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<sup>14</sup> 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.

**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	<i>[insert full name]</i>		
Date:	<i>[insert day, month, year]</i>		
Joint Venture Member Name	<i>[insert full name]:</i>		
NCB No. and title	<i>[insert NCB number and title]</i>		
Page...	<i>[insert page number] of [insert total number] pages</i>		
<i>[Identify contracts that demonstrate continuous construction work over the past [number] years pursuant to Section III, Qualification Criteria and Requirements, Sub-Factor 4.1. List contracts chronologically, according to their commencement (starting) dates.]</i>			
<b>Annual turnover data (construction only)</b>			
<b>Year</b>	<b>Amount Currency</b>		<b>INR</b>
<i>[indicate calendar year]</i>	<i>[insert amount and indicate currency] and Source of Figures and attach the relevant documents</i>		
<b>1. YEAR 2018</b>			
<b>2. YEAR 2017</b>			
<b>3. YEAR 2016</b>			
<b>4. YEAR 2015</b>			
<b>5. YEAR 2014</b>			
		Average Annual Construction Turnover	

\* Refer BDS 29.1 for date and source of exchange rate.

**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	<i>[insert full name]</i>
Date:	<i>[insert day, month, year]</i>
Joint Venture Member Name	<i>[insert full name]:</i>
NCB No. and title	<i>[insert NCB number and title]</i>
Page...	<i>[insert page number] of [insert total number] pages</i>

*[Identify contracts that demonstrate continuous construction work over the past [number] years pursuant to Section III, Qualification Criteria and Requirements, Sub-Factor 4.1. List contracts chronologically, according to their commencement (starting) dates.]*

<b>Starting Year</b>	<b>Ending Year</b>	<b>Contract Identification</b>	<b>Role of Bidder</b>
<i>[indicate year]</i>	<i>[indicate year]</i>	Contract name: <i>[insert full name]</i> Brief Description of the Works performed by the Bidder: <i>[describe works performed briefly]</i> Amount of contract: <i>[insert amount in currency, mention currency used, exchange rate and US\$ equivalent*]</i> Name of Employer: <i>[indicate full name]</i> Address: <i>[indicate street/number/town or city/country]</i>	<i>[insert "Prime Contractor" or "JV Member" or "Sub-contractor" or "Management Contractor"]</i>
		Contract name: <i>[insert full name]</i> Brief Description of the Works performed by the Bidder: <i>[describe works performed briefly]</i> Amount of contract: <i>[insert amount in currency, mention currency used, exchange rate and US\$ equivalent*]</i> Name of Employer: <i>[indicate full name]</i> Address: <i>[indicate street/number/town or city/country]</i>	<i>[insert "Prime Contractor" or "JV Member" or "Sub-contractor" or "Management Contractor"]</i>
		Contract name: <i>[insert full name]</i> Brief Description of the Works performed by the Bidder: <i>[describe works performed briefly]</i> Amount of contract: <i>[insert amount in currency, mention currency used, exchange rate and US\$ equivalent*]</i> Name of Employer: <i>[indicate full name]</i> Address: <i>[indicate street/number/town or city/country]</i>	<i>[insert "Prime Contractor" or "JV Member" or "Sub-contractor" or "Management Contractor"]</i>

\* Refer BDS 29.1 for date and source of exchange rate.

**Form EXP - 4.2(a)**

**Specific Dredging and Contract Management Experience**

*[The following table shall be filled in for contracts performed by the Bidder, each member of a Joint Venture, and Specialized Sub-contractors]*

Bidder's Name	<i>[insert full name]</i>			
Date:	<i>[insert day, month, year]</i>			
Joint Venture Member Name	<i>[insert full name]:</i>			
NCB No. and title	<i>[insert NCB number and title]</i>			
Page...	<i>[insert page number] of [insert total number] pages</i>			
<b>Similar Contract No.</b> <i>[insert number] of [insert number of similar contracts required]</i>	<b>Information</b>			
Contract Identification	<i>[insert contract name and number, if applicable]</i>			
Award date	<i>[insert day, month, year]</i>			
Completion date	<i>[insert day, month, year]</i>			
Role in Contract <i>[check the appropriate box]</i>	Prime Contractor <input type="checkbox"/>	Member in JV <input type="checkbox"/>	Management Contractor <input type="checkbox"/>	Sub-contractor <input type="checkbox"/>
Total Contract Amount	<i>[insert total contract amount in local currency]</i>		US\$ <i>[insert Exchange rate and total contract amount in US\$ equivalent]*</i>	
If member in a JV or sub-contractor, specify participation in total Contract amount	<i>[insert a percentage amount]</i>	<i>[insert total contract amount in local currency]</i>	<i>[insert exchange rate and total contract amount in US\$ equivalent]*</i>	
Employer's Name:	<i>[insert full name]</i>			
Address:	<i>[indicate street / number / town or city / country]</i>			
Telephone/fax number	<i>[insert telephone/fax numbers, including country and city area codes]</i>			
E-mail:	<i>[insert e-mail address, if available]</i>			

\* Refer BDS 29.1 for date and source of exchange rate.



**Form EXP - 4.2(a) (cont.)**

**Specific Dredging and Contract Management Experience (cont.)**

Bidder's Name	<i>[insert full name]</i>
Date:	<i>[insert day, month, year]</i>
Joint Venture Member Name	<i>[insert full name]:</i>
NCB No. and title	<i>[insert NCB number and title]</i>
Page...	<i>[insert page number] of [insert total number] pages</i>
<b>Similar Contract No.</b>	
<i>[insert number] of [insert number of similar contracts required]</i>	<b>Information</b>
Description of the similarity in accordance with Sub-Factor 4.2(a) of Section III:	
1. Amount	<i>[insert amount in local currency, exchange rate, US\$ in words and in Figures]</i>
2. Physical size of required works items	<i>[insert physical size of items]</i>
3. Complexity	<i>[insert description of complexity]</i>
4. Methods/Technology	<i>[insert specific aspects of the methods/technology involved in the contract]</i>
5. Construction rate for key activities	<i>[insert rates and items]</i>
6. Other Characteristics	<i>[insert other characteristics as described in Section X, Scope of Works]</i>

**Form EXP - 4.2(b)**  
**Dredging Experience in Key Activities**

Bidder's Name	<i>[insert full name]</i>		
Date:	<i>[insert day, month, year]</i>		
Joint Venture Member Name	<i>[insert full name]:</i>		
NCB No. and title	<i>[insert NCB number and title]</i>		
Page...	<i>[insert page number] of [insert total number] pages</i>		
All Sub-contractors for key activities must complete the information in this form as per ITB 5.6 and Section III, Qualification Criteria and Requirements, Clause 4.2.			
1. Key Activity No. One: <i>[insert brief description of the Activity, emphasizing its specificity]</i>			
Total Quantity of Activity under the contract: _____			
<b>Information</b>			
Contract Identification	<i>[insert contract name and number, if applicable]</i>		
Award date	<i>[insert day, month, year]</i>		
Completion date	<i>[insert day, month, year]</i>		
Role in Contract <i>[check the appropriate box]</i>	Prime Contractor <input type="checkbox"/>	Member in JV <input type="checkbox"/>	Management Contractor <input type="checkbox"/>
			Sub-contractor <input type="checkbox"/>
Total Contract Amount	<i>[insert total contract amount in contract currency(ies)]</i>		US\$ <i>[insert exchange rate and total contract amount in US\$ equivalent]</i>
Quantity (Volume, number or rate of production, as applicable) performed under the contract per year or part of the year <i>[Insert extent of participation indicating actual quantity of key activity successfully completed in the role performed]</i>	Total quantity in the contract (i)	Percentage participation (ii)	Actual Quantity Performed (i) x (ii)
Year 1			
Year 2			
Year 3			
Year 4			
Year 5			

Employer's Name:	<i>[insert full name]</i>
Address:	<i>[indicate street / number / town or city / country]</i>
Telephone/fax number	<i>[insert telephone/fax numbers, including country and city area codes]</i>
E-mail:	<i>[insert e-mail address, if available]</i>
2. Activity No. Two	
3. ....	
	<b>Information</b>
Description of the key activities in accordance with Sub-Factor 4.2(b) of Section III:	
	<i>[insert response to inquiry indicated in left column]</i>

## Form EXP – 5.0

### Quality Requirements ( 5.1 to 5.7 )

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

**To indicate the details of the Quality Requirements  
Change of information after Bid Submission & Opening date shall not be allowed.**

5.1	<b>ISO 9001-2008/2015 Quality management system requirements</b>	Quality management certificate issued by an international standards organization	Must meet requirement	Valid ISO 9001 Certification.	Yes / No - ref
5.2	<b>International Standards for Hydrographic Surveys (IHO)</b>	Experience in at least 3 contracts over the last 5 years where surveying (to quantify dredging or other need) has been done.	Desirable	information on use of at least 3 contracts using IHO standard surveys	
5.3	<b>OHSAS 18001 - Occupational Health and Safety Assessment Series</b>	Relevant OHSAS certificate and Experience in occupational health and safety management over the last 2 years, starting 1 <sup>st</sup> January 2010.	Desirable	Valid OHSAS certificate.	
5.4	<b>ISO 14001:2004/2015 Environmental Management systems</b>	Relevant Environmental management certificate and experience with environmental management systems over the last 2 years, starting 1 <sup>st</sup> January 2010.	Desirable	Valid ISO 14001:2004/2015 certificate.	
5.5	<b>International Association of Dredging Companies (IADC) Quality Standards</b>	Membership of IADC / WODA / EADA / CEDA	Must meet requirement	Membership certificate of IADC.	Yes / No - ref
5.6	<b>Safety Management Certificate (SMC)</b>	Safety management certificate for safety of vessels of more than 500 GT in compliance with ISM standard	Desirable	Valid SMC certificate.	
5.7	<b>Document of Compliance (DOC)</b>	Document of Compliance of the contractors safety management system according to the International Management Code for the safe Operation of ships and for pollution prevention (ISM Code)	Desirable	Valid Document of compliance.	

## Form EXP – 6.0

[Reference: BDS 5.2] & QR ( 6.1, 6.2 & 6.3 )

### List of Major Equipment – Tools & Plants ( Available with Bidder )

Bidder's Name		<i>[insert full name]</i>			
Date:		<i>[insert day, month, year]</i>			
Joint Venture Member Name		<i>[insert full name]:</i>			
NCB No. and title		<i>[insert NCB number and title]</i>			
Page...		<i>[insert page number] of [insert total number] pages</i>			
<p>Bidder to provide the</p> <ol style="list-style-type: none"> <li>List of Tools and plants - including Floating Crafts, Machinery &amp; other Equipment required for deployment on the works and successful operation of the contract. Available with the Bidder / Contractor</li> </ol>					
Sl.no	Name of dredger / Equipment /Machinery /plants	Qty.	Description, Size, Capacity	Date of Purchase / Age	Present Location
AVAILABLE					
<b>6.1</b>	<b>Dredgers</b>				
<b>6.2</b>	<b>Survey Boats</b>				
Signature of the Bidder					

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**Form EXP – 6.4**  
**Detailed Dredging Management Plan**  
**Approach & Methodology**

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

**To indicate how various activities which will be carried out, to meet the requirements Laid down at Appendix A to the Tender documents / Contract**

**Form EXP – 6.5**  
**Detailed Dredger Deployment Plan**  
**w.r.t**  
**Detailed Dredging Management Plan**

**Approach & Methodology (6.4)**

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

**To indicate how various Dredgers shall be deployed to meet the requirements explained at Dredging Management Plan and as Laid down at Appendix A to the Tender documents / Contract**

## Form EXP – 6.6 Details of Equipment's - Availability Plan

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

Bidder to provide the

1. List of Tools and plants -
  - a. Available on Hire
  
2. In case of Hire → A JV agreement with the agency along with the
  - a. list of equipment being Hired.
  
3. List of Tools and plants -
  - a. Likely to be Procured

Sl.no	Name of dredger / Equipment /Machinery /plants	Qty.	Description, Size, Capacity	Date of Purchase / Age	Present Location
<b>TO BE HIRED</b>					
<b>TO BE arranged through JV</b>					
<b>TO BE PROCURED</b>					

Signature of the Bidder



**Form EXP – 6.7 & 6.8**  
**Details of Deployment of Manpower**  
 ( Main Bidder with CV's)

Bidder's Name	<i>[insert full name]</i>
Date:	<i>[insert day, month, year]</i>
JV - Member Name	<i>[insert full name]:</i>
NCB No. and title	<i>[insert NCB number and title]</i>
Page...	<i>[insert page number] of [insert total number] pages</i>

**To indicate the details of the Manpower to be deployed for carrying out the assignment along with their CV's**

<i>Sl.no</i>	<i>Position</i>	<i>Experience in yrs</i>	<i>Details of Experience</i>	<i>CV Yes/no</i>
1.	Project Manager	5 years	Should have Bachelor's degree in civil engineering and an experience of minimum of 5 years out of which at least 3 years' shall be in managing projects of similar nature. Personnel must have experience in executing dredging projects. The age of the personnel as on the date of bid submission shall not be more than 50 years;	YES – To be submitted at the time of Bid Submission.
2	Surveyor	3 years	Must have 3 years' of experience in hydrographic survey	Desirable
3.	Dredge Master	7 years	Must have 7 years' of experience in dredging in rivers/canals/ports.	
4.	Social Specialist	3 years	Graduate or equivalent in social sciences with at least 3 years field experience.	
5.	Environmental Expert	3 years	Graduate in Environmental engineering/environmental sciences with at least 3 years field experience.	
6.	Health & Safety Specialist	3 years	Graduate in engineering/sciences with at least 3 years of experience in health and safety. Must have diploma/certification in health and safety.	
7.	Crew	3 years	Must have inland vessel certification	

**Form EXP – 6.9  
Details of Sub- Contractors**

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

**To indicate the details of the Sub-Contractors likely to be engaged for this work  
Please note.  
Change of agency after Bid Submission & Opening date shall not be allowed.**

Sl.no	Name of the proposed Sub- Contractor	Years of Experience	Name of the Projects under taken as contractor or sub-contractor	Supporting Documents Order & experience copies
1				
2				
3				
4				
5				

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## Bid Security (Bank Guarantee)

*[The Bank shall fill in this Bank Guarantee Form in accordance with the instructions indicated.]*

Beneficiary: \_\_\_\_\_

Date: \_\_\_\_\_ BID GUARANTEE No.: \_\_\_\_\_

We have been informed that \_\_\_\_\_ (hereinafter called "the Bidder") has submitted to you its bid dated (hereinafter called "the Bid") for the execution of \_\_\_\_\_ under Invitation for Bids No. \_\_\_\_\_ ("the IFB").

Furthermore, we understand that, according to your conditions, bids must be supported by a bid guarantee.

At the request of the Bidder, we \_\_\_\_\_ hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of \_\_\_\_\_ (\_\_\_\_\_) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

- (a) has withdrawn its Bid during the period of bid validity specified by the Bidder in the Form of Bid; or
- (b) having been notified of the acceptance of its Bid by the Employer during the period of bid validity, (i) fails or refuses to execute the Contract Form; or (ii) fails or refuses to furnish the performance security, if required, in accordance with the Instructions to Bidders.

This guarantee will expire: (a) if the Bidder is the successful Bidder, upon our receipt of copies of the contract signed by the Bidder and the performance security issued to you upon the instruction of the Bidder; or (b) if the Bidder is not the successful Bidder, upon the earlier of (i) our receipt of a copy of your notification to the Bidder of the name of the successful Bidder; or (ii) forty five days after the expiration of the Bidder's Bid.

Consequently, any demand for payment under this guarantee must be received by us at the office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758 except that the supporting statement under Article 15(a) is hereby excluded.

\_\_\_\_\_  
[signature(s)]

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# Technical Proposal

## Technical Proposal Forms

- Key Personnel Schedule
  - Equipment
  - Site Organization
  - Method Statement
  - Mobilization Schedule
  - Construction Schedule
  - ESHS Management Strategies and Implementation Plans;
    - *“ESHHS” means environmental, social (including Sexual Exploitation and Abuse (SEA) and Gender Based violence (GBV)), health and safety.*
  - Code of Conduct (ESHHS)
    - *“ESHHS” means environmental, social (including Sexual Exploitation and Abuse (SEA) and Gender Based violence (GBV)), health and safety.*
  - Sub-contracting elements or works which in aggregate adds to more than 10% of Bid price *(for each the qualifications and experiences on the identified subcontractor in the relevant field should be given.*
- Note: Work should not be split into small parts and sub-contracted; but sub-contracting specialized elements of works is acceptable.*
- Others
  - Bidder’s Qualification

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## **ESHS Management Strategies and Implementation Plans (ESHS-MSIP)**

### **Requirements and Scope of Services**

### **Key Expert/s: Environment, Social (SEA & GBV) Health and Safety (ESHS)**

The Bidder shall submit comprehensive and concise Environmental, Social, Health and Safety Management Strategies and Implementation Plans (ESHS-MSIP) as required by ITB 13.2 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 following:

1. *[the Works Requirements described in Section VII];*
2. *[Environmental and Social Impact Assessment (ESIA)];*
3. *[Environmental and Social Management Plan (ESMP)];*
4. *[Resettlement Action Plan (RAP)];*
5. *[Consent Conditions (regulatory authority conditions attached to any permits or approvals for the project)]; and*
6. *[specify any other relevant document/s]*

### **Qualification for the ESHS Key Experts:**

The Key Expert/s shall have the appropriate level of academic and professional qualifications and experience to recognize and to deliver good international industry practice with respect to Environment, Social, (including sexual exploitation and abuse (SEA) and gender based violence (GBV)), Health and Safety (ESHS) aspects]

### **Scope of ESHS Key Expert Services, tasks and expected deliverables**

Ensure the Contractor's ESHS performance is in accordance with good international industry practice and delivers the Contractor's ESHS obligations.

*The ESHS related services include but are not limited to:*

1. *review and approve the Contractor's Environment and Social Management Plan (C-ESMP), including all updates and revisions (not less than once every 6 months);*
2. *review and approve ESHS provisions of method statements, implementation plans, GBV/SEA prevention and response action plan, drawings, proposals, schedules and all relevant Contractor's documents;*
3. *review and consider the ESHS risks and impacts of any design change proposals and advise if there are implications for compliance with ESIA, ESMP, consent/permits and other relevant project requirements;*

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4. undertake audits, supervisions and/or inspections of any sites where the Contractor is undertaking activities related to the Works, to verify the Contractor's compliance with ESHS requirements including its GBV/SEA obligations, with and without contractor and/or client relevant representatives, as necessary, but not less than once per month
  5. undertake audits and inspections of Contractor's accident logs, community liaison records, monitoring findings and other ESHS related documentation, as necessary, to confirm the Contractor's compliance with ESHS requirements;
  6. agree remedial action/s and their timeframe for implementation in the event of a noncompliance with the Contractor's ESHS obligations;
  7. ensure appropriate representation at relevant meetings including site meetings, and progress meetings to discuss and agree appropriate actions to ensure compliance with ESHS obligations;
  8. check that the Contractor's actual reporting (content and timeliness) is in accordance with the Contractor's contractual obligations;
  9. review and critique, in a timely manner, the Contractor's ESHS documentation (including regular reports and incident reports) regarding the accuracy and efficacy of the documentation;
  10. undertake liaison, from time to time and as necessary, with project stakeholders to identify and discuss any actual or potential ESHS issues;
  11. establish and maintain a grievance redress mechanism including types of grievances to be recorded and how to protect confidentiality e.g. of those reporting allegations of GBV/SEA.
  12. ensure any GBV/SEA instances and complaints that come to the attention of the consultant are registered in the grievance redress mechanism
  13. [add any other tasks as appropriate].

**[Note to Client: For supervision of civil works contracts, Key Expert/s with sufficient qualifications and experience to provide Environment, Social (including sexual exploitation and abuse (SEA) and gender based violence (GBV)), Health and Safety [ESHS] oversight shall be required. The Key Expert/s academic and professional qualifications and experience to recognize and to deliver good international industry practice with respect to Environment, Social (including sexual exploitation and abuse (SEA) and gender based violence (GBV)), Health and Safety (ESHS) should be specified here. The same expert positions should be included for evaluation in ITC 27.3.**

### **1. Reporting Requirements and Time Schedule for Deliverables**

[At a minimum, list the following:]

- (a) format, frequency, and contents of reports;
- (b) number of copies, and requirements to electronic submission (or on CD ROM). Final reports shall be delivered in CD ROM in addition to the specified number of hard copies;
- (c) dates of submission;
- (d) persons (indicate names, titles, submission address) to receive them; etc.

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If the Services consist of or include the **supervision of civil works**, include the following on ESHS reporting:

- (e) “The Consultant shall provide immediate notification to the Client should any incident in the following categories occur while carrying out the Services. Full details of such incidents shall be provided to the Client within the timeframe agreed with the Client.
  - (i) confirmed or likely violation of any law or international agreement;
  - (ii) any fatality or serious (lost time) injury;
  - (iii) significant adverse effects or damage to private property (e.g. vehicle accident); or
  - (iv) any allegation of gender based violence (GBV), sexual exploitation or abuse (SEA), sexual harassment or sexual misbehavior, rape, sexual assault, child abuse or defilement, or other violations involving children,
- (f) Ensure that contractor immediate notifications on ESHS aspects are shared with the Client immediately;
- (g) Immediately inform and share with the Client any immediate notification related to ESHS incidents provided to the Consultant by the Contractor, and as required of the Contractor as part of the Progress Reporting;
- (h) Share with the Client in a timely manner the Contractor’s ESHS metrics, as required of the Contractor as part of the Progress Reports.”

## **2. Client’s Input and Counterpart Personnel**

(a) Services, facilities and property to be made available to the Consultant by the Client:  
[list/specify]

(b) Professional and support counterpart personnel to be assigned by the Client to the Consultant’s team: \_\_ [list/specify]

## **3. Environmental and Social Policy**

**[Note to Client: for supervising civil works contracts:**

*The Client should attach or refer to the Client’s environmental, social, health and safety policies that will apply to the project. If these are not available, the Client should use the following guidance in drafting an appropriate policy for the Works.*

### **SUGGESTED CONTENT FOR AN ENVIRONMENTAL AND SOCIAL POLICY (STATEMENT)**

*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 Client is advised*

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*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 and reporting requirement.*

*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. ensure that terms of employment and working conditions of all workers engaged in the Works meet the requirements of the ILO labour conventions to which the host country is a signatory;*
- 5. 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;*
- 6. 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;*
- 7. work co-operatively, including with end users of the Works, relevant authorities, contractors and local communities;*
- 8. engage with and listen to affected persons and organizations and be responsive to their concerns, with special regard for vulnerable, disabled, and elderly people;*
- 9. provide an environment that fosters the exchange of information, views, and ideas that is free of any fear of retaliation, and protects whistleblowers;*
- 10. 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 Client. This is to signal the intent that it will be applied rigorously.*



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## Code of Conduct: Environmental, Social, Health and Safety (ESHS)

The Bidder shall submit the Code of Conduct that will apply to the Contractor's employees and subcontractors as required by ITB 13.2 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 following:

1. *[the Works Requirements described in Section VII];*
2. *[Environmental and Social Impact Assessment (ESIA)];*
3. *[Environmental and Social Management Plan (ESMP)];*
4. *[Consent Conditions (regulatory authority conditions attached to any permits or approvals for the project)]; and*
5. *[specify any other relevant document/s]*

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.

### 4. Code of Conduct

***[Note to Client: for supervision of civil works contracts:***

*A minimum requirement for the Code of Conduct should be set out by the Client, taking into consideration the issues, impacts, and mitigation measures identified, for example, in:*

- *project reports e.g. ESIA/ESMP*
- *any particular GBV/SEA requirements*
- *consent/permit conditions (regulatory authority conditions attached to any permits or approvals for the project)*
- *required standards including World Bank Group EHS Guidelines*
- *relevant international conventions, standards or treaties, etc., national, legal and/or regulatory requirements and standards (where these represent higher standards than the WBG EHS Guidelines)*
- *relevant standards e.g. Workers' Accommodation: Process and Standards (IFC and EBRD)*
- *relevant sector standards e.g. workers' accommodation*
- *grievance redress mechanisms.*

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*The types of issues identified could include. risks associated with: labor influx, spread of communicable diseases, sexual harassment, gender based violence, illicit behavior and crime, and maintaining a safe environment etc.]*

*[Amend the following instructions to the Consultant taking into account the above considerations.]*

*A satisfactory code of conduct will contain obligations on all Consultant's Experts that are suitable to address the following issues, as a minimum. Additional obligations may be added to respond to particular concerns of the region, the location and the project sector or to specific project requirements. The code of conduct shall contain a statement that the term "child" / "children" means any person(s) under the age of 18 years.*

The issues to be addressed include:

1. Compliance with applicable laws, rules, and regulations
2. Compliance with applicable health and safety requirements to protect the local community (including vulnerable and disadvantaged groups), the Consultant's Experts, the Client's personnel, and the Contractor's personnel, including sub-contractors and day workers (including wearing prescribed personal protective equipment, preventing avoidable accidents and a duty to report conditions or practices that pose a safety hazard or threaten the environment)
3. The use of illegal substances
4. Non-Discrimination in dealing with the local community (including vulnerable and disadvantaged groups), the Consultant's Experts, the Client's personnel, and the Contractor's personnel, including sub-contractors and day workers (for example, on the basis of family status, ethnicity, race, gender, religion, language, marital status, age, disability (physical and mental), sexual orientation, gender identity, political conviction or social, civic, or health status)
5. Interactions with the local community(ies), members of the local community (ies), and any affected person(s) (for example to convey an attitude of respect, including to their culture and traditions)
6. Sexual harassment (for example to prohibit use of language or behavior, in particular towards women and/or children, that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate)
7. Violence, including sexual and/or gender based violence (for example acts that inflict physical, mental or sexual harm or suffering, threats of such acts, coercion, and deprivation of liberty)
8. Exploitation including sexual exploitation and abuse (for example the prohibition of the exchange of money, employment, goods, or services for sex, including sexual favors or other forms of humiliating, degrading behavior, exploitative behavior or abuse of power)
9. Protection of children (including prohibitions against sexual activity or abuse, or otherwise unacceptable behavior towards children, limiting interactions with children, and ensuring their safety in project areas)
10. Sanitation requirements (for example, to ensure workers use specified sanitary facilities provided by their employer and not open areas)

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11. Avoidance of conflicts of interest (such that benefits, contracts, or employment, or any sort of preferential treatment or favors, are not provided to any person with whom there is a financial, family, or personal connection)
  12. Respecting reasonable work instructions (including regarding environmental and social norms)
  13. Protection and proper use of property (for example, to prohibit theft, carelessness or waste)
  14. Duty to report violations of this Code
  15. Non-retaliation against personnel who report violations of the Code, if that report is made in good faith

*The Code of Conduct should be written in plain language and signed by each Expert to indicate that they have:*

1. *received a copy of the code;*
2. *had the code explained to them;*
3. *acknowledged that adherence to this Code of Conduct is a condition of employment;*  
*and*
4. *understood that violations of the Code can result in serious consequences, up to and including dismissal, or referral to legal authorities.*

*A copy of the code shall be displayed in the Engineer's office. It shall be provided in appropriate languages.*

### Form CON – 3: Environmental, Social, Health, and Safety

ESHS” means environmental, social (including Sexual Exploitation and Abuse (SEA) and Gender Based violence (GBV)), health and safety.

#### Performance Declaration

[The following table shall be filled in for the Bidder, 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 2.5.
- 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 2.5. Details are described below:

Year / Suspended or terminated portion of contract	Contract Identification	Total Contract Amount (Rs)
[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 suspension or termination: [indicate main reason(s)]	[insert amount]
[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 suspension or termination: [indicate main reason(s)]	[insert amount]
...	[list all applicable contracts]	...

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

“ESHS” means environmental, social (including Sexual Exploitation and Abuse (SEA) and Gender Based violence (GBV)), health and safety.

Year	Contract Identification	Total Contract Amount (Rs)
[insert year]	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 calling of performance security: [indicate main reason(s)]	[insert amount]

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## Format for the Affidavit

[Reference ITB 13.1]

*(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: .....



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## **Section V. Eligible Countries**

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

In reference to ITB 4.4, 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) - None

Under ITB 4.7(b) - None

## Section VI. Priced Activity Schedule

### Part II – Priced Activity Schedule

#### Preamble

1. Bidder shall quote prices for each year of the Contract Period of 5 years for Channel in Re-Engineering of River Bends - Bend in Approach Channel U/S of Farakka Navigation Lock of National Waterway – 1 (River Ganga) providing and maintaining
  - (a). Least Available water Depth of 3.0 metres by dredging and / or excavation by other means and
  - (b) Channel bottom width at different chainages as given in Table 6.1 here under; Dredging works include and not limited to removal of soft material, coarse / deposited materials including pebbles & boulders (if any) and removed dredged material should be dumped at a place which shall not create any hindrance for future navigation as well as loss / damage to property of any individual / Government. Disposal of the dredged materials should be carried out in accordance with approved Environment Management Plan.
2. Bidder shall quote prices duly taking into account the requirements specified in the Appendix A to the Contract – Description of Services, as specified therein.
3. Bidder's attention is drawn to ITB 14.3 and GCC 1.8. Bid Prices shall include all duties, taxes, and other levies payable by the Service Provider under the Contract, or for any other cause, as of the date 28 days prior to the deadline for submission of bids.  
However, Goods and Service Tax shall not be included in the Bid Prices. Bidder's attention is also drawn to SCC 6.2 (a) and (b).
4. Price Schedule to be filled online by the bidder before uploading the same with the bid is available in the e-procurement portal. However, an illustrative format of the same is given below for reference.

**Table 6.1: Chainage wise Bottom width (Refer Drawing I-525/FB/2000)**

S. No.	Chainage (in m)	Bottom Width (in m)		S. No	Chainage	Bottom Width
				15	1400 N	70
1	0 N	149		16	1500 N	70
2	100 N	138		17	1600 N	70
3	200 N	131		18	1700 N	70
4	300 N	122		19	1800 N	70
5	400 N	106		20	1900 N	71
6	500 N	91		21	2000 N	74
7	600 N	79		22	2100 N	85
8	700 N	70		23	2200 N	99
9	800 N	70		24	2300 N	113
10	900 N	70		25	2400 N	151
11	1000 N	86		26	2500 N	239
12	1100 N	178		27	2600 N	179
13	1200 N	204		28	2700 N	133
14	1300 N	89		29	2786 N	99



Priced Activity Schedule										
Dredging in all types of Soil Such as Sand, Silt, Coarse Sand or mixture of above materials to be dredged and "Providing and maintaining Least Available Water Depth (LAD) of 3.0 meter and bottom width of 70 – 239m during 5 years in the Channel for Re-Engineering of Bends - Bend in Approach Channel U/S of Farakka Navigation Lock of NW1 by dredging / dry excavation or combination & disposal there of" include mobilization, de-mobilisation, shifting charges from one shoal to another Shoal & other charges excluding of GST. in each year of the Contract Period					Bid price for the services to be provided as inclusive of all taxes but excluding of ( GST) Goods and Service tax - Year wise		NPV factor (Consider discount factor of 10% per annum	NPV of the quoted Bid Price Col 6 X Col 8 (INR)/(Currency)(only for the purpose of evaluation)		
										Period
1	2	3	4	5						
Year 1	3M	70 -239 M	11,95,900					0.909		
Year 2	3M	70 -239 M	8,96,925					0.826		
Year 3	3M	70 -239 M	6,72,694					0.751		
Year 4	3M	70 -239 M	5,04,520					0.683		
Year 5	3M	70 -239 M	3,78,390					0.621		
<b>Total for 5 years → CUM</b>			36,48,429							
<b>Good &amp; Service Tax ( GST)</b>										
<ul style="list-style-type: none"> <li>The Rates Quoted above shall be inclusive of idling Cost &amp; idling period of Equipment and will be applicable for the month wise work done towards dredging / excavation &amp; disposals.</li> </ul>										
<p>Refer ITB clause 30.6 (e) determining aggregate of the Net Present Value (NPV) of five years' prices for Services quoted in the Priced Activity Schedule, by discounting these prices to the Date of Commencement of Services, <i>assuming only for purpose of the evaluation</i> 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</p>										

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## Section- VII - Part III – Conditions of Contract and Contract Forms

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## Section VII. General Conditions of Contract

### General Provisions

Unless the context otherwise requires, the following terms whenever used in this Contract have the following meanings:

- (a) The Adjudicator is the person appointed jointly by the Employer and the Service Provider to resolve disputes in the first instance, as provided for in Sub-Clause 8.2 hereunder.
- (b) "Activity Schedule" is the priced and completed list of items of Services to be performed by the Service Provider forming part of his Bid;
- (c) "Bank" means the International Bank for Reconstruction and Development, Washington, D.C., U.S.A.;
- or**
- (c) "Association" means the International Development Association, Washington, D.C., U.S.A.;
- (d) "Completion Date" means the date of completion of the Services by the Service Provider as certified by the Employer
- (e) "Contract" means the documents forming the tender and acceptance thereof and the formal agreement executed between the competent authority on behalf of the Chairman, Inland Waterways Authority of India and the Service Provider, together within the documents referred to therein including these General Conditions of Contract (GCC), the specifications, designs, drawings and instructions issued from time to time by the Employer and all these documents taken together shall be deemed to form one contract and shall be complementary to one another;
- (f) "Contract Price" means the price to be paid for the performance of the Services, in accordance with Clause 6 of GCC;
- (g) "Date of Commencement of Service" means the date as defined in SCC 2.2.2
- (h) "Day works" means varied work inputs subject to payment on a time basis for the Service Provider's employees and equipment, in addition to payments for associated materials and administration.
- (i) "Employer" means the Project Director, Inland Waterways Authority of India
- (j) "GCC" means these General Conditions of Contract;
- (k) "Government" means the Government of the Employer's country;

<p><b>1.1 Definitions</b></p>	<p>(l) “Local Currency” means the currency of the country of the Employer;</p> <p>(m) “Member,” in case the Service Provider consist of a joint venture of more than one entity, means any of these entities; “Members” means all these entities, and “Member in Charge” means the entity specified in the SC to act on their behalf in exercising all the Service Provider’ rights and obligations towards the Employer under this Contract;</p> <p>(n) “Party” means the Employer or the Service Provider, as the case may be, and “Parties” means both of them;</p> <p>(o) “Personnel” means persons hired by the Service Provider or by any Sub Service Provider as employees and assigned to the performance of the Services or any part thereof;</p> <p>(p) “Service Provider” is a person or corporate body whose Bid to provide the Services has been accepted by the Employer;</p> <p>(q) “Service Provider’s Bid” means the completed bidding document submitted by the Service Provider to the Employer</p> <p>(r) “SCC” means the Special Conditions of Contract by which the GCC may be amended or supplemented;</p> <p>(s) “Specifications” means the specifications of the service included in the bidding document submitted by the Service Provider to the Employer</p> <p>(t) “Services” means the work to be performed by the Service Provider pursuant to this Contract, as described in Appendix A to the Contract and in the Specifications there in.</p> <p>(u) “Sub Service Provider” means any entity to which the Service Provider subcontracts any part of the Services in accordance with the provisions of Sub-Clauses 3.5 and 4.</p>
<p><b>1.2 Applicable Law</b></p>	<p>The Contract shall be interpreted in accordance with the laws of the Employer’s country, unless otherwise <b>specified in the Special Conditions of Contract (SCC)</b>.</p>
<p><b>1.3 Language</b></p>	<p>This Contract has been executed in the language <b>specified in the SCC</b>, which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this Contract.</p>

<b>1.4 Notices</b>	Any notice, request, or consent made pursuant to this Contract shall be in writing and shall be deemed to have been made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent by registered mail, telex, telegram, or facsimile to such Party at the address <b>specified in the SCC.</b>
<b>1.5 Location</b>	The Services shall be performed at such locations as are specified in Appendix A, in the specifications and, where the location of a particular task is not so specified, at such locations, whether in the Government’s country or elsewhere, as the Employer may approve.
<b>1.6 Authorized Representatives</b>	Any action required or permitted to be taken, and any document required or permitted to be executed, under this Contract by the Employer or the Service Provider may be taken or executed by the officials <b>specified in the SCC.</b>
<b>1.7 Inspection and Audit by the Bank</b>	The Service Provider shall permit the Bank to inspect its accounts and records relating to the performance of the Services and to have them audited by auditors appointed by the Bank, if so required by the Bank.
<b>1.8 Taxes and Duties</b>	The Service Provider, Sub Service Providers, and their Personnel shall pay such taxes, duties, fees, and other impositions as may be levied under the Applicable Law, the amount of which is deemed to have been included in the Contract Price.
<b>2. Commencement, Completion, Modification, and Termination of Contract</b>	
<b>2.2 Effectiveness of Contract</b>	This Contract shall come into effect on the date the Contract is signed by or such other later date as may be <b>stated in the SCC.</b>
<b>2.2.1 Program</b>	Before commencement of the Services, the Service Provider shall submit to the Employer for approval a Program showing the general methods, arrangements, order and timing for all activities. The Services shall be carried out in accordance with the approved Program as updated.
<b>2.2.2 Starting Date</b>	The Service Provider shall start carrying out the Services thirty (30) days after the date the Contract becomes effective, or at such other date as may be <b>specified in the SCC.</b>
<b>2.3 Intended Completion Date</b>	Unless terminated earlier pursuant to Sub-Clause 2.6, the Service Provider shall complete the activities by the Intended Completion Date, as is <b>specified in the SCC.</b> If the Service Provider does not complete the activities by the Intended Completion Date , it shall be liable to pay liquidated damage

	as per Sub-Clause 3.8. In this case, the Completion Date will be the date of completion of all activities.
<b>2.4 Modification</b>	Modification of the terms and conditions of this Contract, including any modification of the scope of the Services or of the Contract Price, may only be made by written agreement between the Parties and shall not be effective until the consent of the Bank or of the Association, as the case may be, has been obtained.
<b>2.5 Force Majeure</b>	
<b>2.5.1 Definition</b>	For the purposes of this Contract, “Force Majeure” means an event which is beyond the reasonable control of a Party and which makes a Party’s performance of its obligations under the Contract impossible or so impractical as to be considered impossible under the circumstances.
<b>2.5.2 No Breach of Contract</b>	The failure of a Party to fulfil any of its obligations under the contract shall not be considered to be a breach of, or default under, this Contract insofar as such inability arises from an event of Force Majeure, provided that the Party affected by such an event (a) has taken all reasonable precautions, due care and reasonable alternative measures in order to carry out the terms and conditions of this Contract, and (b) has informed the other Party as soon as possible about the occurrence of such an event.
<b>2.5.3 Extension of Time</b>	Any period within which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result of Force Majeure.
<b>2.5.4 Payments</b>	During the period of their inability to perform the Services as a result of an event of Force Majeure, the Service Provider shall be entitled to continue to be paid under the terms of this Contract, as well as to be reimbursed for additional costs reasonably and necessarily incurred by them during such period for the purposes of the Services and in reactivating the Service after the end of such period.
<b>2.6 Termination</b> <b>2.6.1 By the Employer</b>	The Employer may terminate this Contract, by not less than thirty (30) days’ written notice of termination to the Service Provider, to be given after the occurrence of any of the events specified in paragraphs (a) through (d) of this Sub-Clause 2.6.1:  (a) if the Service Provider does not remedy a failure in the performance of its obligations under the Contract, within thirty (30) days after being notified or within any

<p><b>2.6.1 By the Employer</b></p>	<p>further period as the Employer may have subsequently approved in writing;</p> <p>(b) if the Service Provider become insolvent or bankrupt;</p> <p>(c) if, as the result of Force Majeure, the Service Provider is unable to perform a material portion of the Services for a period of not less than sixty (60) days; or</p> <p>(d) if the Service Provider, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in executing the Contract. For the purposes of this Sub-Clause:</p> <p>(i) “corrupt practice”<sup>15</sup> is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;</p> <p>(ii) “fraudulent practice”<sup>16</sup> 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;</p> <p>(iii) “collusive practice”<sup>17</sup> is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;</p> <p>(iv) “coercive practice”<sup>18</sup> 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;</p> <p>(v) “obstructive practice” is</p> <p>(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 it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or</p> <p>(bb) acts intended to materially impede the exercise of the Bank’s inspection and audit rights provided for under para. 1.14 (e) of the Bank’s Procurement Guidelines.</p>
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<sup>15</sup> For the purpose of this Contract, “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.

<sup>16</sup> For the purpose of this Contract, “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.

<p><b>2.6.2 By the Service Provider</b></p>	<p>The Service Provider may terminate this Contract, by not less than thirty (30) days' written notice to the Employer, such notice to be given after the occurrence of any of the events specified in paragraphs (a) and (b) of this Sub-Clause 2.6.2:</p> <p>(a) if the Employer fails to pay any monies due to the Service Provider pursuant to this Contract and not subject to dispute pursuant to Clause 8 within forty-five (45) days after receiving written notice from the Service Provider that such payment is overdue; or</p> <p>(b) if, as the result of Force Majeure, the Service Provider is unable to perform a material portion of the Services for a period of not less than sixty (60) days.</p> <p>(c) However, till resolution of the issue by DRB, the Service Provider shall continue to provide the Services as per terms &amp; conditions of the Contract.</p>
<p><b>2.6.3 Suspension of Loan or Credit</b></p>	<p>In the event that the World Bank suspends the loan or Credit to the Employer, from which part of the payments to the Service Provider are being made:</p> <p>The Employer is obligated to notify the Service Provider of such suspension within 7 days of having received the World Bank's suspension notice.</p>
<p><b>2.6.4 Payment upon Termination</b></p>	<p>Upon termination of this Contract pursuant to Sub-Clauses 2.6.1 or 2.6.2, the Employer shall make the following payments to the Service Provider:</p> <p>(a) remuneration pursuant to Clause 6 for Services satisfactorily performed prior to the effective date of termination;</p> <p>(b) Except in the case of termination pursuant to paragraphs (a), (b), (d) of Sub-Clause 2.6.1, reimbursement of any reasonable cost incident to the prompt and orderly termination of the Contract, including the cost of the return travel of the Personnel.</p>
<p><b>3. Obligations of the Service Provider</b></p>	
<p><b>3.1 General</b></p>	<p>The Service Provider shall perform the Services in accordance with the Specifications and the Activity Schedule, and carry</p>

<sup>17</sup> For the purpose of this Contract, "parties" refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, non-competitive levels.

<sup>18</sup> For the purpose of this Contract, "party" refers to a participant in the procurement process or contract execution.



	<p>out its obligations with all due diligence, efficiency, and economy, in accordance with generally accepted professional techniques and practices, and shall observe sound management practices, and employ appropriate advanced technology and safe methods. The Service Provider shall always act, in respect of any matter relating to this Contract or to the Services, as faithful adviser to the Employer, and shall at all times support and safeguard the Employer’s legitimate interests in any dealings with Sub Service Providers or third parties.</p>
<b>3.2 Conflict of Interests</b>	
<b>3.2.1 Service Provider Not to Benefit from Commissions and Discounts.</b>	<p>The remuneration of the Service Provider pursuant to Clause 6 shall constitute the Service Provider’s sole remuneration in connection with this Contract or the Services, and the Service Provider shall not accept for their own benefit any trade commission, discount, or similar payment in connection with activities pursuant to this Contract or to the Services or in the discharge of their obligations under the Contract, and the Service Provider shall use their best efforts to ensure that the Personnel, any Sub Service Providers, and agents of either of them similarly shall not receive any such additional remuneration.</p>
<b>3.2.2 Service Provider and Affiliates Not to be Otherwise Interested in Project</b>	<p>The Service Provider agree that, during the term of this Contract and after its termination, the Service Provider and its affiliates, as well as any Sub Service Provider and any of its affiliates, shall be disqualified from providing goods, works, or Services (other than the Services and any continuation thereof) for any project resulting from or closely related to the Services.</p>
<b>3.2.3 Prohibition of Conflicting Activities</b>	<p>Neither the Service Provider nor its Sub Service Providers nor the Personnel shall engage, either directly or indirectly, in any of the following activities:</p> <ul style="list-style-type: none"> <li>(a) during the term of this Contract, any business or professional activities in the Government’s country which would conflict with the activities assigned to them under this Contract;</li> <li>(b) during the term of this Contract, neither the Service Provider nor their Sub Service Providers shall hire public employees in active duty or on any type of leave, to perform any activity under this Contract;</li> <li>(c) After the termination of this Contract, such other activities as may be <b>specified in the SCC</b>.</li> </ul>

<p><b>3.3 Confidentiality</b></p>	<p>The Service Provider, it's Sub Service Providers, and the Personnel of either of them shall not, either during the term or within two (2) years after the expiration of this Contract, disclose any proprietary or confidential information relating to the Project, the Services, this Contract, or the Employer's business or operations without the prior written consent of the Employer.</p>
<p><b>3.4 Insurance to be Taken Out by the Service Provider</b></p>	<p>The Service Provider</p> <p>(a) shall take out and maintain, and shall cause any Sub Service Providers to take out and maintain, at its (or the Sub Service Providers', as the case may be) own cost but on terms and conditions approved by the Employer, insurance against the risks, and for the coverage, as shall be <b>specified in the SCC</b>; and</p> <p>(b) at the Employer's request, shall provide evidence to the Employer showing that such insurance has been taken out and maintained and that the current premiums have been paid.</p>
<p><b>3.5 Service Provider's Actions Requiring Employer's Prior Approval</b></p>	<p>The Service Provider shall obtain the Employer's prior approval in writing before taking any of the following actions:</p> <p>(a) entering into a subcontract for the performance of any part of the Services,</p> <p>(b) appointing such members of the Personnel not listed by name in Appendix C ("Key Personnel and Sub Service Providers"),</p> <p>(c) changing the Program of activities; and</p> <p>(d) any other action that may be <b>specified in the SCC</b>.</p>
<p><b>3.6 Reporting Obligations</b></p>	<p>The Service Provider shall submit to the Employer the reports and documents specified in Appendix B in the form, in the numbers, and within the periods set forth in the said Appendix.</p>
<p><b>3.7 Documents Prepared by the Service Provider to Be the Property of the Employer</b></p>	<p>All plans, drawings, specifications, designs, reports, and other documents and software submitted by the Service Provider in accordance with Sub-Clause 3.6 shall become and remain the property of the Employer, and the Service Provider shall, not later than upon termination or expiration of this Contract, deliver all such documents and software to the Employer, together with a detailed inventory thereof. The Service Provider may retain a copy of such documents and software. Restrictions about the future use of these documents, if any, shall be <b>specified in the SCC</b>.</p>
<p><b>3.8 Liquidated Damages</b></p>	<p>DELETED</p>

<p><b>3.8.1 Payments of Liquidated Damages</b></p>	<p>The Service Provider shall pay liquidated damages to the Employer at the rate per day <b>stated in the SCC</b> for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount <b>defined in the SCC</b>. The Employer may deduct liquidated damages from payments due to the Service Provider. Payment of liquidated damages shall not affect the Service Provider’s liabilities.</p>
<p><b>3.8.2 Correction for Over-payment</b></p>	<p>If the Intended Completion Date is extended after liquidated damages have been paid, the Employer shall correct any overpayment of liquidated damages by the Service Provider by adjusting the next payment certificate. The Service Provider shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in Sub-Clause 6.5.</p>
<p><b>3.8.3 Lack of performance penalty</b></p>	<p>If the Service Provider has not corrected a Defect within the time specified in the Employer’s notice, a penalty for Lack of performance will be paid by the Service Provider. The amount to be paid will be calculated as a percentage of the cost of having the Defect corrected, assessed as described in Sub-Clause 7.2 and <b>specified in the SCC</b>.</p>
<p><b>3.9 Performance Security</b></p>	<p>The Service Provider shall provide the Performance Security to the Employer no later than the date specified in the Letter of acceptance. The Performance Security shall be issued in an amount and form and by a bank or surety acceptable to the Employer, and denominated in the types and proportions of the currencies in which the Contract Price is payable. The performance Security shall be valid until a date 28 days from the Completion Date of the Contract in case of a bank guarantee, and until one year from the Completion Date of the Contract in the case of a Performance Bond.</p>
<p><b>Service Providers Personnel</b></p> <p><b>4.1 Description of Personnel</b></p>	<p>The titles, agreed job descriptions, minimum qualifications, and estimated periods of engagement in the carrying out of the Services of the Service Provider’s Key Personnel are described in Appendix C. The Key Personnel and Sub Service Providers listed by title as well as by name in Appendix C are hereby approved by the Employer.</p>
<p><b>4.2 Removal and/or Replacement of Personnel</b></p>	<p>(a) Except as the Employer may otherwise agree, no changes shall be made in the Key Personnel. If, for any reason beyond the reasonable control of the Service Provider, it becomes necessary to replace any of the</p>

	<p>Key Personnel, the Service Provider shall provide as a replacement a person of equivalent or better qualifications.</p> <p>(b) If the Employer finds that any of the Personnel have (i) committed serious misconduct or have been charged with having committed a criminal action, or (ii) have reasonable cause to be dissatisfied with the performance of any of the Personnel, then the Service Provider shall, at the Employer’s written request specifying the grounds thereof, provide as a replacement a person with qualifications and experience acceptable to the Employer.</p> <p>(c) The Service Provider shall have no claim for additional costs arising out of or incidental to any removal and/or replacement of Personnel.</p>
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## 5. Obligations of the Employer

<b>5.1 Assistance and Exemptions</b>	The Employer shall use its best efforts to ensure that the Government shall provide the Service Provider such assistance and exemptions as <b>specified in the SCC.</b>
<b>5.2 Change in the Applicable Law</b>	If, after the date of this Contract, there is any change in the Applicable Law with respect to taxes and duties which increases or decreases the cost of the Services rendered by the Service Provider, then the remuneration and reimbursable expenses otherwise payable to the Service Provider under this Contract shall be increased or decreased accordingly by agreement between the Parties, and corresponding adjustments shall be made to the amounts referred to in Sub-Clauses 6.2 (a) or (b), as the case may be.
<b>5.3 Services and Facilities</b>	The Employer shall make available to the Service Provider the Services and Facilities listed under Appendix F.

## 6. Payments to the Service Provider

<p><b>6.1 Lump-Sum Remuneration</b></p>	<p>The Service Provider’s remuneration shall not exceed the Contract Price and shall be a fixed lump-sum including all Sub Service Providers’ costs, and all other costs incurred by the Service Provider in carrying out the Services described in Appendix A. Except as provided in Sub-Clause 5.2, the Contract Price may only be increased above the amounts stated in Sub-Clause 6.2 if the Parties have agreed to additional payments in accordance with Sub-Clauses 2.4 and 6.3.</p>
<p><b>6.2 Contract Price</b></p>	<p>(a) The price payable in local currency is <b>set forth in the SCC.</b>  (b) The price payable in foreign currency is set <b>forth in the SCC.</b></p>
<p><b>6.3 Payment for Additional Services, and Performance Incentive Compensation</b></p>	<p>6.3.1 For the purpose of determining the remuneration due for additional Services as may be agreed under Sub-Clause 2.4, a breakdown of the lump-sum price is provided in Appendices D and E.  6.3.2 <b>If the SCC so specify,</b> the service provider shall be paid performance incentive compensation as set out in the Performance Incentive Compensation appendix.</p>
<p><b>6.4 Terms and Conditions of Payment</b></p>	<p>Payments will be made to the Service Provider according to the payment schedule <b>stated in the SCC. Unless otherwise stated in the SCC,</b> the advance payment (Advance for Mobilization, Materials and Supplies) shall be made against the provision by the Service Provider of a bank guarantee for the same amount, and shall be valid for the period <b>stated in the SCC.</b> Any other payment shall be made after the conditions <b>listed in the SCC</b> for such payment have been met, and the Service Provider have submitted an invoice to the Employer specifying the amount due.</p>
<p><b>6.5 Interest on Delayed Payments</b></p>	<p>If the Employer has delayed payments beyond forty (45) days after the due date stated in the SCC, interest shall be paid to the Service Provider for each day of delay at the rate stated in the SCC.</p>
<p><b>6.6 Price Adjustment</b></p>	<p>6.6.1 The amounts certified in each Running Account Bill/payment certificate, <b>after deducting for Advance Payment,</b> shall be adjusted by applying the respective price adjustment factor to the amounts due to the Operator.  The Price adjustment factor for the Services rendered in a month shall be determined using the coefficients/weightings of relevant Indices as under:</p>

	<p><b>Price Adjustment Factor <math>P_c = 0.65 + 0.23 \times L_m/L_0 + 0.12 \times F_m/F_0</math></b>  Price Adjustment for Services rendered in a month = <math>R \times (P_c - 1)</math></p> <p>where  <b><math>L_m</math> = CPI for the month in which the services have been provided</b>  <b><math>L_0</math> = CPI for the month preceding the deadline for bid submission</b>  <b><math>F_m</math> = WPI for the month in which the services have been provided</b></p> <table border="1"> <thead> <tr> <th>Index code</th> <th>Index description</th> <th>Source of index</th> <th>Weighting *</th> </tr> </thead> <tbody> <tr> <td>L</td> <td>Labour – All India Consumer Price Index (CPI) for industrial workers</td> <td>Labour Bureau, Ministry of Labour &amp; Employment, Government of India</td> <td>0.23</td> </tr> <tr> <td>F</td> <td>High Speed Diesel - All India Wholesale Price Index (WPI)</td> <td>Office of the Economic Advisor to the Govt. of India, Ministry of Commerce and Industry</td> <td>0.12</td> </tr> </tbody> </table> <p><b><math>F_0</math> = WPI for the month preceding the deadline for bid submission</b>  <b>R</b> = Running Account Bill amount for services rendered in a month after making deductions (a) as stipulated in SCC 3.8.3 for failure to achieve LAD and Channel Bottom Width, and (b) towards repayment of Advance Payment.</p>	Index code	Index description	Source of index	Weighting *	L	Labour – All India Consumer Price Index (CPI) for industrial workers	Labour Bureau, Ministry of Labour & Employment, Government of India	0.23	F	High Speed Diesel - All India Wholesale Price Index (WPI)	Office of the Economic Advisor to the Govt. of India, Ministry of Commerce and Industry	0.12
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	<p>6.6.2 If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected and an adjustment made in the next payment certificate. The index value shall be deemed to take account of all changes in cost due to fluctuations in costs.</p>												
<p><b>6.7 Day works</b></p>	<p>6.7.1 If applicable, the Day work rates in the Service Provider’s Bid shall be used for small additional amounts of Services only when the Employer has given written instructions in advance for additional services to be paid in that way.</p> <p>6.7.2 All work to be paid for as Day works shall be recorded by the Service Provider on forms approved by the Employer. Each completed form shall be verified and signed by the Employer representative as indicated in Sub-Clause 1.6 within two days of the Services being performed.</p> <p>6.7.3 The Service Provider shall be paid for Day works subject to obtaining signed Day works forms as indicated in Sub-Clause 6.7.2</p>												
<p><b>7. Quality Control</b></p>													

<p><b>7.1 Identifying Defects</b></p>	<p>The principle and modalities of Inspection of the Services by the Employer shall be as <b>indicated in the SCC</b>. The Employer shall check the Service Provider’s performance and notify him of any Defects that are found. Such checking shall not affect the Service Provider’s responsibilities. The Employer may instruct the Service Provider to search for a Defect and to uncover and test any service that the Employer considers may have a Defect. Defect Liability Period is as <b>defined in the SCC</b>.</p>
<p><b>7.2 Correction of Defects, and Lack of Performance Penalty</b></p>	<p>DELETED</p> <p>(a) The Employer shall give notice to the Service Provider of any Defects before the end of the Contract. The Defects liability period shall be extended for as long as Defects remain to be corrected.</p> <p>(b) Every time notice a Defect is given, the Service Provider shall correct the notified Defect within the length of time specified by the Employer’s notice.</p> <p>(c) If the Service Provider has not corrected a Defect within the time specified in the Employer’s notice, the Employer will assess the cost of having the Defect corrected, the Service Provider will pay this amount, and a Penalty for Lack of Performance calculated as described in Sub-Clause 3.8.</p>
<p><b>8. Settlement of Disputes</b></p>	
<p><b>8.1 Amicable Settlement</b></p>	<p>The Parties shall use their best efforts to settle amicably all disputes arising out of or in connection with this Contract or its interpretation.</p>
<p><b>8.2 Dispute Settlement</b></p>	<p>8.2.1 If any dispute arises between the Employer and the Service Provider in connection with, or arising out of, the Contract or the provision of the Services, whether during carrying out the Services or after their completion, the matter shall be referred to the Adjudicator within 14 days of the notification of disagreement of one party to the other.</p> <p>8.2.2 The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute.</p> <p>8.2.3 The Adjudicator shall be paid by the hour at the rate <b>specified in the BDS and SCC</b>, together with reimbursable expenses of the types <b>specified in the SCC</b>, and the cost shall be divided equally between the Employer and the Service Provider, whatever decision is reached by the Adjudicator. Either party may refer a decision of the Adjudicator to an Arbitrator within 28 days of the Adjudicator’s written decision.</p>

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	<p>If neither party refers the dispute to arbitration within the above 28 days, the Adjudicator’s decision will be final and binding.</p> <p>8.2.4 The arbitration shall be conducted in accordance with the arbitration procedure published by the institution named and in the place <b>shown in the SCC.</b></p> <p>8.2.5 Should the Adjudicator resign or die, or should the Employer and the Service Provider agree that the Adjudicator is not functioning in accordance with the provisions of the Contract, a new Adjudicator will be jointly appointed by the Employer and the Service Provider. In case of disagreement between the Employer and the Service Provider, within 30 days, the Adjudicator shall be designated by the Appointing Authority <b>designated in the SCC</b> at the request of either party, within 14 days of receipt of such request.</p>
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## Section VIII - Special Conditions of Contract

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
1.1	The words “in the Government’s country” are amended to read “in <i>India</i> .”
1.1(a)	The Adjudicator is _____
1.1(e)	The contract name is <b>Procurement for “Providing and maintaining Least Available Water Depth (LAD) of 3.0 meter &amp; Bottom Width from 70m to 239m during 5 years in Channel for Re-Engineering of River Bends - Bend in Approach Channel U/S of Farakka Navigation Lock of National Waterway – 1 (River Ganga) by dredging / dry excavation or combination there of</b>
1.1(h)	<p><b>The Employer is:</b></p> <p>Project Director ( JMVP)            Inland Waterways Authority of India            Project Management Unit            Address: A-13, Sector – 1            City: Noida, Gautam Buddha Nagar, Uttar Pradesh – 201301            Country: India</p> <p>mail address: <a href="mailto:vc.iwai@nic.in">vc.iwai@nic.in</a> ; <a href="mailto:rkant.iwai@nic.in">rkant.iwai@nic.in</a> ; <a href="mailto:iwaipmuskp@gmail.com">iwaipmuskp@gmail.com</a> ;</p> <p>Telephone: +91 12022424544</p>
1.1(m)	The Member in Charge is _____
1.1(p)	The Service Provider is _____
1.3	The language is <i>English</i>
1.4	<p>The addresses are:</p> <p>Employer:</p> <p><u><i>Project Director,</i></u>  <u><i>Jal Marg Vikas Project</i></u>  <u><i>Inland Waterways Authority of India</i></u>  <u><i>A-13, Secot-1, Noida – 201301, Uttar Pradesh, India</i></u>  <u>Tele.: +91 120 2544004 : Facsimile:+91 120 2543976</u></p> <hr/> <p>Service Provider: _____</p> <p>Attention: _____</p> <p>Telex: _____</p>

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	Facsimile: _____
1.6	<p>The Authorized Representatives are:</p> <p>For the Employer:  <u>Project Director,</u>  <u>Jal Marg Vikas Project</u>  <u>Inland Waterways Authority of India</u>  <u>A-13, Secot-1, Noida – 201301, Uttar Pradesh, India</u>  Tele.: <u>+91 120 2544004</u> : Facsimile: <u>+91 120 2543976</u></p>
	For the Service Provider: _____
2.1	The date on which this Contract shall come into effect is <b><i>date of signing of the contract.</i></b>
2.2.2	<p>GCC 2.2.2 is revised to read as under:</p> <ol style="list-style-type: none"> <li>I. Within 28 days from the date of signing of the Contract, the Service Provider will commence the operations to meet the requirements of Services stipulated in Appendix A to the Contract.</li> <li>II. The Service Provider upon mobilisation shall inform the Employer that he has mobilised his team/manpower &amp; equipment &amp; he is ready to commence the work.</li> <li>III. Dredgers / Sounding vessel / boat, equipment, personal &amp; other logistics required for carrying out the Dredging &amp; surveys/ inspection shall be arranged by the Service Provider at his cost. Generally, recording type multi-beam echo-sounder with digital output shall be used in all survey work.</li> <li>IV. Employer's Engineer shall inspect jointly with Service Provider within a week of the said notification to confirm that the contractor's mobilisation is adequate &amp; that he has actually started the work shall be referred as 'Date of commencement' and the Service Provider shall conduct Joint base profile detailed Bathymetric survey ( i.e, detailed Hydrographic survey with a cross section after interval of every 10 mts) which shall be the base profile for the identified stretch, This detailed Hydrographic survey shall also identify the stipulated width of the Channel required as per the Contract &amp; drawing ( Ref Drawing I-525 / FB / 2000 )&amp; as revised from time to time which shall facilitate the measurement process along with Employers Engineers.</li> </ol>

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>V. The contract will be effective from the date of handing over of the site and completion of the Bathymetric Survey stated here under;</p> <p>VI. This detailed Bathymetric survey (i.e, detailed Hydrographic survey with a cross section after interval of every 10 mts ) shall also identify the stipulated width of the Channel required as per the Contract &amp; drawing ( Ref Drawing I-525 / FB / 2000 )&amp; as revised from time to time which shall facilitate the measurement process and shall be referred as base profile.</p> <p>VII. The Pre &amp; post Survey (Hydrographic survey) shall be the responsibility of the Service Provider. The appropriate equipment used for such survey shall be responsibility of the Service Provider.</p>
<b>2.3</b>	The Intended Completion Date is Five years from the “Date of Commencement of Services”.
<b>3.4</b>	<p>The risks and coverage by insurance shall be:</p> <p>(i) Third Party motor vehicle: <u>INR 40,00,000.00</u></p> <p>(ii) Third Party liability: <u>as per vessel Inland Act.</u></p> <p><u>(iii) Group Insurance Cover for the persons on Vessel / Board.</u></p> <p>(iii) Employer’s liability and workers’ compensation: <u>Nil</u></p> <p>(iv) Professional liability: <u>Twice the value of contract for the entire period of the contract</u></p> <p>(v) Loss or damage to equipment and property: <u>Minimum INR /- for each accident for the currency of the contract</u></p>
<b>3.8.1</b>	<p><b>Payment of Liquidated Damages</b></p> <p>In the event, the Service Provider fails to carry out the instruction of Employer’s Engineer in accordance to SCC 7.1, deductions shall also be made from the respective monthly bill @ 5 % of the verified payable amount for each such default.</p>
<b>3.8.3</b>	<p><b>GCC 3.8.3 is revised to read as under:</b></p> <p>After mobilization to the satisfaction of Employer’s Engineer, joint bathymetry survey of the Bend in Approach Channel U/S of Farakka Navigation Lock will be undertaken &amp; this will be the base profile of the Bend in Approach Channel. Contractor will request the Employer’s Engineer for repeat measurement of the profile every month during first year of Contract. The result of the survey will be superimposed on earlier survey and the quantity of dredging / dry excavation / a combination of both will be worked</p>

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract											
	<p>out as the difference between the two measurements and he will be paid every month for the dredge quantity as long as the bottom width of the channel are within as specified in Table 6.1 – Section VI Chain-age wise Bottom Width ( Ref Drawing I-525 / FB / 2000 .</p> <p>After 1 year from date of commencement, if the bottom width of channel as per Table 6.1 of Section VI achieved is within the required width of <math>\pm 1</math> m on either side of the channel, in the entire stretch of bend in Approach Channel U/S of Farakka Navigation Lock &amp; depth is within <math>\pm 0.15</math> m of required depth of 3m, the quantity so worked out will be accepted for payment and contractor will be paid for that quantity in that month. If width as per Table 6.1 of Section VI, is more than +1 m, on either side of the channel &amp; depth is more than 3.0 + 0.15 m (3.15 m) extra quantity will be deducted from total quantity &amp; contractor will be paid for balance quantity.</p> <p>If width as per Table 6.1 of Section VI, is less than by more than 1 m on either side of the channel &amp; depth is less than 3.0 - 0.15 m (2.85 m), the contractor shall be asked to makeup the width &amp; depth &amp; repeat measurements will be made after the contractor intimates that he has achieved the required dimensions. Joint survey will be made by the Employer’s Engineer with the contractor representative and if the result matches as above it will be taken that he has completed 1<sup>st</sup> year’s work.</p> <p>If not, the contractor will be asked to make up the defect within next 15 days and joint survey repeated. If result is satisfactory, he will be paid full amount and the project will enter maintenance stage. The deficiencies in the 2<sup>nd</sup> joint inspection will be treated as delay in completion of work and Employer’s Engineer may impose penalty as per relevant clauses of contract.</p> <table border="1"> <tr> <td colspan="2">Refer: in Table 6.1 – Section VI Chain-age wise Bottom Width ( Ref Drawing I-525 / FB / 2000 ) &amp; water depth is within 3m.</td> </tr> <tr> <td>During 1<sup>st</sup> Year , Progressive Payment shall be made on the basis of difference arrived through the Monthly Bathymetry Survey reports by Superimposition</td> <td>Quantity Based Progressive payment</td> </tr> <tr> <td>At the End of 1<sup>st</sup> year , in case of survey records :- ➤ WIDTH : of <math>\pm 1</math> m of 70- 239 m on either side</td> <td>Zero Deduction</td> </tr> <tr> <td>At the End of 1<sup>st</sup> year , in case of survey records :- ➤ DEPTH : of <math>\pm 0.15</math> m of 3 m ( 2.85 to 3.00) M</td> <td>Zero Deduction</td> </tr> <tr> <td>In case of Either of the Defect Contractor has to rectify the deficiencies in next 15 days and the joint survey repeated.</td> <td rowspan="2">Deductions shall also be made from the respective monthly bill @ 5 % of the verified payable amount for each such default.</td> </tr> <tr> <td>The deficiencies in the 2<sup>nd</sup> joint inspection will be treated as delay in completion of work and Employer’s Engineer may impose penalty as per relevant clauses of contract.</td> </tr> </table>	Refer: in Table 6.1 – Section VI Chain-age wise Bottom Width ( Ref Drawing I-525 / FB / 2000 ) & water depth is within 3m.		During 1 <sup>st</sup> Year , Progressive Payment shall be made on the basis of difference arrived through the Monthly Bathymetry Survey reports by Superimposition	Quantity Based Progressive payment	At the End of 1 <sup>st</sup> year , in case of survey records :- ➤ WIDTH : of $\pm 1$ m of 70- 239 m on either side	Zero Deduction	At the End of 1 <sup>st</sup> year , in case of survey records :- ➤ DEPTH : of $\pm 0.15$ m of 3 m ( 2.85 to 3.00) M	Zero Deduction	In case of Either of the Defect Contractor has to rectify the deficiencies in next 15 days and the joint survey repeated.	Deductions shall also be made from the respective monthly bill @ 5 % of the verified payable amount for each such default.	The deficiencies in the 2 <sup>nd</sup> joint inspection will be treated as delay in completion of work and Employer’s Engineer may impose penalty as per relevant clauses of contract.
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Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract				
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%; padding: 5px;">( However, no payment shall be entertained for the rectification period / quantity)</td> <td style="width: 30%;"></td> </tr> <tr> <td colspan="2" style="padding: 5px;"> <p>The result of the Bathymetric survey ( i.e, detailed Hydrographic survey with a cross section after interval of every 10 mts) will be superimposed on earlier hydrographic survey &amp; the quantity of dredging will be worked out as the difference between the two measurements.</p> <p>This detailed Bathymetric survey (i.e, detailed Hydrographic survey with a cross section after interval of every 10 mts ) shall also identify the stipulated width of the Channel required as per the Contract &amp; drawing ( Ref Drawing I-525 / FB / 2000 )&amp; as revised from time to time which shall facilitate the measurement process.</p> </td> </tr> </table>	( However, no payment shall be entertained for the rectification period / quantity)		<p>The result of the Bathymetric survey ( i.e, detailed Hydrographic survey with a cross section after interval of every 10 mts) will be superimposed on earlier hydrographic survey &amp; the quantity of dredging will be worked out as the difference between the two measurements.</p> <p>This detailed Bathymetric survey (i.e, detailed Hydrographic survey with a cross section after interval of every 10 mts ) shall also identify the stipulated width of the Channel required as per the Contract &amp; drawing ( Ref Drawing I-525 / FB / 2000 )&amp; as revised from time to time which shall facilitate the measurement process.</p>	
( However, no payment shall be entertained for the rectification period / quantity)					
<p>The result of the Bathymetric survey ( i.e, detailed Hydrographic survey with a cross section after interval of every 10 mts) will be superimposed on earlier hydrographic survey &amp; the quantity of dredging will be worked out as the difference between the two measurements.</p> <p>This detailed Bathymetric survey (i.e, detailed Hydrographic survey with a cross section after interval of every 10 mts ) shall also identify the stipulated width of the Channel required as per the Contract &amp; drawing ( Ref Drawing I-525 / FB / 2000 )&amp; as revised from time to time which shall facilitate the measurement process.</p>					
	<p>During subsequent years after first year of Contract i.e. 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> year of contract, Contractor will request the Employer’s Engineer for repeat measurement of the profile fortnightly.</p> <p>However, in case of</p> <ol style="list-style-type: none"> <li>a) If the bottom width of channel as per Table 6.1 of Section VI achieved is <math>\pm 1</math> m, on either side of the channel, in the entire stretch of bend in Approach Channel U/S of Farakka Navigation Lock &amp; depth is within <math>\pm 0.15</math> m of required depth of 3m, the quantity so worked out will be accepted for payment and contractor will be paid for the quantity in that month.</li> <li>b) If width as per Table 6.1 of Section VI, is more than +1 m, on either side of the channel &amp; depth is more than <math>3.0 + 0.15</math> m (3.15 m), the extra quantity dredged &amp; measured after superimposition will be deducted from total quantity &amp; contractor will be paid for balance quantity.</li> <li>c) If width as per Table 6.1 of Section VI, is less than by more than 1m on either side of the channel &amp; depth is less than <math>3.0 - 0.15</math> m (2.85 m). The contractor shall be asked to make up for deficiency in width &amp; depth.</li> <li>d) Repeat measurements will be made after the contractor intimates that he has achieved the required dimensions.</li> <li>e) In case of either of the Defect, Contractor has to rectify the deficiencies in next 15 days and the joint survey repeated.</li> <li>f) In case the deficiencies is again found in the 2<sup>nd</sup> joint inspection, this period will be treated as delay in completion of work and Employer’s Engineer may impose penalty as per relevant clauses of contract.</li> </ol> <p><b>Payment of Liquidated Damages</b></p> <p>In the event, the Service Provider fails to carry out the instruction of Employer’s Engineer in accordance to SCC 7.1, deductions shall also be</p>				

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	made from the respective monthly bill @ 5 % of the verified payable amount for each such default.
6.2 (a)	The amount is exclusive of Goods and Service tax which will be payable extra by the Employer as legally applicable, in local currency.
6.4	<p>Running Account (RA) Bills shall be prepared in 3 copies and submitted along with following documents</p> <ol style="list-style-type: none"> <li>a. Joint detailed Bathymetric survey (i.e, detailed Hydrographic survey with a cross section after interval of every 10 mts ) shall also identify the stipulated width of the Channel required as per the Contract &amp; drawing ( Ref Drawing I-525 / FB / 2000 )&amp; as revised from time to time which shall facilitate the measurement process and shall be referred as base profile.</li> <li>b. The Employer’s Engineer Inspection Report and approved charts generated during the above Joint Survey referred to in SCC 7.</li> <li>c. The Pre &amp; Post hydrographic survey charts, and will be a part of measurement for payment purposes.</li> </ol>
6.4.1 Verified Bills	<p>The Quoted rates in the price activity schedule are inclusive of idling Cost &amp; idling period of Equipment and will be applicable for the month wise work done towards dredging / excavation &amp; disposals. Verified bills would be forwarded by the Engineer-in-Charge to the Employer for making payment of the amount certified by him.</p> <p>Payments shall be made according to the following schedule:</p> <p>Interest bearing advance for Mobilization, Materials and Supplies: 5 percent of the Contract Price shall be paid after signing the contract and submission of acceptable Performance Security against the Service Provider’s Invoice along with a bank guarantee of an amount equivalent to the amount of Mobilization Advance on the prescribed format within 30 days of receipt of these documents by the Employer.</p> <p>The advance shall be recovered from the monthly Running Account bills submitted after completion of 6 months from the Date of Commencement of Services by the Service Provider @ 10% from each bill.</p> <p>The Bank Guarantee shall remain valid until the advance payment has been repaid, but the amount of the guarantee shall be progressively reduced by the amounts repaid by the Service Provider. The Bank Guarantee shall initially be valid till 3 years.</p> <p>The bank guarantee for the advance payment shall be released when the advance payment has been fully recovered</p>
6.4.2	The Service Provider shall submit monthly Bills for performing the services, from the Date of Commencement of Services determined in accordance with

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>SCC 2.2.2, which will be verified by the Employer's Engineer subject to deduction as applicable in terms of SCC 3.8.3, and recovery towards repayment of Mobilization Advance &amp; other recoveries, if any.</p> <p>Verified bills would be forwarded by the Employer's Engineer to the Employer for making payment of the amount certified by him.</p>
6.5	<p>Payment shall be made by the Employer, subject to deduction as per requirement of Rules and Regulations of GOI / State and effective from time to time and Income Tax Act/Rules, within 30 days of receipt by the Engineer-in charge, of the Running Account Bill/invoice, along with relevant documents specified in SCC 6.4, and within 90 days in the case of the final payment.</p> <p>If the Employer has delayed payments beyond forty five (45 ) days after the due date determined as per preceding paragraph, interest will be paid to the Service provider at the following rate:  For Foreign currency: LIBOR rate +2 % per annum, as applicable on the due date of payment  For Local Currency: 8% per annum</p>
7.0	<p><b>Inspection and Approvals :</b> Existing GCC 7 is substituted by the following:</p> <p>Services provided by the Service Provider shall be checked as per clause 2.2.2 &amp; 3.8.3 through joint bathymetry survey of the Bend in Approach Channel U/S of Farakka Navigation Lock will be undertaken &amp; this will be the base profile of the Bend in Approach Channel Employer's Engineer and Representative of Service Provider.</p> <p>The Employer's Engineer shall be accompanied by DD/AD &amp; AHS/JHS &amp; contractor representative shall be accompanied with Hydrographic Surveyor &amp; one engineer nominated by the Project Manager</p> <p><b>The contractor will request the Employer's Engineer for repeat measurement of the profile every month during first year of Contract.</b></p> <p>However, the subsequent years the survey shall be repeated fortnightly.</p> <p>JHS – Junior Hydrographic Surveyor,  FA – Field Assistant, DD – Deputy Director,  AHS – Assistant Hydrographic Surveyor, AD – Assistant Director</p> <p><i>The detailed Bathymetric survey (i.e, detailed Hydrographic survey with a cross section after interval of every 10 mts ) shall also identify the stipulated width of the Channel required as per the Contract &amp; drawing ( Ref Drawing I-525 / FB / 2000 )&amp; as revised from time to time which shall facilitate the measurement process and shall be referred as base profile.</i></p>

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
7.1	<p><b>Defects other than LAD</b></p> <p>The work, urgent in nature, which in the opinion of the Employer’s Engineer become necessary at the time of execution and / or during the progress of work to obviate any risk or accident or failure or to obviate any risk of damage to the vessel / structure, or required to accelerate the progress of work or which becomes necessary for security or for any other reason, the Employer’s Engineer may deem expedient, the service provider shall arrange at its cost the transits, buoys lights, mooring etc. as required for dredging and also for containing other vessels in the waterways.</p> <p>In case the navigation of any other vessels is hindered, the Service Provider will clear all / any of the impediments in the navigation of the Vessel which may have been caused due to any of the reasons, like less Depth of water than 3.0 m (LAD) which the Service Provider has failed to maintain. In such event, if urgent work becomes necessary, the contractor shall execute the same as may be directed by the Employer’s Engineer.</p> <p>In this respect the decision of Employer’s Engineer shall be final and binding and the contractor will not be entitled to any additional payment for such work.</p> <p>In the event, the Service Provider fails to carry out the instructions of Employer’s Engineer, deductions shall be made as specified at 3.8.3.</p>
7.2	<p><b>Measurements</b></p> <p>After mobilization to the satisfaction of Employer’s Engineer, joint bathymetry survey of the Bend in Approach Channel U/S of Farakka Navigation Lock will be undertaken &amp; this will be the base profile of the Bend in Approach Channel.</p> <p><i>Bathymetric survey (i.e, detailed Hydrographic survey with a cross section after interval of every 10 mts ) shall also identify the stipulated width of the Channel required as per the Contract &amp; drawing ( Ref Drawing I-525 / FB / 2000 )&amp; as revised from time to time which shall facilitate the measurement process and shall be referred as base profile.</i></p> <p>Contractor will request the Employer’s Engineer for repeat measurement of the profile every month during first year of Contract.</p> <p>The result of this , joint bathymetry survey will be superimposed on earlier survey and the quantity of dredging / dry excavation / a combination of both including the disposal of the soil will be worked out as the difference between the two measurements and he will be paid every month for the dredge quantity as long as the bottom width of the channel are within as specified in Table 6.1 – Section VI chain-age wise Bottom Width ( Ref Drawing I-525/FB/2000.</p>



Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
<b>Measuring Equipment</b>	<p>Sounding vessel/ boat, equipment, personal &amp; other logistics required for conducting surveys/ inspection shall be arranged by the Service Provider at his cost. Generally, recording type multi-beam echo-sounder with digital output shall be used in all survey work. GPS for position fixing, generally used for Hydrographic survey shall be provided by the Service Provider.</p> <p>However, keeping in view the site conditions and practicability/prevaling weather conditions, <b>the Employer's Engineer shall after consulting the Service Provider decide and advise the Service Provider as to the method of measurement to be adopted and submit the Charts to define the bottom width of 70-239 m during the contract period.</b></p> <p style="padding-left: 40px;">Joint surveys shall be conducted in Automatic Hydrographic Survey System (HYPACK) and recorded data in soft copy shall be submitted to the Employer.</p> <p>The scale of surveys should be 1:5000. Service Provider will prepare the survey charts and submit to Employer for approval along with Soft copy, Echo roll, Measurement Book etc. related to the measurement. Employer will issue the approved charts to the Service Provider.</p>
<b>8.2.3</b>	<p>The Adjudicator is ..... <i>[Name should be filled in at the time of signing of the contract.]</i> He will be paid @ Rs.10, 000/- per day of effective hearing, exclusive of boarding, lodging and transportation expenses which shall be reimbursed as per actuals.</p>
<b>8.2.4</b>	<p>The arbitration procedures of <i>as defined below</i> will be used.</p> <p>For domestic Consultant, Arbitration proceedings shall be conducted in accordance with procedure of the Arbitration &amp; Conciliation Act 1996, of India. For foreign consultants (including JV where lead partner is foreign), arbitration shall be conducted in accordance with the rules of procedure for arbitration of the United Nations Commission on International Trade Law (UNCITRAL) as in force on the date of this Contract.</p> <p>The arbitration venue shall be New Delhi for domestic Service Providers. For foreign Service Providers, the arbitration venue shall be a neutral venue or a venue mutually agreed at the time of signing of contract agreement.</p>
<b>8.2.5</b>	<p>The designated Appointing Authority for a new Adjudicator is <i>Chairman, Inland Waterways Authority of India</i></p>

## Section IX - Performance Specifications and Drawings

<p><b>1 Scope of work:</b></p>	<p>Service provider agrees to provide and maintain Least Available Depth (LAD) by Dredging in all types of Soil Such as Sand, Silt, Coarse Sand or mixture of above materials to be dredged and “Providing and maintaining Least Available Water Depth (LAD) of 3.0 meter and bottom width of 70 – 239m during 5 years in the Channel for Re-Engineering of Bends - Bend in Approach Channel U/S of Farakka Navigation Lock of NW1 by dredging / dry excavation or combination thereof including the disposal of dredged soil.” include mobilization, de-mobilization, shifting charges from one shoal to another Shoal &amp; other charges excluding of GST. in each year of the Contract Period</p>
<p><b>2 Schedule:</b></p>	<p>On receipt of a Notice from Employer for commencing operations to meet the requirements of Services stipulated in Appendix A to the Contract, the service provider will be required to provide an expected start and finish time in details. After the commencement of services, the service provider will also be required to provide an activity schedule in details to Employer’s Engineer from time to time depending upon the work planning / progress.</p>
<p><b>3 Coordination of Work and Inspection:</b></p>	<p>The service provider shall be responsible for coordinating all work to be performed under this project with the Employer’s Engineer.</p>
<p><b>4 Protection of Property:</b></p>	<p>The service provider shall continuously protect his work from damage, protect all persons from injury and protect all other property from damage, injury, or loss arising in connection with the work regardless of who the owner of said property may be. The contractor alone shall be responsible for the safety, efficiency, and adequacy of his plant, appliances, equipment, tools, and materials. The contractor shall be responsible for any damages which may result from their improper construction, maintenance or usage.</p>
<p><b>5 Billing and Payment:</b></p>	<p>The Service Provider shall submit monthly Bills for performing the services, from the Date of Commencement of Services determined in accordance with SCC 2.2.2, which will be verified by the Employer’s Engineer subject to deduction as applicable in terms of SCC 3.8.3, and recovery towards repayment of Mobilization Advance &amp; other recoveries, if any.</p>

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## Section X - Contract Forms

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## Letter of Acceptance

[Letterhead paper of the Employer]

[Date]

To: [name and address of the Service provider]

This is to notify you that your Bid dated *[date]* for execution of the *[name of the Contract and identification number, as given in the Special Conditions of Contract]* for the Contract Price of the equivalent of *[amount in numbers and words] [name of currency]*, as corrected and modified in accordance with the Instructions to Service Provider is hereby accepted by our Agency.

**Note:** Insert one of the 3 options for the second paragraph. The first option should be used if the Service Provider has not objected the name proposed for Adjudicator. The second option if the Service Provider has objected the proposed Adjudicator and proposed a name for a substitute, who was accepted by the Employer. And the third option if the Service Provider has objected the proposed Adjudicator and proposed a name for a substitute, who was not accepted by the Employer.

We confirm that *[insert name proposed by Employer in the Bidding Data]* be appointed as the Adjudicator.

**OR**

We accept that *[name proposed by Service Provider]* be appointed as the Adjudicator.

**OR**

We do not accept that *[name proposed by Service Provider]* be appointed as Adjudicator, and by sending a copy of this letter of acceptance to *[insert the name of the Appointing Authority]*, we are hereby requesting *[name]*, the Appointing Authority, to appoint the Adjudicator in accordance with Clause 37.1 of the Instructions to Service Provider.

You are hereby instructed to proceed with the execution of the said contract for the provision of Services in accordance with the Contract documents.

Please return the attached Contract fully signed

Authorized Signature: \_\_\_\_\_

Name and Title of Signatory: \_\_\_\_\_

Name of Agency: \_\_\_\_\_

Attachment: Contract

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## Form of Contract

[Letter head paper of the Employer]

### LUMP-SUM REMUNERATION

This CONTRACT (hereinafter called the "Contract") is made the *[day]* day of the month of *[month]*, *[year]*, between, on the one hand, *[name of Employer]* (hereinafter called the "Employer") and, on the other hand, *[name of Service Provider]* (hereinafter called the "Service Provider").

*[Note: In the text below text in brackets is optional; all notes should be deleted in final text. If the Service Provider consist of more than one entity, the above should be partially amended to read as follows: "...(hereinafter called the "Employer") and, on the other hand, a joint venture consisting of the following entities, each of which will be jointly and severally liable to the Employer for all the Service Provider's obligations under this Contract, namely, [name of Service Provider] and [name of Service Provider] (hereinafter called the "Service Provider").]*

### WHEREAS

- (a) the Employer has requested the Service Provider to provide certain Services as defined in the General Conditions of Contract attached to this Contract (hereinafter called the "Services");
- (b) the Service Provider, having represented to the Employer that they have the required professional skills, and personnel and technical resources, have agreed to provide the Services on the terms and conditions set forth in this Contract at a contract price of.....;
- (c) the Employer has received *[or has applied for]* a loan from the International Bank for Reconstruction and Development (hereinafter called the "Bank") *[or a credit from the International Development Association (hereinafter called the "Association")]* towards the cost of the Services and intends to apply a portion of the proceeds of this loan *[or credit]* to eligible payments under this Contract, it being understood (i) that payments by the Bank *[or Association]* will be made only at the request of the Employer and upon approval by the Bank *[or Association]*, (ii) that such payments will be subject, in all respects, to the terms and conditions of the agreement providing for the loan *[or credit]*, and (iii) that no party other than the Employer shall derive any rights from the agreement providing for the loan *[or credit]* or have any claim to the loan *[or credit]* proceeds;

NOW THEREFORE the parties hereto hereby agree as follows:

1. The following documents shall be deemed to form and be read and construed as part of this Agreement, and the priority of the documents shall be as follows:
  - (a) The Letter of Acceptance;
  - (b) The Service Provider's Bid

- 
- (c) The Special Conditions of Contract;
  - (d) The General Conditions of Contract;
  - (e) The Specifications;
  - (f) The Priced Activity Schedule; and
  - (g) The following Appendices: [**Note:** *If any of these Appendices are not used, the words "Not Used" should be inserted below next to the title of the Appendix and on the sheet attached hereto carrying the title of that Appendix.*]

Appendix A: Description of the Services

Appendix B: Schedule of Payments

Appendix C: Key Personnel and Sub-contractors – Not Applicable

Appendix D: Breakdown of Contract Price in Foreign Currency

Appendix E: Breakdown of Contract Price in Local Currency

Appendix F: Services and Facilities Provided by the Employer

Appendix G: Performance Incentive Compensation - Deleted

- 2. The mutual rights and obligations of the Employer and the Service Provider shall be as set forth in the Contract, in particular:
  - (a) The Service Provider shall carry out the Services in accordance with the provisions of the Contract; and
  - (b) The Employer shall make payments to the Service Provider in accordance with the provisions of the Contract.

**IN WITNESS WHEREOF**, the Parties hereto have caused this Contract to be signed in their respective names as of the day and year first above written.

For and on behalf of

Inland Waterways Authority of India

[name of Service Provider]

[Authorized Representative]

[Authorized Representative]

[**Note:** If the Service Provider consists of more than one entity, all these entities should appear as signatories, e.g., in the following manner:]

For and on behalf of each of the Members of the Service Provider

[name of member of Service Provider]

[name of member of Service Provider]

[Authorized Representative]

[Authorized Representative]

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## Performance Bank Guarantee

To: \_\_\_\_\_

Whereas \_\_\_\_\_ (hereinafter called "the Service Provider") has undertaken, in pursuance of Contract No. \_\_\_\_\_ dated \_\_\_\_\_ to execute \_\_\_\_\_ (hereinafter called "the Contract");

And whereas it has been stipulated by you in the said Contract that the Service Provider 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 Service Provider such a Bank Guarantee;

Now therefore we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Service Provider, up to a total of \_\_\_\_\_, \_\_\_\_\_, 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 \_\_\_\_\_] 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 Service Provider 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 Services to be performed there under or of any of the Contract documents which may be made between you and the Service Provider 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 a date 28 days from the date of issue of the Certificate of Completion.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

Signature and seal of the Guarantor \_\_\_\_\_  
Name of Bank \_\_\_\_\_  
Address \_\_\_\_\_  
Date \_\_\_\_\_

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## Bank Guarantee for Advance Payment

To: \_\_\_\_\_

Gentlemen:

In accordance with the provisions of the Conditions of Contract, Sub-Clause 6.4 (“Terms and Conditions of Payment”) of the above-mentioned Contract, \_\_\_\_\_ (hereinafter called “the Service Provider”) shall deposit with \_\_\_\_\_ a Bank Guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of \_\_\_\_\_

We, the \_\_\_\_\_, as instructed by the Service Provider, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to \_\_\_\_\_ on his first demand without whatsoever right of objection on our part and without his first claim to the Service Provider, in the amount not exceeding \_\_\_\_\_

We further agree that no change or addition to or other modification of the terms of the Contract or of Services to be performed there under or of any of the Contract documents which may be made between \_\_\_\_\_ and the Service Provider, 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 \_\_\_\_\_ receives full repayment of the same amount from the Service Provider.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

Yours truly,

Signature and seal: \_\_\_\_\_

Name of Bank/Financial Institution: \_\_\_\_\_

Address: \_\_\_\_\_

Date: \_\_\_\_\_



## Appendices

Appendix-A	Description of Services	
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	2	Objective
	3	Water Levels – Annexure A
	4	Quantity of Dredging
	5	Technical Specification
	6	Scope of Services
	7	Dredging
	8	Dredgers
	9	Monitoring
	10	Clearances ( horizontal & Vertical )
	11	Disposal of Dredged Material
	12	Environmental Management Plan – Annexure-C
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	Annexure B: Relevant Extracts from Report of geo-technical investigations	
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Appendix-B	Schedule of Payments & Reporting Requirements	
Appendix-C	Key personnel and Sub-contractors – Not Applicable	
Appendix-D	Breakdown of Contract Price in Foreign Currency(ies)	
Appendix-E	Breakdown of Contract Price in Local Currency	
Appendix-F	Services & Facilities Provided by the Employer	
Appendix-G	Performance Incentive Compensation --- Deleted.	

## Appendix A - Description of the Services

<p><b>1. <u>Introduction</u></b></p>	<p>Inland Waterways Authority of India (IWAI) is a statutory body set up in 1986 under the Ministry of Shipping, Road Transport &amp; Highway, Govt. of India. The Authority is entrusted with development, maintenance and management of National Waterways for shipping and navigation.</p> <p>The Ganga-Bhagirathi-Hooghly river system for a length of 1620 km connecting Haldia (Sagar) - Kolkata - Bhagalpur - Munger - Barh - Patna - Doriganj - Ghazipur – 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.</p>				
<p><b>2. <u>Objective</u></b></p>	<p>The Objective of the Services is “Providing and maintaining Least Available Water Depth (LAD) of 3.0 meter and bottom width of 70 – 239m during 5 years in the Channel for Re-Engineering of Bends - Bend in Approach Channel U/S of Farakka Navigation Lock of NW1 by dredging / dry excavation or combination there of”</p>				
<p><b>3. <u>Water Levels</u></b></p>	<p>The vertical water level difference is of the order of 7-8 m.</p> <p>The High Water Level and Low Water Level in approach channel U/S of Farakka Navigation Lock are given below.</p> <table border="1"> <tr> <td>High Water Level U/S</td> <td>RL +26.30 m</td> </tr> <tr> <td>Low Water Level U/S</td> <td>RL +18.288 m</td> </tr> </table> <p>The current in the river in area of bend ranges from 0.5 to 3.0 m/s. However, the current during the lean season seldom exceeds 1.0 m/s. Details of water levels in approach channel U/S of Farakka Navigation Lock are provided in <b>Annexure A</b>.</p>	High Water Level U/S	RL +26.30 m	Low Water Level U/S	RL +18.288 m
High Water Level U/S	RL +26.30 m				
Low Water Level U/S	RL +18.288 m				
<p><b>4. <u>Quantity of Dredging</u></b></p>	<p>The quantity of dredging are to be ascertained by the Service Provider 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 last ten years.</p> <p>However, it is a fact that the quantum of dredging 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,</p>				

	<p>navigational charts of NW-1 or any other site information related to availability of men, material, equipment's etc. and familiarizes himself with the site conditions before bidding.</p> <p>The rates shall hold good for the variation of quantities for +/- 25 %</p> <p>The indicative annual maintenance task to achieve LAD of 3 m and Channel bottom widths (dredging) as per Table 6.1 of Section VI are given in <b>Table 1 below</b>. These are based on average dry flow season and, an allowance for side slopes having a tolerance of 1V:5H.</p>
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**Table 1: Indicative Annual Maintenance Task (Dredging)** based on 2015 bathymetric and topographic survey and considering average flow conditions)

Work Description	Year					Total
	1	2	3	4	5	
	<b>3.0 m LAD &amp; width as per Table 6.1 of Section VI</b>					
Dredging (cubic meters)	11,95,900	8,96,925	6,72,694	5,04,520	3,78,390	36,48,429

<p><b>5. <u>Technical Specifications</u></b></p>	<p>The material to be dredged / excavated 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 Service Provider and the Employer's Engineer, if hard strata exists beyond 20 m.</p> <p>To achieve the LAD of 3.0 m and channel bottom width as per Table 6.1 of Section VI, the bidder / service provider shall take into account tolerance of + 1 m from each edge of the channel and tolerance of +15 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.</p> <p>Relevant extracts of "Report of geo-tech investigations" are attached. (Annexure B)</p>
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<p><b>6. <u>Scope of Services</u></b></p>	<p>The scope of the contract shall include: “Providing and maintaining Least Available Water Depth (LAD) of 3.0 meter and bottom width of 70 – 239m during 5 years in the Channel for Re-Engineering of Bends - Bend in Approach Channel U/S of Farakka Navigation Lock of NW1 by dredging / dry excavation or combination thereof”</p>
<p><b>7. <u>Dredging</u></b></p>	<p>Dredging is to be carried out with suitable cutter suction dredgers having capacity of 300-650 cum solids per hour. Maintenance of Least Available water Depth (LAD) of 3.0 meter &amp; bottom width as per Table 6.1 of Section VI in the Bend in Approach Channel U/S of Farakka Navigation Lock of NW1 as specified is to be done by dredging / dry excavation / a combination of both at the discretion of the contractor.</p> <p>Most of the quantity of soil to be excavated is below pond level of Farakka Barrage. Only a small (about 10%) out of total quantity of excavation is above pond level.</p> <p>The bidder may adopt technology for excavation as considered appropriate and either excavate the entire quantity through dredging or adopt dredging in combination with dry excavation.</p> <p>The maintenance methodology shall be determined by the selected Service Provider taking into account the nature of the river and other environmental characteristics.</p> <p>Sufficient number of manpower should be deployed by the Service Provider on the dredgers and on other works throughout the contract period at his cost.</p>
<p><b>8. <u>Dredgers / Other equipment</u></b></p>	<p>Service Provider shall not change the type, numbers, size and make of dredgers / other equipment indicated in its Bid without the prior written approval of the Employer’s Engineer.</p> <p>Service Provider shall mobilize resources like dredger, equipment’s, etc. at his cost for maintaining the depth of 3.0 m in the entire stretch of Bend in Approach Channel U/S of Farakka Navigation Lock during the entire contract period.</p> <p>In case of slow progress of work, the Employer’s Engineer may direct Service Provider to deploy additional dredgers /equipment for completion of the work in time and in such case Service Provider is bound to mobilize additional dredgers without any cost to the Employer.</p>

	<p>If the dredger goes out of order, the Service Provider shall arrange for its replacement with a dredger of equivalent capacity.</p> <p>Service Provider shall not be eligible for payment of costs involved in shifting the dredger and its accessories from one area to another area in Bend in Approach Channel U/S of Farakka Navigation Lock of NW-1.</p>
<p><b><u>9. Monitoring</u></b></p>	<p>Monitoring shall be undertaken by the Employer. This shall be done directly and or through an appointed Supervision Consultant. This may also include monitoring by placing echo sounders on select merchant ships passing through the part of the route. Any supervision and monitoring shall not relieve the Service Provider of his obligations under the Contract, including his duty to make his own surveys.</p>
<p><b><u>10. Clearances (horizontal &amp; vertical)</u></b></p>	<p>The Service Provider shall inspect and ascertain himself details of horizontal &amp; vertical clearances available at bridges/locks etc. within the area covered under scope of services (Para 6 above) from the view point of safe mobilization / demobilization of their various equipment's.</p> <p>The Service Provider 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.</p>
<p><b><u>11. Disposal of Dredged &amp; Excavated Materials</u></b></p>	<p>Disposal of dredged materials particularly from the northern U/S and of the channel which is about 0.30 million cum would be effected into the areas as specified in Drawing No. (I 5252/FB/1010 - Annexure no. B). Remaining quantity of the dredged material from rest of the channel may be disposed into main river east of dredged channel with the permission of the Employer's Engineer,</p> <p>If required, temporary dykes shall be constructed for holding the material as directed by the Employer's Engineer.</p> <p>Expenditure involved in such disposal including payment to the land owner(s) for dumping the material on their lands shall be borne by the Service Provider.</p>

	<p>In case service provider decides to remove the dredged material out of the channel for sale or otherwise to the people, he will take prior approval of IWAI, Farakka Barrage Project authorities and pay royalty to state govt. as per rules and regulations the state govt.</p>
<p><b>12. <u>Environmental Management Plan</u></b></p>	<p>The Service Provider 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 (<a href="http://www.iwai.nic.in">http://www.iwai.nic.in</a>) and same is appended to the bidding document as Annexure D.</p>
<p><b>13. <u>Other Conditions</u></b></p>	<p>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 Service Provider. No additional payment/ claim in this regard will be considered.</p> <ul style="list-style-type: none"> <li>(a) Normal barge and vessels/crafts movement in the channel shall not be interrupted by the dredging operation.</li> <li>(b) No idle time charges shall be payable to the Service Provider on any account during the contract period.</li> <li>(c) The Service Provider 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.</li> <li>(d) The Employer's Engineer 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.</li> <li>(e) The Service Provider shall provide the Employer's Engineer or his representative boat/ survey launch from shore to dredger and back to shore and movement in the stretch for inspection &amp; supervision.</li> <li>(f) The Service Provider may execute the work round the clock and on all days including Sundays and Public Holidays with the permission of the Employer's Engineer in writing excepting National Holidays and subject to such restrictions as may be imposed by State Govt./local body.</li> </ul>

	<p><b>(g)</b> If the Service Provider’s personnel or any outside labor 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 Service Provider 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 Service Provider.</p> <p><b>(h)</b> Any dispute with the local fishermen, for removal of fishing nets, stakes, from the channel to be dredged shall be solved by the Service Provider</p> <p>However, on request the Employer may extend the assistance for solving the issues only through the concerned official/ dept. of the state or local bodies.</p> <p><b>(i)</b> Service Provider 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.</p> <p><b>(j)</b> 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 Service Provider and no extra payment on this account shall be admissible to the Service Provider.</p> <p><b>(k)</b> In case of any local objections against dredging or disposal of dredged spoils, it has to be settled by the Service Provider. However, on request, Employer will extend liaison/ help to the Service Provider to approach concerned officials of State Administration.</p> <p><b>(l)</b> If the maintenance of Bend in Approach Channel U/S of Farakka Navigation Lock is stopped continuously for more than 3 days due to law and order, Service Provider has to report to the same</p>
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	<p>to the Employer's Engineer 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 Employer may take suitable decision without affecting the main objective of the project.</p> <p><b>(m)</b> The Service Provider 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.</p> <p><b>(n)</b> The Service Provider 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 Employer's Engineer or his representative may direct. Until the same shall be raised and removed, the Service Provider shall display at night search lights and do all such things for the safe navigation as may be directed by the Employer's Engineer. In the event of the Service Provider not carrying out the obligations imposed upon him by this clause, the Employer's Engineer shall raise and remove the same (without prejudice to the right of the Employer to hold the Service Provider liable) and the Service Provider 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 Service Provider from his obligation under this clause to raise and remove the same.</p> <p><b>(o)</b> 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 Employer's Engineer by the Service Provider at his cost, without claiming any additional payment from Employer.</p> <p><b>(p)</b> Any changes incurred on testing of the dredged material, testing/ analyzing the quality of water for adopting environmental safeguards, minimizing detrimental impacts, enhancing the</p>
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	beneficial aspects of the project and for effective management of the environmental resources affected by the project shall be met by the Service Provider. No additional charges on any such account shall be payable by the Employer.
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**List of Annexures:**

Annexure A: Water Levels in approach channel upstream of Farakka Navigation Lock

Annexure B: Relevant Extracts from Report of geo-technical investigations

Annexure C: Drawings

Drawing No.	Title of Drawing
FB-1000	Index Map
FB-1004	Excavation Plan and Sections (Sheet 1 of 5)
FB-1004	Excavation Plan and Sections (Sheet 2 of 5)
FB-1004	Excavation Plan and Sections (Sheet 3 of 5)
FB-1004	Excavation Plan and Sections (Sheet 4 of 5)
FB-1004	Excavation Plan and Sections (Sheet 5 of 5)
FB-1005	Road Connectivity Layout Plan
FB-1010	Proposed Disposal Area
FB-2000	Chainage wise Bottom Width for Bend in Approach Channel U/S of Farakka Navigation Lock

Annexure D: Environmental Management Plan

## Annexure A - Water Levels in approach channel upstream of Farakka Navigation Lock

### Farakka Barrage Discharge

The design discharge of the Farakka Barrage is around 76,455 cumec.

### Water Levels

The vertical water level difference is of the order of 7-8 m.

The High Water Level and Low Water Level in approach channel U/S of Farakka Navigation Lock is given below.

High Water Level U/S	RL +26.30 m
Low Water Level U/S	RL +18.288 m

The IWAI is maintaining a gauge station in the approach channel upstream of Farakka Navigation Lock. The daily water levels as received from IWAI are available for the period from 01.08.14 to 03.08.15 and presented below.

### Daily Water Levels U/s of Farakka Navigation Lock

DATE	GAUGE READING (in m.) 0600 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1200 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1800 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	Zero of Gauge
01.08.14	1.900	22.207	1.900	22.207	1.850	22.157	20.307
02.08.14	1.830	22.137	1.840	22.147	1.860	22.167	20.307
03.08.14	1.850	22.157	1.830	22.137	1.810	22.117	20.307
04.08.14	1.810	22.117	1.840	22.147	1.850	22.157	20.307
05.08.14	1.880	22.187	1.860	22.167	1.820	22.127	20.307
06.08.14	1.780	22.087	1.730	22.037	1.830	22.137	20.307
07.08.14	1.850	22.157	1.870	22.177	1.870	22.177	20.307
08.08.14	1.930	22.237	1.930	22.237	1.950	22.257	20.307
09.08.14	1.950	22.257	1.990	22.297	2.080	22.387	20.307
10.08.14	2.080	22.387	2.080	22.387	2.110	22.417	20.307
11.08.14	2.120	22.427	2.190	22.497	2.280	22.587	20.307
12.08.14	2.360	22.667	2.420	22.727	2.550	22.857	20.307
13.08.14	2.700	23.007	2.720	23.027	2.790	23.097	20.307

DATE	GAUGE READING (in m.) 0600 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1200 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1800 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	Zero of Gauge
14.08.14	2.850	23.157	2.900	23.207	2.960	23.267	20.307
15.08.14	3.100	23.407	1.270	23.467	1.290	23.487	22.197
16.08.14	1.380	23.577	1.380	23.577	1.370	23.567	22.197
17.08.14	1.330	23.527	1.340	23.537	1.330	23.527	22.197
18.08.14	1.310	23.507	1.300	23.497	1.300	23.497	22.197
19.08.14	1.280	23.477	1.280	23.477	1.310	23.507	22.197
20.08.14	1.320	23.517	1.330	23.527	1.300	23.497	22.197
21.08.14	1.310	23.507	1.320	23.517	1.330	23.527	22.197
22.08.14	1.330	23.527	1.320	23.517	1.320	23.517	22.197
23.08.14	1.300	23.497	1.290	23.487	1.270	23.467	22.197
24.08.14	1.220	23.417	1.220	23.417	1.200	23.397	22.197
25.08.14	1.130	23.327	1.600	23.797	1.100	23.297	22.197
26.08.14	1.000	23.197	0.960	23.157	0.740	22.937	22.197
27.08.14	0.740	22.937	0.710	22.907	0.700	22.897	22.197
28.08.14	0.660	22.857	0.560	22.757	0.450	22.647	22.197
29.08.14	0.300	22.497	0.300	22.497	0.310	22.507	22.197
30.08.14	0.310	22.507	0.220	22.417	0.200	22.397	22.197
31.08.14	0.180	22.377	0.150	22.347	0.110	22.307	22.197
01.09.14	1.990	22.297	1.980	22.287	1.960	22.267	20.307
02.09.14	1.940	22.247	1.940	22.247	1.930	22.237	20.307
03.09.14	1.920	22.227	1.920	22.227	1.940	22.247	20.307
04.09.14	1.940	22.247	1.940	22.247	1.930	22.237	20.307
05.09.14	1.930	22.237	1.890	22.197	1.850	22.157	20.307
06.09.14	1.830	22.137	1.840	22.147	1.890	22.197	20.307
07.09.14	2.040	22.347	1.950	22.257	1.950	22.257	20.307
08.09.14	1.820	22.127	1.850	22.157	1.910	22.217	20.307
09.09.14	1.940	22.247	1.910	22.217	1.900	22.207	20.307
10.09.14	1.870	22.177	1.890	22.197	1.930	22.237	20.307
11.09.14	1.940	22.247	1.920	22.227	1.910	22.217	20.307
12.09.14	1.830	22.137	1.850	22.157	1.880	22.187	20.307
13.09.14	1.910	22.217	1.900	22.207	1.890	22.197	20.307
14.09.14	1.860	22.167	1.890	22.197	1.900	22.207	20.307
15.09.14	1.910	22.217	1.930	22.237	1.950	22.257	20.307

DATE	GAUGE READING (in m.) 0600 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1200 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1800 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	Zero of Gauge
16.09.14	1.980	22.287	1.990	22.297	1.990	22.297	20.307
17.09.14	2.030	22.337	2.010	22.317	1.980	22.287	20.307
18.09.14	1.940	22.247	1.940	22.247	1.930	22.237	20.307
19.09.14	1.930	22.237	1.960	22.267	1.960	22.267	20.307
20.09.14	1.960	22.267	1.980	22.287	1.990	22.297	20.307
21.09.14	1.990	22.297	1.980	22.287	1.970	22.277	20.307
22.09.14	1.970	22.277	1.990	22.297	2.010	22.317	20.307
23.09.14	2.040	22.347	2.030	22.337	2.010	22.317	20.307
24.09.14	1.940	22.247	1.900	22.207	1.900	22.207	20.307
25.09.14	1.880	22.187	1.850	22.157	1.790	22.097	20.307
26.09.14	1.760	22.067	1.770	22.077	1.780	22.087	20.307
27.09.14	1.780	22.087	1.780	22.087	1.790	22.097	20.307
28.09.14	1.790	22.097	1.810	22.117	1.830	22.137	20.307
29.09.14	1.850	22.157	1.850	22.157	1.860	22.167	20.307
30.09.14	1.870	22.177	1.860	22.167	1.860	22.167	20.307
01.10.14	1.850	22.157	1.830	22.137	1.830	22.137	20.307
02.10.14	1.830	22.137	1.820	22.127	1.790	22.097	20.307
03.10.14	1.760	22.067	1.730	22.037	1.720	22.027	20.307
04.10.14	1.880	22.187	1.860	22.167	1.830	22.137	20.307
05.10.14	1.810	22.117	1.810	22.117	1.790	22.097	20.307
06.10.14	1.780	22.087	1.730	22.037	1.710	22.017	20.307
07.10.14	1.700	22.007	1.730	22.037	1.760	22.067	20.307
08.10.14	1.770	22.077	1.760	22.067	1.890	22.197	20.307
09.10.14	1.980	22.287	1.980	22.287	1.990	22.297	20.307
10.10.14	2.010	22.317	2.030	22.337	2.050	22.357	20.307
11.10.14	2.070	22.377	2.090	22.397	2.110	22.417	20.307
12.10.14	2.130	22.437	2.100	22.407	2.050	22.357	20.307
13.10.14	1.680	21.987	1.690	21.997	1.730	22.037	20.307
14.10.14	1.850	22.157	1.870	22.177	1.870	22.177	20.307
15.10.14	1.930	22.237	1.910	22.217	1.890	22.197	20.307
16.10.14	1.850	22.157	1.840	22.147	1.840	22.147	20.307
17.10.14	1.840	22.147	1.830	22.137	1.820	22.127	20.307
18.10.14	1.800	22.107	1.760	22.067	1.700	22.007	20.307

DATE	GAUGE READING (in m.) 0600 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1200 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1800 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	Zero of Gauge
19.10.14	1.780	22.087	1.800	22.107	1.800	22.107	20.307
20.10.14	1.820	22.127	1.850	22.157	1.840	22.147	20.307
21.10.14	1.810	22.117	1.820	22.127	1.820	22.127	20.307
22.10.14	1.820	22.127	1.850	22.157	1.870	22.177	20.307
23.10.14	1.870	22.177	1.870	22.177	1.860	22.167	20.307
24.10.14	1.860	22.167	1.850	22.157	1.820	22.127	20.307
25.10.14	1.780	22.087	1.780	22.087	1.760	22.067	20.307
26.10.14	1.700	22.007	1.760	22.067	1.770	22.077	20.307
27.10.14	1.800	22.107	1.790	22.097	1.790	22.097	20.307
28.10.14	1.770	22.077	1.780	22.087	1.770	22.077	20.307
29.10.14	1.820	22.127	1.830	22.137	1.800	22.107	20.307
30.10.14	1.830	22.137	1.840	22.147	1.840	22.147	20.307
31.10.14	1.840	22.147	1.820	22.127	1.810	22.117	20.307
01.11.14	1.830	22.137	1.820	22.127	1.830	22.137	20.307
02.11.14	1.830	22.137	1.830	22.137	1.850	22.157	20.307
03.11.14	1.850	22.157	1.850	22.157	1.810	22.117	20.307
04.11.14	1.750	22.057	1.760	22.067	1.770	22.077	20.307
05.11.14	1.790	22.097	1.780	22.087	1.800	22.107	20.307
06.11.14	1.820	22.127	1.830	22.137	1.820	22.127	20.307
07.11.14	1.830	22.137	1.820	22.127	1.810	22.117	20.307
08.11.14	1.800	22.107	1.800	22.107	1.790	22.097	20.307
09.11.14	1.770	22.077	1.770	22.077	1.760	22.067	20.307
10.11.14	1.750	22.057	1.750	22.057	1.740	22.047	20.307
11.11.14	1.750	22.057	1.730	22.037	1.700	22.007	20.307
12.11.14	1.670	21.977	1.690	21.997	1.730	22.037	20.307
13.11.14	1.750	22.057	1.750	22.057	1.760	22.067	20.307
14.11.14	1.780	22.087	1.780	22.087	1.770	22.077	20.307
15.11.14	1.770	22.077	1.770	22.077	1.780	22.087	20.307
16.11.14	1.760	22.067	1.780	22.087	1.790	22.097	20.307
17.11.14	1.800	22.107	1.790	22.097	1.790	22.097	20.307
18.11.14	1.770	22.077	1.790	22.097	1.800	22.107	20.307
19.11.14	1.790	22.097	1.770	22.077	1.780	22.087	20.307
20.11.14	1.800	22.107	1.780	22.087	1.790	22.097	20.307

DATE	GAUGE READING (in m.) 0600 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1200 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1800 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	Zero of Gauge
21.11.14	1.770	22.077	1.770	22.077	1.780	22.087	20.307
22.11.14	1.780	22.087	1.790	22.097	1.820	22.127	20.307
23.11.14	1.900	22.207	1.890	22.197	1.890	22.197	20.307
24.11.14	1.850	22.157	1.820	22.127	1.790	22.097	20.307
25.11.14	1.800	22.107	1.800	22.107	1.810	22.117	20.307
26.11.14	1.780	22.087	1.790	22.097	1.820	22.127	20.307
27.11.14	1.850	22.157	1.820	22.127	1.800	22.107	20.307
28.11.14	1.740	22.047	1.760	22.067	1.790	22.097	20.307
29.11.14	1.870	22.177	1.860	22.167	1.830	22.137	20.307
30.11.14	1.810	22.117	1.810	22.117	1.790	22.097	20.307
01.12.14	1.780	22.087	1.780	22.087	1.790	22.097	20.307
02.12.14	1.800	22.107	1.790	22.097	1.780	22.087	20.307
03.12.14	1.770	22.077	1.770	22.077	1.760	22.067	20.307
04.12.14	1.760	22.067	1.760	22.067	1.780	22.087	20.307
05.12.14	1.780	22.087	1.780	22.087	1.790	22.097	20.307
06.12.14	1.790	22.097	1.790	22.097	1.780	22.087	20.307
07.12.14	1.800	22.107	1.780	22.087	1.790	22.097	20.307
08.12.14	1.780	22.087	1.780	22.087	1.790	22.097	20.307
09.12.14	1.780	22.087	1.820	22.127	1.810	22.117	20.307
10.12.14	1.820	22.127	1.810	22.117	1.790	22.097	20.307
11.12.14	1.810	22.117	1.810	22.117	1.800	22.107	20.307
12.12.14	1.780	22.087	1.800	22.107	1.810	22.117	20.307
13.12.14	1.830	22.137	1.830	22.137	1.800	22.107	20.307
14.12.14	1.770	22.077	1.810	22.117	1.850	22.157	20.307
15.12.14	1.870	22.177	1.870	22.177	1.890	22.197	20.307
16.12.14	1.820	22.127	1.800	22.107	1.810	22.117	20.307
17.12.14	1.790	22.097	1.790	22.097	1.780	22.087	20.307
18.12.14	1.780	22.087	1.780	22.087	1.760	22.067	20.307
19.12.14	1.730	22.037	1.750	22.057	1.760	22.067	20.307
20.12.14	1.780	22.087	1.770	22.077	1.760	22.067	20.307
21.12.14	1.770	22.077	1.780	22.087	1.780	22.087	20.307
22.12.14	1.790	22.097	1.780	22.087	1.780	22.087	20.307
23.12.14	1.770	22.077	1.770	22.077	1.780	22.087	20.307

DATE	GAUGE READING (in m.) 0600 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1200 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1800 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	Zero of Gauge
24.12.14	1.780	22.087	1.790	22.097	1.800	22.107	20.307
25.12.14	1.810	22.117	1.840	22.147	1.840	22.147	20.307
26.12.14	1.830	22.137	1.830	22.137	1.820	22.127	20.307
27.12.14	1.800	22.107	1.780	22.087	1.780	22.087	20.307
28.12.14	1.790	22.097	1.790	22.097	1.800	22.107	20.307
29.12.14	1.780	22.087	1.770	22.077	1.780	22.087	20.307
30.12.14	1.780	22.087	1.790	22.097	1.790	22.097	20.307
31.12.14	1.800	22.107	1.800	22.107	1.810	22.117	20.307
01.01.15	1.830	22.137	1.830	22.137	1.810	22.117	20.307
02.01.15	1.780	22.087	1.780	22.087	1.790	22.097	20.307
03.01.15	1.800	22.107	1.800	22.107	1.810	22.117	20.307
04.01.15	1.800	22.107	1.820	22.127	1.820	22.127	20.307
05.01.15	1.830	22.137	1.810	22.117	1.800	22.107	20.307
06.01.15	1.760	22.067	1.760	22.067	1.770	22.077	20.307
07.01.15	1.790	22.097	1.810	22.117	1.830	22.137	20.307
08.01.15	1.870	22.177	1.860	22.167	1.860	22.167	20.307
09.01.15	1.840	22.147	1.850	22.157	1.870	22.177	20.307
10.01.15	1.870	22.177	1.860	22.167	1.870	22.177	20.307
11.01.15	1.850	22.157	1.840	22.147	1.860	22.167	20.307
12.01.15	1.870	22.177	1.870	22.177	1.850	22.157	20.307
13.01.15	1.880	22.187	1.880	22.187	1.870	22.177	20.307
14.01.15	1.870	22.177	1.870	22.177	1.860	22.167	20.307
15.01.15	1.860	22.167	1.850	22.157	1.850	22.157	20.307
16.01.15	1.850	22.157	1.850	22.157	1.840	22.147	20.307
17.01.15	1.830	22.137	1.840	22.147	1.820	22.127	20.307
18.01.15	1.820	22.127	1.830	22.137	1.830	22.137	20.307
19.01.15	1.820	22.127	1.810	22.117	1.790	22.097	20.307
20.01.15	1.790	22.097	1.800	22.107	1.800	22.107	20.307
21.01.15	1.830	22.137	1.820	22.127	1.810	22.117	20.307
22.01.15	1.790	22.097	1.790	22.097	1.800	22.107	20.307
23.01.15	1.800	22.107	1.810	22.117	1.800	22.107	20.307
24.01.15	1.820	22.127	1.800	22.107	1.810	22.117	20.307
25.01.15	1.790	22.097	1.780	22.087	1.780	22.087	20.307

DATE	GAUGE READING (in m.) 0600 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1200 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1800 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	Zero of Gauge
26.01.15	1.780	22.087	1.790	22.097	1.800	22.107	20.307
27.01.15	1.820	22.127	1.830	22.137	1.820	22.127	20.307
28.01.15	1.810	22.117	1.810	22.117	1.800	22.107	20.307
29.01.15	1.800	22.107	1.800	22.107	1.790	22.097	20.307
30.01.15	1.790	22.097	1.790	22.097	1.780	22.087	20.307
31.01.15	1.770	22.077	1.770	22.077	1.800	22.107	20.307
01.02.15	1.810	22.117	1.800	22.107	1.800	22.107	20.307
02.02.15	1.820	22.127	1.820	22.127	1.810	22.117	20.307
03.02.15	1.830	22.137	1.820	22.127	1.820	22.127	20.307
04.02.15	1.840	22.147	1.840	22.147	1.850	22.157	20.307
05.02.15	1.860	22.167	1.850	22.157	1.830	22.137	20.307
06.02.15	1.810	22.117	1.800	22.107	1.800	22.107	20.307
07.02.15	1.790	22.097	1.780	22.087	1.770	22.077	20.307
08.02.15	1.770	22.077	1.770	22.077	1.750	22.057	20.307
09.02.15	1.750	22.057	1.760	22.067	1.780	22.087	20.307
10.02.15	1.800	22.107	1.800	22.107	1.810	22.117	20.307
11.02.15	1.820	22.127	1.890	22.197	1.900	22.207	20.307
12.02.15	1.920	22.227	1.880	22.187	1.830	22.137	20.307
13.02.15	1.800	22.107	1.800	22.107	1.810	22.117	20.307
14.02.15	1.820	22.127	1.830	22.137	1.810	22.117	20.307
15.02.15	1.790	22.097	1.790	22.097	1.780	22.087	20.307
16.02.15	1.780	22.087	1.780	22.087	1.800	22.107	20.307
17.02.15	1.790	22.097	1.790	22.097	1.780	22.087	20.307
18.02.15	1.770	22.077	1.760	22.067	1.780	22.087	20.307
19.02.15	1.790	22.097	1.790	22.097	1.800	22.107	20.307
20.02.15	1.800	22.107	1.780	22.087	1.780	22.087	20.307
21.02.15	1.790	22.097	1.800	22.107	1.800	22.107	20.307
22.02.15	1.810	22.117	1.820	22.127	1.800	22.107	20.307
23.02.15	1.790	22.097	1.790	22.097	1.780	22.087	20.307
24.02.15	1.780	22.087	1.790	22.097	1.800	22.107	20.307
25.02.15	1.790	22.097	1.810	22.117	1.820	22.127	20.307
26.02.15	1.800	22.107	1.800	22.107	1.790	22.097	20.307
27.02.15	1.770	22.077	1.790	22.097	1.810	22.117	20.307



DATE	GAUGE READING (in m.) 0600 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1200 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1800 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	Zero of Gauge
28.02.15	1.800	22.107	1.790	22.097	1.770	22.077	20.307
01.03.15	1.780	22.087	1.790	22.097	1.780	22.087	20.307
02.03.15	1.770	22.077	1.750	22.057	1.710	22.017	20.307
03.03.15	1.690	21.997	1.690	21.997	1.670	21.977	20.307
04.03.15	1.650	21.957	1.650	21.957	1.670	21.977	20.307
05.03.15	1.670	21.977	1.660	21.967	1.680	21.987	20.307
06.03.15	1.710	22.017	1.700	22.007	1.700	22.007	20.307
07.03.15	1.690	21.997	1.710	22.017	1.730	22.037	20.307
08.03.15	1.750	22.057	1.750	22.057	1.760	22.067	20.307
09.03.15	1.780	22.087	1.780	22.087	1.770	22.077	20.307
10.03.15	1.760	22.067	1.790	22.097	1.800	22.107	20.307
11.03.15	1.810	22.117	1.800	22.107	1.790	22.097	20.307
12.03.15	1.780	22.087	1.830	22.137	1.860	22.167	20.307
13.03.15	1.960	22.267	1.920	22.227	1.900	22.207	20.307
14.03.15	1.910	22.217	1.900	22.207	1.880	22.187	20.307
15.03.15	1.860	22.167	1.860	22.167	1.840	22.147	20.307
16.03.15	1.820	22.127	1.800	22.107	1.780	22.087	20.307
17.03.15	1.720	22.027	1.710	22.017	1.690	21.997	20.307
18.03.15	1.670	21.977	1.670	21.977	1.650	21.957	20.307
19.03.15	1.650	21.957	1.740	22.047	1.750	22.057	20.307
20.03.15	1.780	22.087	1.780	22.087	1.770	22.077	20.307
21.03.15	1.750	22.057	1.750	22.057	1.760	22.067	20.307
22.03.15	1.770	22.077	1.780	22.087	1.780	22.087	20.307
23.03.15	1.790	22.097	1.780	22.087	1.780	22.087	20.307
24.03.15	1.760	22.067	1.770	22.077	1.780	22.087	20.307
25.03.15	1.780	22.087	1.760	22.067	1.720	22.027	20.307
26.03.15	1.680	21.987	1.690	21.997	1.730	22.037	20.307
27.03.15	1.770	22.077	1.790	22.097	1.780	22.087	20.307
28.03.15	1.790	22.097	1.780	22.087	1.780	22.087	20.307
29.03.15	1.770	22.077	1.760	22.067	1.750	22.057	20.307
30.03.15	1.740	22.047	1.740	22.047	1.710	22.017	20.307
31.03.15	1.690	21.997	1.670	21.977	1.670	21.977	20.307
01.04.15	1.640	21.947	1.670	21.977	1.690	21.997	20.307

DATE	GAUGE READING (in m.) 0600 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1200 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1800 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	Zero of Gauge
02.04.15	1.820	22.127	1.790	22.097	1.760	22.067	20.307
03.04.15	1.670	21.977	1.670	21.977	1.690	21.997	20.307
04.04.15	1.710	22.017	1.700	22.007	1.700	22.007	20.307
05.04.15	1.700	22.007	1.700	22.007	1.720	22.027	20.307
06.04.15	1.730	22.037	1.730	22.037	1.710	22.017	20.307
07.04.15	1.690	21.997	1.630	21.937	1.640	21.947	20.307
08.04.15	1.660	21.967	1.650	21.957	1.650	21.957	20.307
09.04.15	1.630	21.937	1.600	21.907	1.610	21.917	20.307
10.04.15	1.600	21.907	1.770	22.077	1.770	22.077	20.307
11.04.15	1.750	22.057	1.760	22.067	1.760	22.067	20.307
12.04.15	1.770	22.077	1.770	22.077	1.750	22.057	20.307
13.04.15	1.760	22.067	1.750	22.057	1.750	22.057	20.307
14.04.15	1.770	22.077	1.780	22.087	1.790	22.097	20.307
15.04.15	1.800	22.107	1.790	22.097	1.800	22.107	20.307
16.04.15	1.780	22.087	1.790	22.097	1.780	22.087	20.307
17.04.15	1.750	22.057	1.730	22.037	1.730	22.037	20.307
18.04.15	1.700	22.007	1.700	22.007	1.720	22.027	20.307
19.04.15	1.710	22.017	1.730	22.037	1.760	22.067	20.307
20.04.15	1.800	22.107	1.800	22.107	1.790	22.097	20.307
21.04.15	1.750	22.057	1.760	22.067	1.770	22.077	20.307
22.04.15	1.780	22.087	1.780	22.087	1.760	22.067	20.307
23.04.15	1.720	22.027	1.710	22.017	1.690	21.997	20.307
24.04.15	1.660	21.967	1.660	21.967	1.670	21.977	20.307
25.04.15	1.670	21.977	1.690	21.997	1.680	21.987	20.307
26.04.15	1.690	21.997	1.690	21.997	1.670	21.977	20.307
27.04.15	1.700	22.007	1.710	22.017	1.700	22.007	20.307
28.04.15	1.680	21.987	1.700	22.007	1.710	22.017	20.307
29.04.15	1.720	22.027	1.720	22.027	1.740	22.047	20.307
30.04.15	1.740	22.047	1.720	22.027	1.720	22.027	20.307
01.05.15	1.690	21.997	1.700	22.007	1.700	22.007	20.307
02.05.15	1.700	22.007	1.700	22.007	1.700	22.007	20.307
03.05.15	1.720	22.027	1.710	22.017	1.690	21.997	20.307
04.05.15	1.760	22.067	1.750	22.057	1.760	22.067	20.307

DATE	GAUGE READING (in m.) 0600 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1200 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1800 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	Zero of Gauge
05.05.15	1.760	22.067	1.740	22.047	1.760	22.067	20.307
06.05.15	1.780	22.087	1.780	22.087	1.780	22.087	20.307
07.05.15	1.790	22.097	1.770	22.077	1.770	22.077	20.307
08.05.15	1.760	22.067	1.750	22.057	1.760	22.067	20.307
09.05.15	1.750	22.057	1.770	22.077	1.760	22.067	20.307
10.05.15	1.770	22.077	1.770	22.077	1.750	22.057	20.307
11.05.15	1.740	22.047	1.750	22.057	1.740	22.047	20.307
12.05.15	1.770	22.077	1.760	22.067	1.760	22.067	20.307
13.05.15	1.730	22.037	1.730	22.037	1.710	22.017	20.307
14.05.15	1.710	22.017	1.720	22.027	1.740	22.047	20.307
15.05.15	1.730	22.037	1.750	22.057	1.770	22.077	20.307
16.05.15	1.780	22.087	1.770	22.077	1.750	22.057	20.307
17.05.15	1.760	22.067	1.740	22.047	1.740	22.047	20.307
18.05.15	1.710	22.017	1.730	22.037	1.720	22.027	20.307
19.05.15	1.720	22.027	1.740	22.047	1.740	22.047	20.307
20.05.15	1.740	22.047	1.750	22.057	1.730	22.037	20.307
21.05.15	1.710	22.017	1.710	22.017	1.700	22.007	20.307
22.05.15	1.740	22.047	1.720	22.027	1.710	22.017	20.307
23.05.15	1.660	21.967	1.660	21.967	1.670	21.977	20.307
24.05.15	1.630	21.937	1.640	21.947	1.620	21.927	20.307
25.05.15	1.530	21.837	1.590	21.897	1.650	21.957	20.307
26.05.15	1.720	22.027	1.720	22.027	1.740	22.047	20.307
27.05.15	1.740	22.047	1.730	22.037	1.750	22.057	20.307
28.05.15	1.760	22.067	1.750	22.057	1.750	22.057	20.307
29.05.15	1.720	22.027	1.720	22.027	1.710	22.017	20.307
30.05.15	1.680	21.987	1.670	21.977	1.680	21.987	20.307
31.05.15	1.680	21.987	1.700	22.007	1.710	22.017	20.307
01.06.15	1.720	22.027	1.720	22.027	1.700	22.007	20.307
02.06.15	1.690	21.997	1.730	22.037	1.750	22.057	20.307
03.06.15	1.780	22.087	1.770	22.077	1.770	22.077	20.307
04.06.15	1.740	22.047	1.730	22.037	1.730	22.037	20.307
05.06.15	1.720	22.027	1.710	22.017	1.700	22.007	20.307
06.06.15	1.680	21.987	1.670	21.977	1.670	21.977	20.307

DATE	GAUGE READING (in m.) 0600 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1200 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1800 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	Zero of Gauge
07.06.15	1.680	21.987	1.680	21.987	1.660	21.967	20.307
08.06.15	1.670	21.977	1.690	21.997	1.710	22.017	20.307
09.06.15	1.720	22.027	1.710	22.017	1.700	22.007	20.307
10.06.15	1.730	22.037	1.720	22.027	1.710	22.017	20.307
11.06.15	1.670	21.977	1.670	21.977	1.680	21.987	20.307
12.06.15	1.670	21.977	1.690	21.997	1.730	22.037	20.307
13.06.15	1.750	22.057	1.750	22.057	1.760	22.067	20.307
14.06.15	1.750	22.057	1.740	22.047	1.740	22.047	20.307
15.06.15	1.760	22.067	1.740	22.047	1.740	22.047	20.307
16.06.15	1.700	22.007	1.690	21.997	1.630	21.937	20.307
17.06.15	1.560	21.867	1.570	21.877	1.590	21.897	20.307
18.06.15	1.630	21.937	1.630	21.937	1.650	21.957	20.307
19.06.15	1.680	21.987	1.670	21.977	1.670	21.977	20.307
20.06.15	1.650	21.957	1.680	21.987	1.680	21.987	20.307
21.06.15	1.670	21.977	1.670	21.977	1.700	22.007	20.307
22.06.15	1.710	22.017	1.700	22.007	1.680	21.987	20.307
23.06.15	1.720	22.027	1.700	22.007	1.700	22.007	20.307
24.06.15	1.690	21.997	1.670	21.977	1.670	21.977	20.307
25.06.15	1.650	21.957	1.660	21.967	1.660	21.967	20.307
26.06.15	1.640	21.947	1.640	21.947	1.640	21.947	20.307
27.06.15	1.620	21.927	1.630	21.937	1.630	21.937	20.307
28.06.15	1.600	21.907	1.600	21.907	1.610	21.917	20.307
29.06.15	1.330	21.637	1.350	21.657	1.470	21.777	20.307
30.06.15	1.720	22.027	1.730	22.037	1.730	22.037	20.307
01.07.15	1.750	22.057	1.760	22.067	1.770	22.077	20.307
02.07.15	1.770	22.077	1.760	22.067	1.770	22.077	20.307
03.07.15	1.740	22.047	1.750	22.057	1.760	22.067	20.307
04.07.15	1.740	22.047	1.750	22.057	1.740	22.047	20.307
05.07.15	1.760	22.067	1.770	22.077	1.770	22.077	20.307
06.07.15	1.770	22.077	1.760	22.067	1.750	22.057	20.307
07.07.15	1.750	22.057	1.730	22.037	1.740	22.047	20.307
08.07.15	1.720	22.027	1.720	22.027	1.720	22.027	20.307
09.07.15	1.710	22.017	1.730	22.037	1.730	22.037	20.307

DATE	GAUGE READING (in m.) 0600 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1200 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	GAUGE READING (in m.) 1800 HRS.	R.L. OF W.L. (in m.) (+) M.S.L.	Zero of Gauge
10.07.15	1.700	22.007	1.720	22.027	1.710	22.017	20.307
11.07.15	1.710	22.017	1.720	22.027	1.710	22.017	20.307
12.07.15	1.730	22.037	1.740	22.047	1.750	22.057	20.307
13.07.15	1.740	22.047	1.700	22.007	1.710	22.017	20.307
14.07.15	1.680	21.987	1.670	21.977	1.680	21.987	20.307
15.07.15	1.670	21.977	1.690	21.997	1.680	21.987	20.307
16.07.15	1.710	22.017	1.710	22.017	1.730	22.037	20.307
17.07.15	1.850	22.157	1.840	22.147	1.820	22.127	20.307
18.07.15	1.790	22.097	1.790	22.097	1.800	22.107	20.307
19.07.15	1.760	22.067	1.750	22.057	1.730	22.037	20.307
20.07.15	1.710	22.017	1.740	22.047	1.790	22.097	20.307
21.07.15	1.960	22.267	1.950	22.257	1.940	22.247	20.307
22.07.15	1.890	22.197	1.830	22.137	1.810	22.117	20.307
23.07.15	1.760	22.067	1.720	22.027	1.720	22.027	20.307
24.07.15	1.620	21.927	1.600	21.907	1.580	21.887	20.307
25.07.15	1.510	21.745	1.530	21.765	1.540	21.775	20.235
26.07.15	1.570	21.805	1.540	21.775	1.550	21.785	20.235
27.07.15	1.620	21.855	1.610	21.845	1.590	21.825	20.235
28.07.15	1.580	21.815	1.570	21.805	1.620	21.855	20.235
29.07.15	1.620	21.855	1.630	21.865	1.640	21.875	20.235
30.07.15	1.620	21.855	1.620	21.855	1.650	21.885	20.235
31.07.15	1.650	21.885	1.650	21.885	1.690	21.925	20.235
01.08.15	1.710	21.945	1.730	21.965	1.730	21.965	20.235
02.08.15	1.950	22.185	1.970	22.205	2.030	22.265	20.235
03.08.15	2.240	22.475					20.235

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## **Annexure B - Drawings**

<b>Drawing No.</b>	<b>Title of Drawing</b>
FB-1000	Index Map
FB-1004	Excavation Plan and Sections (Sheet 1 of 5)
FB-1004	Excavation Plan and Sections (Sheet 2 of 5)
FB-1004	Excavation Plan and Sections (Sheet 3 of 5)
FB-1004	Excavation Plan and Sections (Sheet 4 of 5)
FB-1004	Excavation Plan and Sections (Sheet 5 of 5)
FB-1005	Road Connectivity Layout Plan
FB-1010	Proposed Disposal Area
FB-2000	Chainage wise Bottom Width for Bend in Approach Channel U/S of Farakka Navigation Lock

## **Annexure C – Relevant extracts of Report of Geo-tech Investigations**

## **Annexure D- Environment Management Plan**

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## Appendix B - Schedule of Payments and Reporting Requirements

Schedule of Payments for the specified services are provided in SCC 6.4.

**Service Provider shall submit monthly progress report on the prescribed format to the Employer's Engineer indicating work undertaken during the month, as per the measurement of depth in the Bend in Approach Channel U/S of Farakka Navigation Lock along with the logistics deployed for maintenance of channel.**

Running Account (RA) Bills shall be prepared in 3 copies and submitted along with following documents

- a. Joint detailed Bathymetric survey (i.e, detailed Hydrographic survey with a cross section after interval of every 10 mts ) shall also identify the stipulated width of the Channel required as per the Contract & drawing ( Ref Drawing I-525 / FB / 2000 )& as revised from time to time which shall facilitate the measurement process and shall be referred as base profile.
- b. The Employer's Engineer Inspection Report and approved charts generated during the above Joint Survey referred to in SCC 7.
- c. The Pre & Post hydrographic survey charts, and will be a part of measurement for payment purposes.

Services provided by the Service Provider shall be checked as per clause 3.8.3 through a Joint Survey by Employer's Engineer / Employer's Representative and Service Provider' representative. The Employer's team shall be consist of DD/AD & AHS/JHS & contractor team shall comprises of Hydrographic Surveyor & one engineer nominated by the Project Manager.

JHS – Junior Hydrographic Surveyor,  
FA – Field Assistant, DD – Deputy Director,  
AHS – Assistant Hydrographic Surveyor, AD – Assistant Director

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### Appendix C - Key Personnel and Sub-contractors

1.	Key Personnel - Project Manager	Project Manager with five years' experience in Services of an equivalent nature and volume, including no less than three years as Manager; Refer 5.5 (d) of ITB & Section-III. 6 & 7. Equipment and Manpower
2	Details of Other Manpower	Hydrographic Surveyor etc.
3.	Sub-Contractors	Details to be provided
4	Dredging Management Plan	The bidder should submit detailed dredging management plan (including disposal of dredged material) along with dredger deployment plan (No. of dredgers to be deployed at various point of time along with dredging capacities and manpower) and frequency of bathymetric survey along with details of equipment and manpower to be deployed by him to meet the LAD requirements in the concerned stretch.



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## **Appendix D - Breakdown of Contract Price in Foreign Currency (ies)**

List here the elements of cost used to arrive at the breakdown of the lump-sum price—foreign currency portion:

1. Rates for Equipment Usage or Rental or for Personnel (Key Personnel and other Personnel).
2. Reimbursable expenditures.

This appendix will exclusively be used for determining remuneration for additional Services.

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## **Appendix E - Breakdown of Contract Price in Local Currency**

List here the elements of cost used to arrive at the breakdown of the lump-sum price—local currency portion:

1. Rates for Equipment Usage or Rental or for Personnel (Key Personnel and other Personnel).
2. Reimbursable expenditures.

This appendix will exclusively be used for determining remuneration for additional Services.

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## **Appendix F - Services and Facilities to be provided by the Employer**

It is the Service Provider's responsibility to contact concerned Agencies involved during contract implementation. However, the Employer shall provide, at the request of the Service Provider, such reasonable assistance as to enable him to obtain properly any permits or approvals required from the local administration.

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## Appendix G - Performance Incentive Compensation

Deleted

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**INLAND WATERWAYS AUTHORITY OF INDIA**

Ministry of Shipping, Government of India

**“CAPACITY AUGMENTATION OF NATIONAL WATERWAY – 1”  
(Jal Marg Vikas Project)**

**Environmental Management Plan (EMP) for Re-Engineering of River  
bends – Bend in Approach channel U/s of Farakka Navigation Lock**

March - 2019

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# **ENVIRONMENTAL MANAGEMENT PLAN FOR MAINTENANCE DREDGING AND RE- ENGINEERING OF THE BEND UPSTREAM OF FARAKKA LOCK**

## **1.1. INTRODUCTION**

Inland Waterways Authority of India (IWAI) has proposed to augment the navigation capacity of National Waterway-1 (NW-1) and continue to maintain the entire stretch. Under Jal Marg Vikas Project, IWAI has proposed to develop the infrastructure facility like Multimodal Inland Water Transport (IWT) Terminals, Navigation aids for day & night navigation, River information system with all hardware and software, Ro-Ro jetties, Bank & slope protection, bend correction, River training works, Equipment like tow barges, inland vessels, survey vessels including rescue boats & survey equipment and maintenance dredging of the navigation channel, to augment the navigation capacity of the National Waterway -1.

To improve navigation on the National Waterway-1, IWAI has proposed a project “Capacity Augmentation of the National Waterway-1 (with minimum water depth of 2.5-3 m) between Haldia and Varanasi” 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).

The NW-1 from Allahabad to Haldia falls in four states Uttar Pradesh, Bihar, Jharkhand and West Bengal. The NW-1 has several navigationally “significant” bends, which are highly problematic for navigation. There are 74 nos. navigationally significant bends in this stretch. During periods of high flow, it can be unsafe for vessels to negotiate these bends. Hence to establish overall navigable route some of the bends in this stretch needs modification. Out of these seventy four bends, bend just U/S of Farakka Navigation Lock having radius of 100 m is very critical to the navigation. It has been identified for re-engineering in the short term.

## **1.2. PROJECT BRIEF**

### **1.2.1 Bend at Upstream of Farakka**

At the upstream of Farakka, there has been heavy siltation. Therefore, the access channel leading to the navigation lock has significantly narrowed and a barrier island opposite to the entrance to the channel has been formed. The navigation channel at the bend is only about 50m wide with a very sharp bend of about 100m radius. The bend is extremely challenging to navigate, even by smaller vessels.

River modelling in order to understand the hydraulic conditions at the area upstream of Farakka Lock and to assess the likely impacts of modification of channel layout in the bend have been carried out. As a result of this modelling and widening of the channel and reengineering of the bend have been proposed.

### **1.2.2 Site Location**

The site is located at Farakka in Murshidabad district of West Bengal. Topographic survey for the bend site has been carried out. The ground levels at the site, broadly, vary from RL +13.00 to RL +29.00 m. The highest flood level and the lowest water level U/S are 26.3m (MWL u/s of Farakka Barrage) and 18.288m respectively. Geo-technical investigations have also been carried out by the IWAI at the site and the report has been made available. The Geotechnical parameters of the soil along the bend have been adopted taking in to account the result of the investigations. The soil expected is silty clay.

### **1.2.3 Model Studies**

The re-engineering of bend in the navigation channel upstream of Farakka Lock has been studied by the 2D river modelling.

### **1.2.4 Engineering of Civil Works**

Along the river bank of widened channel widening, bank protection is required to prevent soil erosion. The bank protection works have been designed in two stretches having different flow conditions as found from model.

The first stretch is the bend portion where approach channel is meeting the main river. In this stretch stone pitching in GI wire crates filled with stones of size 1m x 1m x 0.45m are proposed along the river bank graded to a slope of 4H: 1V. For free drainage of pore water from the saturated soil behind the bank, wire crates are proposed to be laid over a coarse sand graded filter over geo textile filter. To prevent the sliding and failure of the revetment on slope, a toe wall of PCC M15 has been provided. Launching apron comprising of two layers of stone crates of size 1.5m x 1.5m x 0.75m (h) in a width of 16.5m has been proposed in front of the toe wall.

The second stretch is the 70m wide approach channel i.e. straight portion, in this stretch stone pitching in GI wire crates at size 1.0m X 1.0m X 0.45m crates filled with stones are provided along the river bank graded to a slope of 4H:1V. For free drainage of pore water from the saturated soil behind the bank wire crates are proposed to be laid over a coarse sand graded filter over geo fabric filter. To prevent the sliding and failure of the revetment on slope, a PCC M15 toe wall has been provided. Launching apron comprising of two layers of stone crates of size 1.5m x 1.5m x 0.75m (h) in a width of 12m have been proposed in front of the toe wall. Since the existing channel has silted and narrowed, it is to be widened and deepened. Excavation of soil in bed and banks of the channel would be required. The total quantity of dredge material likely to be generated in the first year is about 11,95,990 cum. In subsequent years, it is expected that dredging quantity will get reduced to 75% progressively. Local siltation problem in the approaches to the Farakka Lock can be reduced further by opening of the right side gates of the Barrage during floods. It is understood that Farakka Barrage Project, now, opens right side gates of the Barrage during floods as evidenced by reduction in island in front of the channel.

The island north of the bend & west of the secondary channel through which the new channel to the main river is to be excavated, is above pond level of the Farakka Barrage but may get submerged in high floods. Therefore, if dry excavation in the area is done, there is a possibility of high rate of water inflow into the pit. Thickness of soil layer above pond level is about 1 to 3m and channel is to be excavated below the pond level by about 3m. Considering average depth of dry excavation as 2m and length of channel as 1000m, approximate quantity of earth to be excavated above the pond level is 170,000 m<sup>3</sup> and the quantity of earth to be excavated below the pond level is 180,000 m<sup>3</sup>.

### 1.2.5 Methodology

Most of the quantity of soil to be excavated is below pond level of Farakka Barrage. Only about 0.17 million m<sup>3</sup> out of total quantity of 1.195 million m<sup>3</sup> for making channel through the island north of the bend and west of the right bank of the secondary channel is above pond level. It is proposed to excavate the entire quantity of excavation through dredging. For the quantity of excavation above pond level also, it is proposed to deploy dredger and commence dredging from the right bank of the secondary channel northwards and gradually connecting to the main river. Once we start dredging from the secondary channel, the soil above pond level will collapse and fall into the river. This can be removed with the help of dredger and thrown into the main river with the help of pipeline. Thus, entire quantity of soil can be excavated with the help of dredger.

Estimated dredging quantity with the 2015 survey for Re- Engineering of the bend upstream of Farakka Lock:

Period	Depth	Width	Quantity
Year 1	3M	70 -239 M	11,95,900
Year 2	3M	70 -239 M	8,96,925
Year 3	3M	70 -239 M	6,72,694
Year 4	3M	70 -239 M	5,04,520
Year 5	3M	70 -239 M	3,78,390
Total for 5 years			

Chainage wise Bottom width (Refer Drawing I-525/FB/2000)

S. No.	Chainage (in m)	Bottom Width (in m)	S. No	Chainage	Bottom Width
1	0 N	149	15	1400 N	70
2	100 N	138	16	1500 N	70
3	200 N	131	17	1600 N	70
4	300 N	122	18	1700 N	70
5	400 N	106	19	1800 N	70
6	500 N	91	20	1900 N	71
7	600 N	79	21	2000 N	74
8	700 N	70	22	2100 N	85
9	800 N	70	23	2200 N	99
10	900 N	70	24	2300 N	113
11	1000 N	86	25	2400 N	151
12	1100 N	178	26	2500 N	239
13	1200 N	204	27	2600 N	179
14	1300 N	89	28	2700 N	133
			29	2786 N	99

### 1.2.6 Disposal Area

Four pockets had originally been identified for disposal of dredge materials. Subsequently, Howe JV's representatives along with IWAI's official visited the disposal sites & observed that island opposite the channel got substantially eroded land it was now possible to dump large part of the dredge material in to the main river. Now two sites have been identified from portion of the channel adjoining the lock. These are shown in Drawing No. FB -1008.

### 1.2.7 Vessel Turning Zone

Vessel turning zone has been marked in drawing no. F-1003.

### 1.2.8 Land Details for Realignment

The land required for realignment of the existing bend excluding the riverine bend is 5.5 hectares. This land is required for bank protection works with dressing bank to a slope of 4H: 1V. Mostly, the land belongs to the Farakka Barrage Project. Pockets identified for disposal of dredged material is (10.58 ha). It falls in submergence of Farakka pond at H.F.L. This area also must belong to Farakka Barrage Project & these are not proposed for acquisition.

### 1.2.9 Implementation Schedule

The important activities to be carried out include Surveying, Detailed Design, Dredging and Construction of revetment.

The dredging activity with other ancillary works is to be carried in first phase. This activity is to be completed in first year. There after maintenance dredging will be continued for subsequent four years.

### 1.2.10 Water Levels

The IWAI is maintaining a gauge station in the approach channel upstream of Farakka Lock. The daily water levels as received from IWAI are available for the period from 01.08.14 to 03.08.15.

However, for design purpose, the water levels U/S of the navigation lock as mentioned in the Operation / Maintenance Manual for the existing Lock have been considered and are given in Table below:

Water Levels

High Water Level U/S	RL +26.30 m
Low Water Level U/S	RL +18.288 m



### 1.2.11 Set-up of the model

The model used to assess the hydraulic conditions upstream of Farakka Lock is TELEMAC, a depth integrated model that takes into account the flow variations in the two horizontal directions.

An unstructured mesh was considered in order to adapt to the irregular configuration of the area (Figure 1). The mesh has been refined around the navigation canal and the sharp bend to get a better description of the hydraulic conditions. The bathymetry of the area is based on the 2015 survey. To represent the recommended bathymetry in the model, all points within the connecting channel with a current elevation higher than the dredging elevation were set to the elevation of proposed dredge level (18.2 m MSL) (Figure 2).

The layout of the alignment for option 4 is shown in Figure 3. This alternative offers the possibility of navigation along the main river, by crossing the sandbar between the navigation channel and the main river or navigating along the original navigation channel. The former option can be used during low flows (taking advantage of flow current) while the latter option could be used during high flows as well as for travelling upstream.

The width of the channel is 70m and dredging elevation is 18.2m.

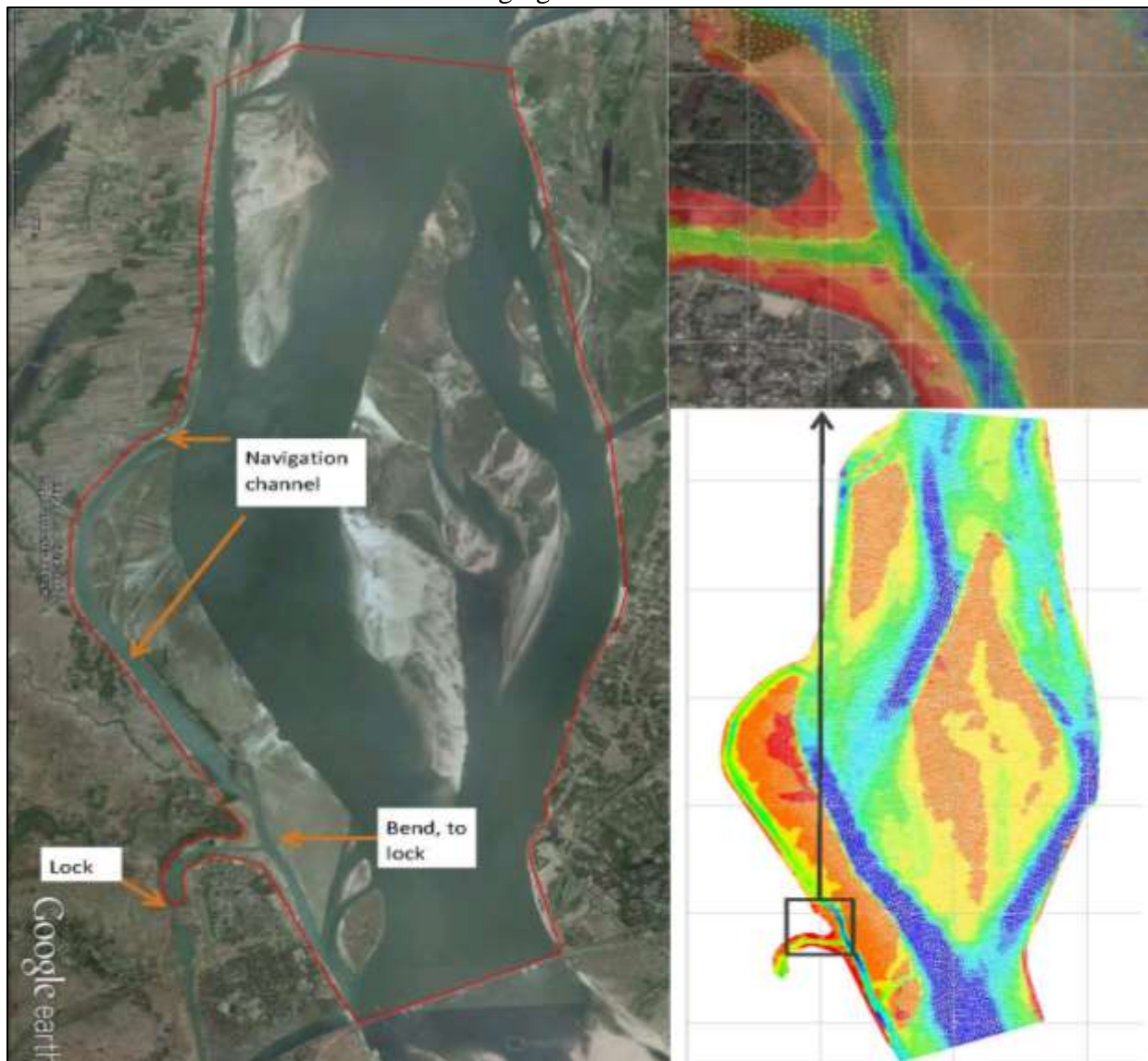


Figure 1: Area modelled with the 2D model (left), mesh used for the analysis (left) with refinement of the mesh in the bend area (top left)

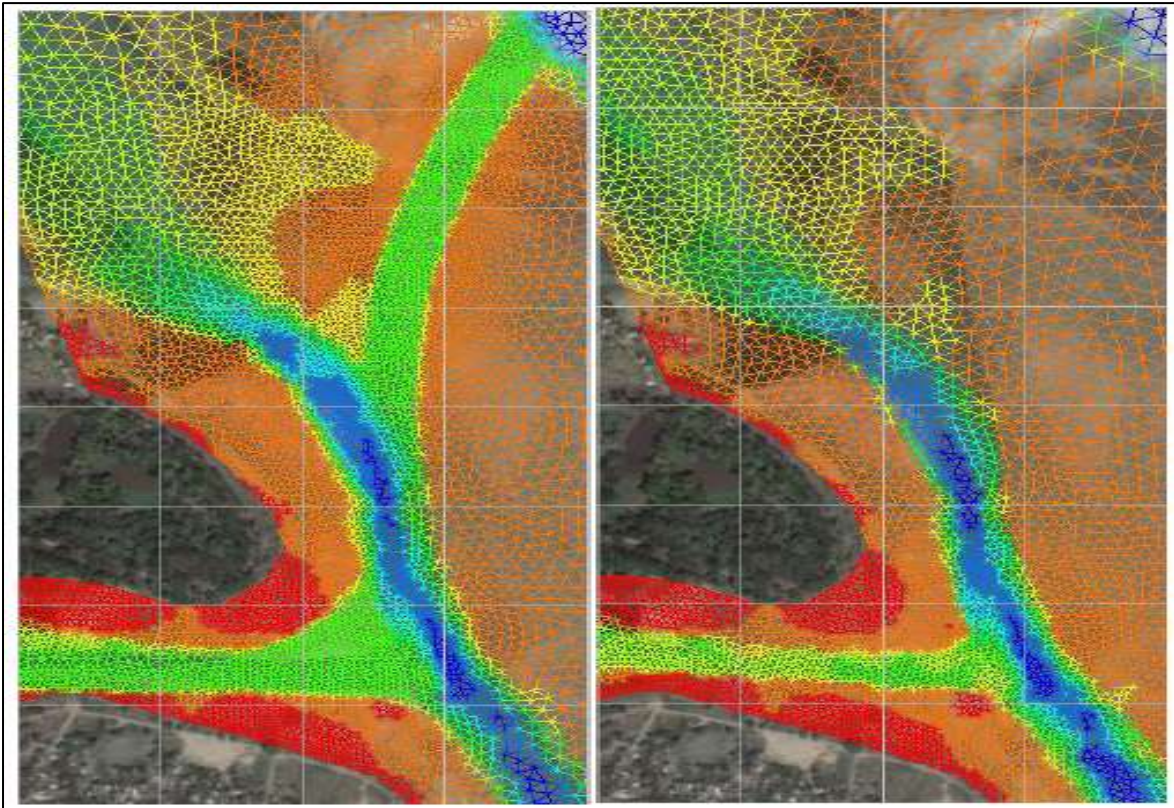


Figure 2: Model bathymetry in the area of re-engineering (left) compared to original mesh and bathymetry(right)



Figure 3: Option 4 alignment. VP5 and VP6 are points where velocities are estimated

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### **Conclusions of Model Studies:**

The management of the Barrage has a clear influence on general water levels and flow velocities in the whole area, including the navigation channel.

During the dry season, flow velocities in the area of the bend are lower than 1m/s and therefore, do not interfere with navigation. During the high flow (July-August) they rise up to 3 m/s. Option 2, which widens the area of the bend slightly, reduces flow velocities in that area by one third during high season and more during the low season. It is likely that this reduction will cause further deposition and therefore, maintenance dredging may be needed.

The existing navigation channel that branches off the main river, shows some shallow areas that will need dredging.

Option 4 suggests a connection channel crossing the existing bar. Numerical results show that flow velocities are also maintained below 1m/s during the dry season. They also show that during the high season, velocities at the connection of the new channel and the main river can be up to 3 m/s. From a morphological point of view, high flows may fill the channel cut across the bar and therefore, it may need yearly maintenance dredging.

It is observed that from a flow distribution point of view, there are no large differences between the different options as flow velocities are below 1 m/s during the dry season and can reach 3m/s in certain locations during the high flows. From a morphological point of view, the channel cut across the bar will require more maintenance dredging than the interventions that only widen the area of the bend. Land constraints inhibit option of increased width of the channel very much so as to ease sharpness of the bend.

Under these circumstances, even though Option 4 may need more maintenance dredging than other options, it is the preferred option because it provide two alternative routes for the navigation depending upon the flow scenario and the direction, U/S or D/S, in which vessels are moving.

General arrangement plan of the proposed alignment is shown in Drawing No. F-1003.

Further the Modified Option 4 as discussed above was also referred for model studies and as there are no significant modifications, the observations made with respect to proposed changes in hydraulic conditions are as follows:

Under average dry season flow conditions:

- Velocity within the connection channel will remain similar to that modelled for the Alternative 4 case, however, due to the increase in channel width at the northern end of the channel, velocities in this region will be reduced proportional to the increase in cross-sectional area.
- The connection channel has a slightly different orientation (orientated slightly more northwards) therefore flows will follow this orientation in the channel.
- Velocities and flow patterns are likely to remain unchanged in other areas – the proposed change in alignment and size is limited in extent and therefore changes in flow patterns compared to Alternative 4 will be limited to these areas.

Under average annual flows:

- Velocity within the connection channel will remain similar to that modelled for the Alternative 4 case, however, due to the increase in channel width at the northern end of the channel, velocities in this region will be reduced proportional to the increase in cross-sectional area.
- The connection channel has a slightly different orientation (orientated slightly more northwards) therefore flows will follow this orientation in the channel.
- Velocities and flow patterns are likely to remain unchanged in other areas – the proposed change in alignment and size is limited in extent and therefore changes in flow patterns compared to Alternative 4 will be limited to these areas.

### 1.3. 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). 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 of NW-1

S. No.	Environmental Features	Within NW-1 (500 M)	Within 2 km area around NW-1	Within 10 km area around NW-1
1	<b>Ecological Environment</b>			
A	Presence of National Park/Biosphere Reserves, Tiger reserve etc.	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)
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 1. Danapur Cantonment area 2. Mokamatal 3. Kurseala river course and diyara floodplain. 4. 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>B.</b>	<b>Social Environment</b>			
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, Kolkattaand 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 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 Chandra Ghat), Hazardwari Palace, Sindhi Dalan and Jami Masjid.		

#### 1.4. ENVIRONMENTAL MANAGEMENT PLAN

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.

##### 1.4.1 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 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 standalone dredging and dredge disposal management plans are prepared for each of the identified stretch separately.

Dredging and dredge disposal plan for re-engineering of river bend in approach channel U/s of Farakka lock is given in the section 1.2 above. The draft EMP for is given in Table 1.2. Following environmental measures should be adopted by the contractor:

- 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.
  - Effective measures are required to be proposed and implemented during design, and implementation stage to eliminate or minimize the impact of the project development.
  - Contractor shall prepare a Dredging plan that will ensure no adverse impacts shall occur on the local biodiversity. However a dredging management plan has been prepared for the entire NW-1 stretch which can be referred by the contractor for preparation of stretch specific dredging management plan. The Dredging Plan shall comply with the following:
    - **Roles and Responsibilities.** Define roles and responsibilities for implementing and adhering to the commitments made within this Dredge Management Plan.
    - **Legislative Requirements and Guidelines.** All dredging and disposal of dredge material will be undertaken in compliance with relevant national and state legislation. In case no standards exist, best international practice will apply.
    - **Studies on the existing Environment:** Contractor shall carry out supplementary EIA study including Key Environmental Sensitivities, Physical Freshwater Environment: Riverbed morphology and geology, Bathymetry, Hydrodynamics, Sediment quality. Fresh Water Quality: Physiochemical, Chemical, Sediment plume modelling. Biological freshwater Environment: Benthic Primary Producer Habitat, Freshwater Fauna.
    - **Dredging Environmental Impact Assessment And Management:** The Contractor shall prepare a supplementary EIA to establish potential impacts and its effective management in terms key performance indicators, mitigation and monitoring measures on the: freshwater quality, benthic primary producer habitat (BPPH), tidal, riverbank including bank, freshwater fauna, dredge materials disposal and spoil ground management

The Dredging Plan shall highlight the following:

- Location of dredging sites must avoid key habitat areas such as breeding and feeding grounds etc. of key biodiversity species found in the project area
- The schedule or time of dredging must avoid breeding season of aquatic fauna. Decisions on method of dredging and type of technology and equipment to be used must consider the noise and vibration levels and extent of siltation being generated. Noise and vibration levels must be below levels that can cause injury to aquatic fauna. The dredging space must include measures to contain silt or suspended solids to a minimum area within the river as excess siltation can hamper wildlife activities.
- Appropriate protocols and procedures must be prepared for sighting of large fishes & other fauna within the vicinity of the dredging site. The objective of the protocols and procedures must be aimed at having no or minimal impacts on the respective wildlife species.
- Dredged soil shall be tested for contamination and toxicity and accordingly shall be disposed

- Dredged soil shall not be piled on the River banks

Table 1.2: 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
<b>1. Physical Environment</b>							
<b>Impact on Soil quality &amp; River Bed sediments</b>	<ul style="list-style-type: none"> <li>Standards should be developed by concerned authorities for onshore and off-shore dredged material disposal and development of the process to ensure its compliance</li> <li>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 &amp; off-shore disposal of dredged material are given at <b>Annexure 1.1.</b></li> <li>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.</li> <li>If dredge material is found contaminated at any particular location, then it should be disposed on land either after decontamination or 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.</li> <li>The Intermittent Storage facilities for dredged material should be designed with adequate liners to contain the leachate and also should have provision of leachate collection and testing to periodically</li> </ul>	Water Act, 1974	Within River	During Dredging Operation	Part of Project Cost (IWAI & Contractor)	Contractor	IWAI/PMU/PMC <sup>19</sup>

<sup>19</sup> The Project Management Unit (PMU) and Project Implementation Unit (PIU) in IWAI to manage social and environmental aspect of NW1 augmentation. PMC (Project Management Consultants)/TSCC (Technical Support Services Consultant) anticipated to be appointed for project management and quality check. Further, Implementation of all mitigation measures and statutory clearances require for environmental management plan and environmental monitoring during design, construction and operation stage is the responsibility of contractor. Supervision of implementation of environmental management plan and environmental monitoring will be carried out by IWAI through TSCC.

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	<p>check the functionality of the storage site.</p> <ul style="list-style-type: none"> <li>Dredge material should not be disposed on river banks, Disposal should be done following dredging sensitivity analysis and related measures.</li> <li>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.</li> </ul>						
<b>Water and Air Quality</b>	<ul style="list-style-type: none"> <li>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 by the following: <ul style="list-style-type: none"> <li>Increased use of bandalling which helps in diverting the flow of river towards the channel and reduces the quantity of dredging</li> </ul> </li> <li>Dredged material shall be checked for toxicity and contamination prior to its disposal onshore for prevention of contamination of water and its impacts on aquatic life. (reference shall be made to International criteria for onshore &amp; off-shore disposal of dredged material given at <b>Annexure 1.1</b>).</li> <li>Dredging should not be carried out during very low flow seasons so as to minimize the dispersion of fine sediments</li> <li>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</li> </ul>	Water Act, 1974	Within River	During Dredging Operation	Part of Project Cost (IWAI & Contractor)	Contractor	IWAI/PMU/PM C



Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	<p>with high current velocities which exceed 0.5 m/s)</p> <ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>Cutter head of Cutter Suction Dredger (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.</li> <li>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.</li> <li>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.</li> <li>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</li> </ul>						

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	<p>approved TSDF site after taking appropriate approvals.</p> <ul style="list-style-type: none"> <li>• Dredge material if disposed on river banks or on land caution should be exercised as per the scope of work and terms and conditions stated in the main dredging contract.</li> <li>• 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.</li> <li>• Dredgers should be equipped with adequate stack height (above the dredger height). It should use low sulphur diesel for the engine operations.</li> <li>• 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 suitable treatment facility shall be provided for workers and staff involved in dredging operations at each of dredging locations.</li> </ul>						
<b>2. Biological Environment</b>							
Aquatic Ecology - Removal of benthic communities, increasing underwater noise levels, increasing sediment	<ul style="list-style-type: none"> <li>• Dredging plan including timeframe should be prepared for each stretch prior to initiating dredging activity.</li> <li>• 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.</li> <li>• Dredgers should be provided with suitable Dolphin deflectors.</li> </ul>	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
ts/turbidity, release of locked pollutants in sediment, disposal of dredged material, increasing depth	<ul style="list-style-type: none"> <li>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 dredging point and to prevent any injury/mortality. Dredging operations should be halted in case of sighting of aquatic mammal in adjacent locations.</li> <li>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.</li> <li>The Contractor should coordinate with IWAI so that other vessel users are provided with adequate information and instruction to avoid conflict with the dredgers.</li> </ul>						
Avifauna (Migratory & water birds)	<ul style="list-style-type: none"> <li>Dredging operations should be restricted to day time only, i.e. 6:00 AM-10:00 PM to minimize noise impacts on avifauna and aquatic fauna.</li> <li>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.</li> </ul>	Wildlife Protection Act, 1972 & 1993 and Biodiversity Act, 2002	Within River & bird areas along NW-1	During Dredging	Part of Project Cost (IWAI & Contractor)	Contractor	IWAI/PMU/PMC
<b>3. Socio-Economic Environment</b>							
Location of Socio-economic importance and socio-economic environment	<ul style="list-style-type: none"> <li>Dredging operations should be restricted to day time only, i.e. 6:00 AM-10:00 PM 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</li> <li>Dredgers should be placed in consultation with the fishermen so as to minimize the impact on their equipment/gears and their fishing activities</li> </ul>	Noise Pollution Control Rules, 2012 as amended from time to time	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
	<ul style="list-style-type: none"> <li>• Dredging location should be away from bathing shelter. Dredge material should not be disposed anywhere near to these bathing shelters or in consultation with Engineer-in-Charge.</li> <li>• 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 Chhath Puja and other important religious river related festivals.</li> <li>• In case contaminated dredged material is disposed on land, then it should be disposed only at approved TSDF sites to prevent any harm to community residing in nearby areas.</li> <li>• Material to be disposed on land may create nuisance odour due to exposure of anaerobic sediments with air. If land disposal is involved then disposal site should not be in upwind direction of any settlement area or sensitive locations like Ghats, temples, hospitals, schools etc.</li> <li>• Post-dredging monitoring of the sediment nature, rate of sedimentation shall be made by the contractor. Output of this analysis should be reviewed and dredging plan should be improved as may be required before start of next round of maintenance dredging.</li> <li>• Re-use of dredged material should be explored if dredged material is not contaminated. Economically and environmentally feasible options can be explored to minimize the dredge spoil burdens. Some of such measures include <ul style="list-style-type: none"> <li>○ Usage for river bank nourishment/development of artificial river bank/deposition on shoal &amp; thus enrichment of habitat</li> </ul> </li> </ul>						

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	<ul style="list-style-type: none"> <li>○ Usage for river bank protection purpose/flood protection</li> <li>○ Usage as construction material for land filling, road foundations, dikes, mounds, noise/wind barriers constructions.</li> <li>• Vehicles transporting the loose and fine materials like dredged sand etc. shall be covered to avoid dust pollution.</li> </ul>						
<b>4. Occupational Health and Safety</b>							
Safety for workers and community	<ul style="list-style-type: none"> <li>• 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 etc.).</li> <li>• Log book should be maintained for recording the accidents at site/ mortality of any person should be communicated to Engineer-in-Charge immediately.</li> <li>• Investigation of such accidents shall be carried out to assess the reasons for the accident/ mortality and corrective measures should be taken immediately.</li> <li>• 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.</li> <li>• Contractors should submit method statement &amp; risk assessment and Safety management plan prior to carrying out any dredging work. Dredger should follow the defined safety procedures to avoid accidents and spills.</li> <li>• 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</li> </ul>	--	Area near the dredging operations and dredging locations	During dredging operation	Part of project cost (IWAI/Contractor)	Contractor	IWAI/PMU/PM C

Environmental Issue /Component	Remedial Measure	Reference to laws and Contract Documents	Approximate Location	Time Frame	Indicative / Mitigation Cost	Institutional Responsibility	
						Implementation	Supervision
	locations/cultural festival/pollution influx in the area/dredged material quality & texture/available depth etc. <ul style="list-style-type: none"> <li>Adequate safety provisions like caution sign boards, emergency hooter; designation of assembly points shall be made. International environmental and occupational health and safety management systems as per ISO 14001/OHSAS 18001 / ISO 45001 shall be adopted. Standard safety guidelines covering most probable accident scenarios shall be developed and followed after approval by IWAI. Adequate provision shall be made for first aid facilities and periodic health check-ups.</li> </ul>						

### 1.4.2 Implementation

Implementation of all mitigation measures and statutory clearances require for environmental management plan and environmental monitoring during design, construction and operation stage is the responsibility of the contractor. Supervision of implementation of environmental management plan and environmental monitoring will be carried out by IWAI through TSSC. It will be essential for contractor to comply with applicable regulations and the World Bank safeguard requirements. Contractor will also have to comply with applicable national standards with respect to Water, Air, Noise, Dredge Material, Soil, Biodiversity and Inland Vessels Act as applicable to this project.

### 1.5. ENVIRONMENT MONITORING PLAN

Since project is likely to have impact on various components of environment, the monitoring requirement covering air quality, water quality, noise, river sedimentation. Therefore, Environment Monitoring Plan (included as Table 1.3) is prepared to monitor the effectiveness of mitigation measures proposed and environmental conditions during dredging and post dredging activities.

### 1.6. 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.

### 1.7. REPORTING REQUIREMENTS

It is required that contractor will submit monthly, quarterly and six-monthly compliance report to Project Management Consultant (PMC)/Technical Support Services Consultant (TSSC) and Project Implementation Unit (PIU) as well as to Project Management Unit (PMU) of IWAI. TSSC will analyze the report and notify the corrective action if any required to contractor under

intimation to IWAI. Reports to be submitted by contractor includes monthly SHE reports, Monthly environmental reports, Monthly progress report, Monthly accident, report details of dredging quantities. The compliance reports for compliance to regulatory permits and EMP requirements.

Table 1.3: Environmental Monitoring Plan

	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 <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>2</sub> , HC and CO	2 locations within 100 m and 500 m of dredger location with frequency of once in month at dredging location	<ul style="list-style-type: none"> <li>▪ Fine Particulate Samplers for PM<sub>2.5</sub></li> <li>▪ Respirable Dust Sampler fitted PM<sub>10</sub></li> <li>▪ Respirable Dust Sampler fitted with Gaseous sampling arrangements for SO<sub>2</sub> and NO<sub>2</sub>, 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</li> </ul>	Contractor	IWAI & PMC/TSSC
2.	Surface Water Quality	Physical, chemical and biological parameters	3 locations at dredging location, 100 m 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	Grab sampling and analysis by using standard methods	Contractor	IWAI & PMC/TSSC
3.	Drinking Water Quality	Physical, chemical and biological parameters as per IS: 10500 / 2012	Physical, chemical and biological parameters for drinking water provided to the employee and labour once every month	Grab sampling and analysis by using standard methods	Contractor	IWAI & PMC/TSSC
4.	Noise Level	Day time and night time noise level (max, min & Leq levels) as per Noise Pollution & Control rules, 2012 and as	6 locations within 10 m of dredger location and 100 m of dredger location once every month	Noise meter	Contractor	IWAI & PMC/TSSC

		amended from time to time				
5.	Dredged soil	For heavy metals, pesticides & insecticides contamination as per Annexure 1.1	Dredged sand samples - two samples from each section before commencement of dredging of section	--	Contractor	IWAI & PMC/TSSC
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/TSSC
7.	Aquatic ecology	Aquatic species of flora and fauna	Two samples to be collected every month (one each from upstream and downstream of dredging site)	--	Contractor	IWAI & PMC/TSSC

*NOTE: Sampling and Analysis of Environmental sample should be carried out by NABL accredited laboratory only.*

### **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)**

<b>Contaminated Material</b>	<b>Dumping in Landfills (mg/l)</b>	<b>Dumping at sea (mg/l)</b>
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

### **Annexure 1.2: Environmental Legal Framework**

Various environmental regulations and policies of Government of India & State Government, International conventions and the World Bank's safeguard policies are applicable. Some of the applicability & requirements of clearances and permits for different activities as per the GoI and the World Bank Policy requirement have been identified for the project as listed below in Table 1. Apart from the listed legislation, various international conventions are applicable on the project which includes MARPOL Convention, 1973/78, Ballast Water Management, 2004, List of Safety Related Regulations, United Nations Convention on the Law of the Sea, Montego Bay, (1982), International Maritime Dangerous Goods Code (IMDG-code), SOLAS and PIANC guidelines. Some of the environmental standards and guidelines applicable on the project are Standards for discharge of effluent in inland surface water bodies and Marine Coastal Areas, Classification of Surface water Bodies on basis of Quality, Water Quality Standards for Coastal Waters, Standards for permissible level of water quality indicators, Permissible limit for off-shore dumping of dredged material, Criteria for harmful bottom sediments, Approximate Quantity of Suspended Sediments Generated by Dredging or Dumping Operations which should be followed to maintain the environmental pollution load within the specified limits. The contractor responsibility is to obtain and comply the applicable permits/clearances required as per Government of India legislations, which is given in Table 1 below.

**Table 1: List of the Permits/Clearances Required as per GoI Legislations**

Name	Applicability
Environment Protection Act-1986 and Rules there under including EIA Notification 14th Sep 2006 and amendment till date	Considered Not Applicable (EIA Notification 2006 does not classify IWT terminals on river or maintenance dredging in the river as a project requiring environmental clearance. The non-requirement of EC for Maintenance dredging in rivers for the purpose of navigation has been

	confirmed by MoEF&CC subject to implementation of Environmental Safety Measures given in the Appendix-I. The Contractor must implement the Environmental Safety Measures (Appendix – I).
Air (Prevention and Control of Pollution) Act, 1981, 1987	Applicable. Consent to Establish & Consent to Operate The applicability is due to emission from operation of equipment, during operation stage backup power generation, material handling related aspects.
Water Prevention and Control of Pollution) Act, 1974, 1988	Applicable. Consent to Establish & Consent to Operate It is applicable for the projects having potential to generate effluent during any stage of the project. Effluents are expected to be generated during both the construction and operation phase of the project.
Noise Pollution (Regulation and Control Act) 2000 and amendment till date	Applicable due to generation of noise during construction and operation stage.
Hazardous & Other Waste Rules, 2016	Applicable. Project has potent to generate hazardous waste (Waste Oil) during both construction and operation phase. Authorization for handling, storage and disposal of hazardous waste (Waste Oil) along with CTE/CTO for air and water act.
MSIHC Rules, 1989	Applicable only for storage of highly inflammable liquids like HSD/LPG
The Bio Medical Waste Management Rules, 2016	Applicable for the disposal of bio-medical waste from first aid centres and dispensaries
Plastic waste Management Rules, 2016 as amended	Applicable Rule applies to every waste generator, local body, Gram Panchayat, manufacturer, Importers and producer.
The Batteries (Management and Handling) Rules 2001	Applicable for disposal of used led acid battery if likely to be used in any equipment during construction and operation stage.
The Forest (Conservation) Act, 1980 and amendments The Forest (conservation) Rules 1981 and amendments till date	No forest land is being diverted thus forest clearance will not be required. Further, Contractor should verify before the start of the work.  Permission from Forest Department should be taken by contractor if required
Petroleum Rules, 2002	Applicable as storage of HSD/LPG or any other petroleum product may be required for the project purpose
Central Motor Vehicle Act 1988 and amendment	Applicable, for all the vehicles at site during implementation phase. Contractor to follow Rules for

Central Motor Vehicle Rules, 1989 and amendments till date	all the construction vehicles being used at site during construction purpose.
The Gas Cylinder Rules 2004	Applicable if contractor store more than the exempted quantity of gas cylinder.
Guidelines for evaluation of proposals/requests for ground water abstraction for drinking and domestic purposes in Notified areas and Industry/Infrastructure project proposals in Non-notified areas, 2012	Applicable if bore well is done for extracting water for meeting drinking/domestic water needs.  Contractor shall obtain NOC from CGWA/CGWB prior digging any bore well.

### Appendix – I

#### Following Environmental Safety Measures to be implemented by Contractor:

Sl. No.	Environmental Safety measures to be implemented
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.
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.
iii	Shoreline shall not be disturbed due to dumping. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary.
iv	Dredging shall not be carried out during the fish/turtle breeding seasons.
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.
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.
vii	Construction waste including debris shall be disposed safely in the designated areas and in no case shall be disposed in the aquatic environment.
viii	Vessels shall not discharge oil or oily water such as oily bilge water containing more than 15ppm of oil.
ix	The project authority shall ensure that water traffic does not impact the aquatic wildlife sanctuaries that fall along the stretch of the river.
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.
xi	The Dredging shall be carried by integrated and systematic planning by selective grid method by allowing migratory movement of Benthic fauna.
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.

<b>Sl. No.</b>	<b>Environmental Safety measures to be implemented</b>
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.
xiv	Dredger type and other strata loosening methods shall be preconceived.
xv	Staggered dredging shall be carried based on turbidity monitoring to minimize the impact of turbidity.
xvi	Threshold level of turbidity, which has a minimal effect on fauna, has to be predetermined and Dredging planned accordingly.
xvii	Further silt screens needs to be used for minimizing the spread of Turbidity.
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.
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.
xx	Ballast water control and management measures shall be implemented.
xxi	Waste and waste water reception facilities in Jetty shall be implemented.
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 5 <sup>th</sup> May 2010.
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.
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.
xxv	No diversion of the natural course of the river shall be made without prior permission from the ministry of Water resources.
xxvi	All the erosion control measures shall be taken at water front facilities.
xxvii	Necessary Air Pollution Control measures shall be taken during loading, unloading, handling, transport of the material at the Berthing and water front facilities.
xxviii	The Vessels shall comply the emission norms prescribed from time to time.
xxix	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.

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## **Annexure 1.3: Guidelines for Debris and Solid Waste Management**

### **1.0 INTRODUCTION**

Waste will be generated from the project site and labour camps during the implementation phase. Type of the waste to be generated during construction phase is given below.

#### **Dredged Material**

Dredging shall be carried out in the river for bend correction and LAD in navigation channels. Dredged soil shall not be disposed off along the river bank as they are sensitive habitat for various aquatic species and provide as the spawning and breeding grounds also. Dredged material shall be tested for its quality. If non-toxic then should be used for filling the site. If not found suitable then it should be disposed off at disposal site but if toxic & contains heavy metals, then it should be disposed off to TSDF site.

#### **Construction Waste**

Construction waste will comprise of broken bricks, dry cement, discarded timber, metal piece, cement bag, dry asphalt/bitumen, glass, paint/varnishes box etc. These wastes should be segregated into recyclable and non-recyclable waste. Recyclable waste shall be stored in the covered area and shall be sold to authorized vendors regularly. Non-recyclable waste shall be disposed off at approved debris site in covered vehicles.

#### **Municipal Waste**

Municipal waste will be generated from labour camp. Dustbins for recyclable and non-recyclable waste shall be provided in labour camp area. Recyclable waste shall be sold to authorized vendors and non-recyclable shall be disposed off through authorized agency in area responsible for waste collection and management.

Waste generated requires proper management so as to minimize the negative impacts on environment. Concept of reduce, re-use and recycle shall be followed at site. The rejected waste should be disposed off in a secured manner. Thus a site should be identified for disposal of the rejected waste.

### **1.1 SELECTION OF DISPOSAL SITES:**

The locations of Disposal sites have to be selected such that:

- Disposal sites are located at least 1000 m away from sensitive locations like settlements, water body and notified forest areas
- Disposal sites shall not contaminate any water sources, rivers etc so the site should be located away from water body and disposal site should be lined properly to prevent infiltration of water.
- Public perception about the location of debris disposal site has to be obtained before finalizing the location.
- Permission from the village/local community is to be obtained for the Disposal site selected.
- Environment Engineer of PMC and Executive Engineer of Contract Management Unit must approve the Plan before commencement of work.

### **1.2 PRECAUTIONS TO BE ADOPTED DURING DISPOSAL OF DEBRIS / WASTE MATERIAL**

The Contractor shall take the following precautions while disposing off the waste material.

- During the site clearance and disposal of debris, the Contractor will take full care to ensure that public or private properties are not affected, there is no dwellings around the dumpsite and that the traffic is not interrupted.
- The Contractor will dispose off debris only to the identified places or at other places only with prior permission of Engineer-in-Charge of works.

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- In the event of any spoil or debris from the sites being deposited on any adjacent land, the Contractor will immediately remove all such spoil debris and restore the affected area to its original state to the satisfaction of the Engineer-in-Charge of works.
  - The Contractor will at all times ensure that the entire existing canal and drains within and adjacent to the site are kept safe and free from any debris.
  - Contractor will utilize effective water sprays during the delivery and handling of materials when dust is likely to be created and to dampen stored materials during dry and windy weather.
  - Materials having the potential to produce dust will not be loaded to a level higher than the side and tail boards and will be covered with a tarpaulin in good condition.
  - Any diversion required for traffic during disposal of debris shall be provided with traffic control signals and barriers after the discussion with local people and with the permission of Engineer-in-Charge of works.
  - During the debris disposal, Contractor will take care of surrounding features and avoid any damage to it. The debris should not be disposed along the bridges & culverts and near the water bodies.
  - While disposing debris / waste material, the Contractor will take into account the wind direction and location of settlements to ensure against any dust problems.
  - Contractor should display the board at disposal site stating the name of project, usage of the site and type of debris being disposed.
  - A guard shall be kept at disposal site to prevent any unauthorized disposal of waste at the debris disposal site
  - Material should be disposed off through covered vehicles only
  - No contaminated/hazardous/e-waste shall be disposed off at the debris disposal site

### **1.3 RECORD KEEPING**

Site approved by site engineer only can be used as disposal site. Record of all such site should be maintained along with the area of disposal site, type & quantity of material disposed off daily and capacity of disposal site.

### **1.4 GUIDELINES FOR REHABILITATION OF DISPOSAL SITES**

The dumpsites filled only up to the ground level could be rehabilitated as per guidelines below and to be decided by the Engineer and the supervision consultant.

- The dumpsites have to be suitably rehabilitated by planting local species of shrubs and other plants. Local species of trees has also to be planted so that the landscape is coherent and is in harmony with its various components.
- In cases where a dumpsite is near to the local village community settlements, it could be converted into a play field by spreading the dump material evenly on the ground. Such playground could be made coherent with the landscape by planting trees all along the periphery of the playground.
- Closure of the disposal site should be up to the satisfactory level of site engineer

### **1.5 PENALTIES**

Stringent action & penalties should be imposed off on contractor for dumping of materials in locations other than the pre-identified locations. Grievance Redressed mechanism should be in place for taking note and action on such complaints.

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## **Annexure 1.4: Selection and Management of Labour Camp**

### **1.0 Selection and layout of labour camp**

Labour camp, dredging sites and debris disposal site shall not be located close to habitations, schools, hospitals, religious places and other community places. A minimum distance of 500 m shall be maintained for setting up such facilities.

### **2.0 Facilities at workers camps**

During the dredging operations, the contractor will construct and maintain necessary (temporary) living accommodation, rest area and ancillary facilities for labour. Facilities required are listed and elaborated below.

- Site barricading
- Clean Water Facility
- Clean kitchen area with provision of clean fuel like LPG
- Sanitation Facilities
- Waste Management Facilities
- Rest area for workers at dredging site
- Adequate Illumination & ventilation
- Safe access road is required at camps
- Health Care Facilities
- Fire-fighting Facility
- Emergency Response Area

### **2.1 Site Barricading**

Site should be completely barricaded from all the sides to prevent entry of outsiders and animals into the site. Entry gate should be provided at the site and labour camp which should be guarded by security guard. All workers should be issued ID cards and entry of outsiders shall be maintained in the register at the gate. Board should be displayed at the site and the labour camp, the name of project, capacity of project, authority carrying out projects, restriction of entry without authorization, and no smoking zone and associated risks. Dredging operation shall be restricted to 6:00 AM to 10:00 PM

### **2.2 Clean Water Facility**

Potable water shall be provided for dredging labour for drinking & cooking purpose. Clean water shall be provided for bathing, cleaning and washing purpose. Water quality testing for water shall be carried out on monthly basis.

### **2.3 Clean Kitchen Area**

Provision of clean kitchen area for cooking and storage of eatables shall be provided. Clean fuels like LPG shall be provided for cooking purpose. Burning of firewood, garbage, paper and any other material for cooking or any other purpose shall strictly be prohibited at the site.

### **2.4 Sanitation Facilities**

Labour camp shall be provided with sanitary latrines and urinals. Toilets provided should have running water availability all the time. Bathing, washing & cleaning areas shall be provided at the site for dredging labour. Washing and bathing places shall be kept in clean and drained condition. Workers shall be hired especially for cleaning of the toilets and

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bathing area. Septic tanks and soak pits shall be provided at site for disposal of the sewage generated.

### **2.5 Waste Management Facilities**

Waste generated should be segregated at the site by providing the different color bins for recyclable and non-recyclable waste. Recyclable waste shall be sold to authorized vendors and non-recyclable shall be handed over to authority responsible in area for waste management. Waste management for dredging site shall be as per waste management plan proposed in EMP.

### **2.6 Rest Area For Workers at Site**

A rest area/shelter shall be provided at the site for workers where they can rest after lunch time and shall not lay down at site anywhere. The height of shelter shall not be less than 3m from floor level to lowest part of the roof. Shelters shall be kept clean and the space provided shall be on the basis of at least 1.0 Sq.m per head.

### **2.7 Adequate Illumination & Ventilation**

Labour camp shall be electrified and adequately illuminated. Illumination level shall be maintained at the site to minimum 200 lux. Labour camps shall be adequately ventilated. Fans shall be provided for ventilation purpose.

### **2.8 Safe Access Road for Labour Camps**

Temporary paved surface shall be constructed to approach the labour camp from the site. Movement shall not be hampered during monsoon season due to water logging and muddiness.

### **2.9 Health care Facilities:**

First aid box, first aid room and personnel trained in first aid shall be available at labour camp and site all the time (24X7). Equipment in first-aid box shall be maintained as per State Factory's Law. Ambulance/ 4 wheeler motorized vehicle shall be available at the site for carrying injured to the nearby hospital. Tie-ups should be made with nearby hospital to handle emergency, if any. Nos. of ambulance, doctors and nearby hospital shall be displayed in first-aid room, site office & labour camps. Workers shall be made aware about the causes, symptoms and prevention from HIV/AIDS through posters and awareness programs

### **2.10 Fire-Fighting facilities**

Fire-fighting facility such as sand filled buckets and potable fire-extinguishers shall be provided at labour camps and at site. Fire-extinguishers shall be provided as per NBC norms.

### **2.11 Emergency Assembly Area**

Area shall be demarcated as emergency assembly area near the gate where all the workers shall be guided to collect in case of any emergency like fire, flood and earthquake.

### **3.0 Activities prohibited at site**

Activities which should be strictly prohibited at site shall include

- Open burning of wood, garbage and any other material at site for cooking or any other purpose.
- Disturbance to the local community.
- Operation of the plant and machinery between 10 PM to 6 AM unless approved by Engineer-in-Charge.



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- No animal (wild or domestic or bird) shall be harmed by any worker under any circumstances at site and nearby areas.
  - Cutting of tree without permission of E-I-C/authorized person.
  - No indigenous population shall be hurt or teased.

#### **4.0 Guidelines for night time working at the site.**

No activity generating noise shall be carried out at the site after 10:00 PM. Night working protocol should be followed (if required) as per guidelines prepared by IWAI. Site should be well illuminated to maintain minimum illumination level of 200 lux. Personnel working shall obtain permit to work from the E-I-C prior to carrying out any work in night time and the record of such working shall be maintained in register. Any accidents, if occurs at site during night time working shall be immediately reported and recorded. Investigation shall be carried out to find the reason for such accidents for immediate corrective measures.

#### **5.0 Record keeping & Maintenance**

Record of entry/exit of the people and material at dredging site and labour camp shall be maintained in register at gate.

#### **6.0 Auditing & Inspection**

Conditions of labour camp and site shall be inspected and audit report shall be submitted to IWAI on monthly basis.

#### **7.0 Closure of the Dredging site / labour Camp**

Dredging site / Labour camp shall be restored back to the original conditions upon completion of the work.

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