



**GUJARAT ECOLOGY COMMISSION**

[GOVERNMENT OF GUJARAT]

GUJARAT STATE PROJECT MANAGEMENT UNIT [SPMU]  
*INTEGRATED COASTAL ZONE MANAGEMENT PROJECT (ICZMP)*

**NATIONAL COMPETITIVE BIDDING (NCB)**

**CONSTRUCTION WORK OF PRECAST COMPOUND WALL AT  
PROPOSED BLUE FLAG BEACH AT SHIVRAJPUR DISTRICT  
DEVBHUMI DWARKA**

**BID No: SPMU/ ICZMP/ NCB /01/2018-19**

**IDA Credit Number: #0146-IN**

**September - 2018.**

**Additional Project Director,  
State Project Management Unit,  
Gujarat Ecology Commission,  
Udhyog Bhavan,  
Block No. 18, 1st Floor, "GH" Road,  
Gandhinagar (Gujarat)  
E-Mail: [mail@geciczmp.com](mailto:mail@geciczmp.com)  
[www.geciczmp.com](http://www.geciczmp.com)**

**GOVERNMENT OF GUJARAT**  
**Gujarat State Project Management Unit, Gujarat Ecology Commission,**  
**Block No. 18, 1st Floor, Udhog Bhavan,**  
**Gandhinagar**

**INTEGRATED COASTAL ZONE MANAGEMENT PROJECT**

**NATIONAL COMPETITIVE BIDDING.**

**BID No: SPMU/ ICZMP/ NCB /01/2018-19**

Name of Work	:	<b>CONSTRUCTION WORK OF PRECAST COMPOUND WALL AT PROPOSED BLUE FLAG BEACH AT SHIVRAJPUR DISTRICT DEVBHUMI DWARKA</b>
Period of Sale of Bidding Document	:	From: 08/09/2018 to 08/10/2018
Last Date and Time for receipt of Bids	:	Date: 09/10/2018 up to 15.00 hrs
Time and date of opening of bids	:	Date: 09/10/2018 at 15.30 hrs.
Place of Opening of Bids	:	<b>Office of the Project Director, Gujarat State Project Management Unit, Gujarat Ecology Commission, Block No. 18, 1<sup>st</sup> Floor, Udhog Bhavan, Gandhinagar</b>
Officer Inviting Bids	:	Additional Project Director, Gujarat State Project Management Unit, Gujarat Ecology Commission, Block No. 18, 1 <sup>st</sup> Floor, Udhog Bhavan, Gandhinagar

**INVITATION FOR BID**

**(IFB)**

## INTEGRATED COASTAL ZONE MANAGEMENT PROJECT

### State Project Management Unit

Gujarat Ecology Commission

Udhyog Bhavan, Block No. 18, 1<sup>st</sup> Floor, Gandhinagar – 382 010, Gujarat

**BID No. SPMU/ ICZMP/ NCB /01/2018-19**

#### National Competitive Bidding (NCB)

1. The Government of India has received a credit from the International Development Association towards the cost of 222 million US dollars equivalent towards implementing the Integrated Coastal Zone Management Project (ICZMP) and intends to apply a part of the funds to cover eligible payments under the contracts for construction of works as detailed below. Bidding is open to all bidders from eligible source countries as defined in the *IBRD Guidelines for Procurement*. Bidders having experience of execution of similar type of work can participate. **Bidders are advised to note the minimum qualification criteria specified in Clause 4 of the Instructions to Bidders in the bid documents to qualify for consideration for the award of the contract.**
2. The Additional Project Director, State Project Management Unit, Gujarat Ecology Commission for and on behalf of **Director, Gujarat Ecology Commission, Gandhinagar** now invites Single Stage Single Envelope sealed and super scribed bids for below mentioned work.. The bidders may submit bids for the following work as per Instructions to Bidders.

Name of the Work	Estimated cost put to bid in INR	Bid Security	Cost of Bid Document	Period of completion
<b>CONSTRUCTION WORK OF PRECAST COMPOUND WALL AT PROPOSED BLUE FLAG BEACH AT SHIVRAJPUR DISTRICT DEVBHUMI DWARKA</b>	<b>17,69,600/-</b>	<b>18,000/-</b>	<b>1500/-</b>	<b>1 Months</b>

1. Interested eligible bidders may obtain further information from and inspect bidding documents at the office of the Additional Project Director, State Project Management Unit (SPMU), Gujarat Ecology Commission, Udhyog Bhavan, Block No 18, 1<sup>st</sup> Floor, Gandhinagar – 382 010, Gujarat, India. Phone No. 079-23257656, Fax No. 079-23257657, Email: [mail@geciczmp.com](mailto:mail@geciczmp.com) from **08/09/2018 to 08/10/2018** .The interested bidders may also contact **Additional Project Director SPMU ICZMP** for any clarification or information
2. A complete set of Bid documents may be purchased by the interested bidders on submission of a written application at the above address from **08/09/2018 to 08/10/2018** and upon payment of nonrefundable fee of **Rs. 1,500/-** for the bid in the form of a demand draft from a scheduled bank payable to the **Additional Project Director, State Project Management Unit, Gujarat Ecology Commission** payable at Gandhinagar, Gujarat. Bidding documents requested by mail will be dispatched by registered/speed post on payment of an extra amount of

**Rs. 1,000/-.** The Additional Project Director, SPMU will not be held responsible for the postal delay if any, in the delivery of the documents or non-receipt of the same.

3. Bidding will be conducted through the Single Stage Single Envelope, National Competitive Bidding Procedure specified in the World Bank Guidelines for procurement under IBRD Loans and IDA Credits.
4. Bids must be accompanied by bid security of the amount specified for the work in the table as above, drawn in favour of **Additional Project Director, State Project Management Unit, Gujarat Ecology Commission**. Bid security will have to be in any one of the forms as specified in the bidding document and shall have to be valid for 45 days beyond the validity of the bid.
5. Bids must be delivered to **Additional Project Director, State Project Management Unit, Gujarat Ecology Commission, Udyog Bhavan, Block No. 18, 1st Floor, Gandhinagar, Gujarat, India** on or before **15:00** hours on **09/10/2018** and will be opened on the same day at **15:30** hours, in the presence of the bidders who wish to attend. If the office happens to be closed on the date of receipt of the bids as specified, the bids will be received and opened on the next working day at the same time and venue.
6. Other details can be seen in the bidding documents.

**Add. Project Director**  
**SPMU-ICZM Project**  
**Gujarat Ecology Commission**  
**Gandhinagar**

The Project Director, Gujarat State Project Management Unit, ICZM Project.

**CONSTRUCTION WORK OF PRECAST COMPOUND WALL AT PROPOSED BLUE FLAG BEACH AT SHIVRAJPUR DISTRICT DEVBHUMI DWARKA**

**NATIONAL COMPETITIVE BIDDING.**

**Bid NO. SPMU/ ICZMP/ NCB /01/2018-19**

Name of Work	:	<b>CONSTRUCTION WORK OF PRECAST COMPOUND WALL AT PROPOSED BLUE FLAG BEACH AT SHIVRAJPUR DISTRICT DEVBHUMI DWARKA</b>
Bidding Document Available	:	<b>From 08/09/2018 to 08/10/2018 from the Office of The Additional Project Director, Gujarat State Project Management Unit, ICZM Project Gujarat Ecology Commission, Block No. 18, 1<sup>st</sup> Floor, Udhog Bhavan, Gandhinagar</b>
Last Date and Time for receipt of Bids	:	<b>Date 09/10/2018 up to 15.00 Hrs.</b>
Mode of Submission Bid	:	By Registered Post / Speed Post/by Person Addressed to <b>The Additional Project Director, Gujarat State Project Management Unit, ICZM Project Gujarat Ecology Commission, Block No. 18, 1<sup>st</sup> Floor, Udhog Bhavan, Gandhinagar</b>
Time and date of bid opening	:	<b>Date 09/10/2018 at 15 30 Hrs.</b>
Place of Bid Opening	:	<b>The Project Director, Gujarat State Project Management Unit, ICZM Project Gujarat Ecology Commission, Block No. 18, 1<sup>st</sup> Floor, Udhog Bhavan, Gandhinagar</b>
Officer Inviting Bids	:	The Additional Project Director, Gujarat State Project Management Unit, ICZM Project Gujarat Ecology Commission, Block No. 18, 1 <sup>st</sup> Floor, Udhog Bhavan, Gandhinagar

**SECTION 1: INSTRUCTIONS TO BIDDERS**

**(ITB)**

## Section 1: Instructions to Bidders

### Table of Clauses

<b>A.</b>	<b>General</b>		<b>E.</b>	<b>Bid Opening and Evaluation</b>	17
1.	Scope of Bid	8	23.	Bid Opening	17
2.	Source of Funds	8	24.	Process to be Confidential	17
3.	Eligible Bidders	8	25.	Clarification of Bids	17
4.	Qualification of the Bidder	9	26.	Examination of Bids and Determination of Responsiveness	17
5.	One Bid per Bidder	12	27.	Correction of Errors	17
6.	Cost of Bidding	12	28.	Deleted	18
7.	Site Visit	12	29.	Evaluation and Comparison of Bids	18
<b>B.</b>	<b>Bidding Documents</b>	12			
8.	Content of Bidding Documents	12			
9.	Clarification of Bidding Documents	12	<b>F.</b>	<b>Award of Contract</b>	19
10.	Amendment of Bidding Documents	12	31.	Award Criteria	19
<b>C.</b>	<b>Preparation of Bids</b>	12	32.	Employer's Right to Accept any Bid and to Reject any or all Bids	19
11.	Language of Bid	12	33.	Notification of Award	19
12.	Documents Comprising the Bid	12	34.	Performance Security	19
13.	Bid Prices	13	35.	Advance Payment and Security	20
14.	Currencies of Bid and Payment	13	36.	Adjudicator	20
15.	Bid Validity	13	37.	Fraud and Corruption	20
16.	Bid Security	13			
17.	Alternative Proposals by Bidders	14			
18.	Format and Signing of Bid	14			
<b>D.</b>	<b>Submission of Bids</b>	15			
19.	Sealing and Marking of Bids	15			
20.	Deadline for Submission of Bids	15			
21.	Late Bids	15			
22.	Modification and Withdrawal of Bids	15			



## **A. General**

### **1. Scope of Bid**

1.1 For and on behalf of The Project Director, ICZM Project, Gujarat State Project Management Unit (referred to as Employer in these documents) invites bids for the construction of works (as defined in these documents and referred to as "the works") detailed in the table given in IFB. The bidders may submit bids for any or all of the works detailed in the table given in IFB.

#### **CONSTRUCTION WORK OF PRECAST COMPOUND WALL AT PROPOSED BLUE FLAG BEACH AT SHIVRAJPUR DISTRICT DEVBHUMI DWARKA**

1.2 The successful bidder will be expected to complete the works by the intended completion date specified in the Contract data.

### **2. Source of Funds**

2.1 The Government of India has received a credit from the International Development Association (hereinafter interchangeably called "The Bank") towards the cost of 222 million US dollars equivalent towards implementing the Integrated Coastal Zone Management Project and intends to apply a part of the funds to cover eligible payments under the contract for the Works. Payments by the Bank will be made only at the request of the borrower and upon approval of the Bank in accordance with the *Credit Agreement*, and will be subject in all respects to the terms and conditions of that Agreement. Except as the Bank may specifically otherwise agree, no party other than the borrower shall derive any rights from the *Credit Agreement* or have any rights to the credit proceeds.

2.2 The loan agreement prohibits a withdrawal from the loan account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Bank, is prohibited by a decision of the United Nations Security Council, taken under Chapter VII of the Charter of the United Nations.

### **3. Eligible Bidders**

3.1 This Invitation for Bid is open to all bidders from the eligible countries as defined under the IBRD Guidelines for Procurement. Any materials, equipment, and services to be used in the performance of the Contract shall have their origin in the eligible source countries.

3.2 All bidders shall provide in Section 2, Forms of Bid and Qualification Information, a statement that the Bidder is not associated, nor has been associated in the past, directly or indirectly, with the Consultant or any other entity that has prepared the design, specifications, and other documents for the Project or being proposed as Project Manager for the Contract. A firm that has been engaged by the Borrower to provide consulting services for the preparation or supervision of the works, and any of its affiliates, shall not be eligible to bid.

3.3 Government-owned enterprises in the Employer's country may only participate if they are legally and financially autonomous, operate under commercial law and are not a dependent agency of the Borrower or Sub-borrower.

3.4 Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the Bank in accordance with sub-clause 37.1.

#### **4. Qualification of the Bidder**

**4.1** All bidders shall provide in Section 2, Forms of Bid and Qualification Information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.

**4.2** In the event that Pre-qualification of potential bidders has been undertaken, only bids from prequalified bidders will be considered for award for Contract. These qualified bidders should submit with their bid any information updating their original prequalification applications or, alternatively, confirm in their bid that the originally submitted prequalification information remains essentially correct as of date of bid submission. The update or confirmation should be provided in Section 2.

**4.3** If the Employer has not undertaken prequalification of potential bidders, all bidders shall include the following information and documents with their bids in Section 2:

(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;

(b) Total monetary value of construction work performed for each of the last five years;

(c) experience in works of a similar nature and size for each of the last five years, and details of works under way or contractually committed; and clients who may be contacted for further information on those contracts;

(d) major items of construction equipment proposed to carry out the Contract;

(e) qualifications and experience of key site management and technical personnel proposed for the Contract;

(f) reports on the financial standing of the Bidder, such as profit and loss statements and auditor's reports for the past five years;

(g) evidence of adequacy of working capital for this contract (access to line (s) of credit and availability of other financial resources);

(h) authority to seek references from the Bidder's bankers;

(i) information regarding any litigation or arbitration resulting from contracts executed by the Bidder in the last five years or currently under execution. The information shall include the names of the parties concerned, the disputed amount, cause of litigation, and matter in dispute;

(j) proposals for subcontracting components of the Works which in aggregate add to more than 20 percent of the Bid Price (for each, the qualifications and experience of the identified sub-contractor in the relevant field should be annexed; no vertical splitting of work for sub-contracting is acceptable); and

(k) The proposed methodology and program of construction including Environmental Management Plan backed with equipment, materials and manpower planning and deployment, duly supported with broad calculations and quality control / assurance procedures proposed to be adopted, justifying their capability of execution and completion of the work as per technical specifications within the stipulated period of completion as per milestones.

**4.4** Bids submitted by a joint venture of two or more firms as partners shall comply with the following requirements:

- [a] the bid shall include all the information listed in Sub-clause 4.3 above;
- [b] the bid and, in case of a successful bid, the Agreement, shall be signed so as to be legally binding on all partners;
- [c] one of the partners shall be nominated as being in charge, and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the partners;
- [d] the partner in charge 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 partner in charge;
- [e] all partners of the joint venture shall be liable jointly and severally for the execution of the contract in accordance with the contract terms, and a statement to this effect shall be included in the authorization mentioned under [c] above, as well as in the bid and in the Agreement [in case of a successful bid];
- [f] The joint venture agreement should indicate precisely the role of all members of JV in respect of planning, design, construction equipment, key personnel, work execution, and financing of the project. All members of JV should have active participation in execution during the currency of the contract. This should not be varied/modified subsequently without prior approval of the employer;
- [g] The joint venture agreement should be registered in Gandhinagar, Gujarat so as to be legally valid and binding on partners; and
- [h] a copy of the Joint Venture Agreement entered into by the partners shall be submitted with the bid. 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.

**4.5 A. To qualify for award of the contract, each bidder in its name should have in the last five years 2012-13, 2013-14, 2014-15, 2015-16 & 2016-17.**

- (a): Achieved, in at least two financial years, a minimum annual financial turnover of Rs. **17 lakhs.**
- (b): Satisfactorily completed, as a prime contractor, (or as subcontractor duly certified by the employer/main contractor) at least one similar type of work value not less than Rs **10.00 lakhs.**
- (c) Executed, the following minimum quantities of work **in last five year:**

Sl. Nos.	Pre-qualification Criterion	Minimum Number of item executed
1	Construction of such works.	One Nos.
2	One of the above work must be in satisfactory in functioning condition for the last 2 (Two) years along with the proof of the same.	One No.

Note- (@2016-2017 price level. Financial turnover and cost of completed works of previous years shall be given weightage of 5% per year based on rupee value to bring them to 2016-17 price level.

**4.5 B. Each bidder should further demonstrate:**

- (a) Deleted
- (b) Deleted
- (c) Liquid assets and/or availability of credit facilities of not less than **Rs 10.00** lakhs in the format given in Section 2.  
(Credit lines/letter of credit/certificates from Banks for meeting the funds requirement etc.)

4.6. **To qualify for this work for which bids invited in the IFB**, the bidder must demonstrate having experience and resources sufficient to meet the aggregate of the qualifying criteria. In case of specific experience under Sub-clause 4.5 A (b), to qualify, the bidder should have Satisfactorily completed, as a prime contractor, (or as subcontractor duly certified by the employer/main contractor) at **least two similar works** of providing and fixing **such platforms on rail** and as mentioned in the specification.

4.7 The figures for each of the partners of a joint venture shall be added together to determine the Bidder's compliance with the minimum qualifying criteria of Sub-clause 4.5. However, for a joint venture to qualify, each of its partners must meet at least 50 percent of the minimum criteria set in Sub-clause 4.5 above and all the partners collectively must meet the criteria specified in Sub-clause 4.5 above in full. Failure to comply with this requirement will result in rejection of the joint venture's bid. In case of specific experience under sub-clause 4.5 A (b) one of the JV partners can meet the requirement and its partners should meet minimum of 50 % of the criteria set forth. Sub-contractor's experience and resources will not be taken into account in determining the Bidder's compliance with the qualifying criteria, except to the extent stated in Clause 4.5 [A] above..

4.8 Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity is more than the total bid value. The available bid capacity will be calculated as under:

**Assessed Available Bid capacity = (A\*N\*1.5 - B)**

Where

A = Maximum value of similar type of works executed in any one year during the last five years (updated to **2016-2017** price level) taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of the works for which bids are invited.

B = Value, at **2016-2017** price level, of existing commitments and on-going works to be completed during the **next 03 Months**.

**Note:** The statements showing the value of existing commitments and on-going works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the Engineer in charge, not below the rank of an Executive Engineer or equivalent.

4.9 Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have:

-made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements.

-Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc...

-participated in the previous bidding for the same work and had quoted unreasonably high bid prices and could not furnish rational justification to the employer.

**5. One Bid per Bidder**

5.1 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 subcontractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the Bidder's participation to be disqualified.

**6. Cost of Bidding**

6.1 The bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will in no case be responsible and liable for those costs.

**7. Site visit**

7.1 The Bidder, at the Bidder's own responsibility and risk is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense

**B. Bidding Documents**

**8. Content of Bidding Documents**

8.1 The set of bidding documents comprises the documents listed in the table below and addenda issued in accordance with Clause 10: Invitation for Bids

Section	1	Instruction to Bidders
	2	Forms of Bid and Qualification Information
	3	Conditions of Contract
	4	Contract Data
	5	Specifications
	6	Drawings
	7	Forms of Securities
	8	Bills of Quantities

8.2 Of the three sets of the bidding documents supplied, two sets should be completed and returned with the bid.

**9. Clarification of Bidding Documents**

9.1 A prospective bidder requiring any clarification of the bidding document may notify the Employer in writing or by cable (hereinafter "cable" includes telex and facsimile) at the Employer's address indicated in the invitation to bid. The Employer will respond to any request for clarification which he received earlier than 15 days prior to the deadline for submission of bids. Copies of the Employer's response will be forwarded to all purchasers of the bidding documents, including a description of the enquiry but without identifying its source.

9.2 **Pre-bid meeting** Deleted

**10. Amendment of Bidding Documents**

10.1 Before the deadline for submission of bid, the Employer may modify the bidding document by issuing addenda/corrigendum

10.2 Any addendum thus issued shall be part of the bidding documents and shall be communicated in writing to all the purchasers of the bidding documents. Prospective bidders shall acknowledge receipt of each addendum in writing to the Employer and submit it with bid along with prebid minutes.

10.3 To give prospective 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 Sub-Clause 20.2 below.

**C. Preparation of Bids**

**11. Language of the Bid**

11.1 All documents relating to the bid shall be in the English language.

**12. Documents comprising the Bid**

12.1 The bid submitted by the bidder shall comprise the following:

- (a) The Bid (in the format indicated in Section 2).
- (b) Bid Security;
- (c) Priced Bill of Quantities;

(d) Qualification Information Form and Documents;

and any other materials required be completing and submitting by bidders in accordance with these instructions. The documents listed under Sections 2, 4 and 7 of Sub-Clause 8.1 shall be filled in without exception.

**12.2** Bidders bidding for this contract together with other contracts stated in the IFB to form a package will so indicate in the bid together with any discounts offered for the award of more than one contract.

**13. Bid Prices**

**13.1** The contract shall be for the whole works as described in Sub-Clause 1.1, based on the priced Bill Quantities submitted by the Bidder.

**13.2** The bidder shall fill in rates and prices and line item total (both in figures and words) for all items of the Works described in the Bill of Quantities along with total bid price (both in figures and words). *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 Bill of Quantities.* Corrections, if any, shall be made by crossing out, initialing, dating and rewriting.

**13.3** All duties, taxes, and other levies payable by the contractor under the contract, or for any other cause shall be included in the rates, prices and total Bid Price submitted by the Bidder.

Note: *"Bidders may like to ascertain availability of excise/custom duty exemption benefits available in India to the contracts financed under World Bank credits. They are solely responsible for obtaining such benefits which they have considered in their bid and in case of failure to receive such benefits for reasons whatsoever, the employer will not compensate the bidder (contractor). Where the bidder has quoted taking into account such benefits, he must give all information required for issue of certificates in terms of such notifications as per form attached to the Qualification Information in the bid. To the extent the employer determines the quantity indicated therein are reasonable keeping in view the bill of quantities, construction programme and methodology, the certificates will be issued within 60 [sixty] days of signing of contract and no subsequent changes will be permitted. No certificate will be issued for items where no quantity/capacity of equipment is indicated in the statement. The bids which do not conform to the above provisions will be treated as non responsive and rejected. Any delay in procurement of the construction equipment /machinery/goods as a result of the above shall not be a cause for granting any extension of time."*

**14. Currencies of Bid and Payment**

**14.1** The unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees.

**15. Bid Validity**

**15.1** Bids shall remain valid for a period not less than **90 days** after the deadline date for bid submission specified in Clause 20. A bid valid for a shorter period shall be rejected by the Employer as non-responsive.

**15.2** In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the bidders may extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing or by cable. A bidder may refuse the request without forfeiting his bid security. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his bid security for a period of the extension, and in compliance with Clause 16 in all respects.

**16. Bid Security**

**16.1** The Bidder shall furnish, as part of his Bid, a Bid security in the amount as shown in column 4 of the table of IFB for this particular work. This bid security shall be in favour of

**Additional Project Director, State Project Management Unit, Gujarat Ecology Commission** and may be in one of the following forms:

- a bank guarantee issued by a nationalized / scheduled bank located in India in the form given in Section 8; or
- Certified cheque, Bank draft or Letter of Credit in favour of Additional Project Director, State Project Management Unit, Gujarat Ecology Commission payable at Gandhinagar.

**16.2** Bank guarantees issued as surety for the bid shall be valid for **45 days** beyond the validity of the bid.

- 16.3 Any bid not accompanied by an acceptable Bid Security and not secured as indicated in Sub-Clauses 16.1 and 16.2 above shall be rejected by the Employer as non-responsive.  
**The bid security of a joint venture as "bidder" all joint venture partners and list them in the following manner : a joint venture consisting of ' \_\_\_\_\_', ' \_\_\_\_\_'; and ' \_\_\_\_\_',**
- 16.4 The Bid Security of unsuccessful bidders will be returned within 28 days of the end of the bid validity period specified in Sub-Clause 15.1.
- 16.5 The Bid Security of the successful bidder will be discharged when the bidder has signed the Agreement and furnished the required Performance Security.
- 16.6 The Bid Security may be forfeited
- (a) if the Bidder withdraws the Bid after Bid opening during the period of Bid validity;
  - (b) if the Bidder does not accept the correction of the Bid Price, pursuant to Clause 27; or
  - (c) in the case of a successful Bidder, if the Bidder fails within the specified time limit to
    - (i) sign the Agreement; or
    - (ii) furnish the required Performance Security.
17. **Alternative Proposals by Bidders**
- 17.1 Bidders shall submit offers that comply with the requirements of the bidding documents, including the basic technical design as indicated in the drawing and specifications. Alternatives will not be considered.
18. **Format and Signing of Bid**
- 18.1 The Bidder shall prepare one original and one copy of the documents comprising the bid as described in Clause 12 of these *Instructions to Bidders*, bound with the volume containing the Form of Bid, and clearly marked "**ORIGINAL**" and "**COPY**" as appropriate. In the event of discrepancy between them, the original shall prevail.
- 18.2 The original and copy of the Bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the Bidder, pursuant to Sub-Clauses 4.3. All pages of the bid where entries or amendments have been made shall be initialed by the person or persons signing the bid.
- 18.3 The Bid shall contain no alterations or additions, except those to comply with instructions issued by the Employer, or as necessary to correct errors made by the bidder, in which case such corrections shall be initialed by the person or persons signing the bid.
- 18.4 The Bidder shall furnish information as described in the Form of Bid on commissions or gratuities, if any, paid or to be paid to agents relating to this Bid, and to contract execution if the Bidder is awarded the contract.

## D. Submission of Bids

### 19. Sealing and Marking of Bids

19.1 The Bidder shall seal the original and copy of the Bid in separate envelopes, duly marking the envelopes as "**ORIGINAL**" and "**COPY**". These envelopes (called as inner envelopes) shall then be put inside one outer envelope.

19.2 The **inner and outer** envelopes shall

(a) be addressed to the Employer at the following address:

**Additional Project Director,  
State Project Management Unit,  
Gujarat Ecology Commission,  
Udhyog Bhavan, Block No. 18, 1<sup>st</sup> Floor,  
Gandhinagar, Gujarat, India, and**

(b) bear the following identification:

- **BID FOR.....**

**CONSTRUCTION WORK OF PRECAST COMPOUND WALL AT PROPOSED BLUE  
FLAG BEACH AT SHIVRAJPUR DISTRICT DEVBHUMI DWARKA**

- Bid Reference No..... [Insert number]

- DO NOT OPEN BEFORE.....**09/10/2018 15.30** hrs..... [Time and date for bid opening, per Clause 23]

19.3 In addition to the identification required in Sub-Clause 19.2, the inner envelopes shall indicate the name and address of the bidder to enable the bid to be returned unopened in case it is declared late, pursuant to Clause 21.

19.4 If the outer envelope is not sealed and marked as above, the Employer will assume no responsibility for the misplacement or premature opening of the bid.

### 20. Deadline for Submission of the Bids

20.1 Bids must be received by the Employer at the address specified above no later than **15:00 pm of 09/10/2018**. In the event of the specified date for the submission of bids declared a holiday for the Employer, the Bids will be received upto the appointed time on the next working day.

20.2 The Employer may extend the deadline for submission of bid by issuing an amendment in accordance with Clause 10, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

### 21. Late Bids

21.1 Any Bid received by the Employer after the deadline prescribed in Clause 20 will be returned unopened to the bidder.

### 22. Modification and Withdrawal of Bids

22.1 Bidders may modify or withdraw their bids by giving notice in writing before the deadline prescribed in Clause 20.

22.2 Each Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and delivered in accordance with Clause 18 & 19, with the outer and inner envelopes additionally marked "**MODIFICATION**" or "**WITHDRAWAL**", as appropriate.

22.3 No bid may be modified after the deadline for submission of Bids.

22.4 Withdrawal or modification of a Bid between the deadline for submission of bids and the expiration of the original period of bid validity specified in Clause 15.1 above or as extended pursuant to Clause 15.2 may result in the forfeiture of the Bid security pursuant to Clause 16.



**22.5** Bidders may offer discounts to, or modify the prices of their Bids only by submitting Bid modifications in accordance with this clause, or included in the original Bid submission.

## E. Bid Opening and Evaluation

### 23. Bid Opening

- 23.1 The Employer will open all the Bids received (except those received late), including modifications made pursuant to Clause 22, in the presence of the Bidders or their representatives who choose to attend at **15:30 hours** on the date and the place specified in Clause 20. 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.
- 23.2 Envelopes marked "**WITHDRAWAL**" shall be opened and read out first. Bids for which an acceptable notice of withdrawal has been submitted pursuant to Clause 22 shall not be opened. Subsequently all envelopes marked "Modification" shall be opened and the submissions therein read out in appropriate detail.
- 23.3 The Bidders' names, the Bid prices, the total amount of Bid and of any alternative Bid (if alternatives have been requested or permitted), any discounts, Bid modifications and withdrawals, the presence or absence of Bid security, and such other details as the Employer may consider appropriate, will be announced by the Employer at the opening. No bid shall be rejected at bid opening except for the late bids pursuant to Clause 21. Bid [and modifications] sent pursuant to Clause 22 that are not opened and read out at bid opening will not be considered for further evaluation regardless of the circumstances. Late and withdrawn bids will be returned un-opened to bidders.
- 23.4 The Employer shall prepare minutes of the Bid opening, including the information disclosed to those present in accordance with Sub-Clause 23.3.

### 24. Process to Be Confidential

- 24.1 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 has been announced. Any effort by a Bidder to influence the Employer's processing of Bids or award decisions may result in the rejection of his Bid.

### 25. Clarification of Bids

- 25.1 To assist in the examination, evaluation, and comparison of Bids, the Employer may, at his discretion, ask any Bidder for clarification of his Bid, including breakdowns of the unit rates. The request for clarification and the response shall be in writing or by cable, 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 Clause 27.
- 25.2 Subject to sub-clause 25.1, 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, it should do so in writing.
- 25.3 Any effort by the Bidder to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decisions may result in the rejection of the Bidders' bid.

### 26. Examination of Bids and Determination of Responsiveness

- 26.1 Prior to the detailed evaluation of Bids, the Employer will determine whether each Bid (a) meets the eligibility criteria defined in Clause 3; (b) has been properly signed; (c) is accompanied by the required securities and; (d) is substantially responsive to the requirements of the Bidding documents.
- 26.2 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 Works; (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.
- 26.3 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 non-conforming deviation or reservation.

### 27. Correction of Errors

- 27.1** Bids determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer as follows:
- (a) where there is a discrepancy between the rates in figures and in words, the rate in words will govern; and
  - (b) where there is a discrepancy between the unit and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.
- 27.2** The amount stated in the Bid will be adjusted by the Employer in accordance with the above procedure for the correction of errors and, with the concurrence of the Bidder, shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount the Bid will be rejected, and the Bid security may be forfeited in accordance with Sub-Clause 16.6 (b).
- 28. Deleted**
- 29. Evaluation and Comparison of Bids**
- 29.1** The Employer will evaluate and compare only the Bids determined to be substantially responsive in accordance with Clause 26.
- 29.2** 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 Clause 27; or
  - (b) making an appropriate adjustments for any other acceptable variations, deviations; and
  - (c) making appropriate adjustments to reflect discounts or other price modifications offered in accordance with Sub Clause 22.5.
- 29.3** 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 shall not be taken into account in Bid evaluation.
- 29.4** The estimated effect of the price adjustment conditions under Clause 47 of the *Conditions of Contract*, during the period of implementation of the Contract, will not be taken into account in Bid evaluation.
- 29.5** If the Bid of the successful Bidder is seriously unbalanced in relation to the Engineer's estimate of the cost of work to be performed under the contract, the Employer may require the Bidder to produce detailed price analyses for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, the Employer may require that the amount of the performance security set forth in Clause 34 be increased at the expense of the successful Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.

## F. Award of Contract

### 31. AwardCriteria

31.1 Subject to Clause 32, 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 Clause 3, and (b) qualified in accordance with the provisions of Clause 4.

31.2 If, pursuant to Clause 12.2 this contract is being let along with other contracts, 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 bidders for the award of more than one contract.

### 32. Employer's Right to accept any Bid and to reject any or all Bids

32.1 Notwithstanding Clause 31, the Employer reserves the right to accept or reject any Bid, and to cancel the Bidding process 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.

### 33. Notification of Award and Signing of Agreement

33.1 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. This letter (hereinafter and in the *Conditions of Contract* called the "Letter of Acceptance") will state the sum that the Employer will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").

33.2 The notification of award will constitute the formation of the Contract, subject only to the furnishing of a performance security in accordance with the provisions of Clause 34.

33.3 The Agreement will incorporate all agreements between the Employer and the successful Bidder. It will be signed by the Employer and kept ready for signature of the successful bidder in the office of employer within 21 days following the notification of award along with the Letter of Acceptance. Within 21 days of receipt, the successful Bidder will sign the Agreement and deliver it to the Employer.

33.4 Upon the furnishing by the successful Bidder of the Performance Security, the Employer will promptly notify the other Bidders that their Bids have been unsuccessful.

### 34. Performance Security

34.1 Within **21 days** of receipt of the Letter of Acceptance, the successful Bidder shall deliver to the Employer a Performance Security in any of the forms given below for an amount equivalent to **5% of the Contract price** in accordance with Clause 29.5 of ITB and Clause 52 of Conditions of Contract:

- a bank guarantee in the form given in Section 8; or
- Certified cheque/Bank draft, in favour of **Director, Gujarat Ecology Commission, Gandhinagar, payable at Gandhinagar**

34.2 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 Nationalized/Scheduled Indian bank or (b) by a foreign bank located in India and acceptable to the Employer or (c) by a foreign bank through a correspondent Bank in India [scheduled or nationalized]. The performance security of a Joint Venture shall be in the name of the joint venture.

34.3 Failure of the successful bidder to comply with the requirements of sub-clause 34.1 shall constitute a breach of contract, cause for annulment of the award, forfeiture of the bid

security and any such other remedy the Employer may take under the contract, and the Employer may resort to awarding the contract to the next ranked bidder.

**35 Advance Payment and Security**

**35.1** The Employer will provide an Advance Payment on the Contract Price as stipulated in the Conditions of Contract, subject to maximum amount, as stated in the Contract Data.

**36. Adjudicator**

**36.1** The Employer proposes that Mr. S V Ahauja be appointed as Adjudicator under the Contract, at a daily fee of Rs.7000/ 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 Chairman, The Institution of Engineers (India), Gujarat Chapter, Gandhinagar at the request of either party.

**37. Fraud and Corruption:**

**37.1** It is the Bank's policy to require that Borrowers (including beneficiaries of Bank loans), as well as bidders, suppliers, and contractors and their agents (whether declared or not), personnel, subcontractors, sub-consultants, service providers or suppliers, 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:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
  - (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;
  - (ii) "fraudulent practice"<sup>3</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;
  - (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;
  - (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;
  - (v) "obstructive practice" is
- (aa) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or

---

<sup>1</sup> In this context, any action taken by a bidder, supplier, contractor, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees to influence the procurement process or contract execution for undue advantage is improper.

<sup>2</sup> For the purpose of these Guidelines, "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 Guidelines, "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.

<sup>4</sup> For the purpose of these Guidelines, "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 Guidelines, "party" refers to a participant in the procurement process or contract execution.

- (bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under par. 1.14 (e) below.
- (b) will reject a proposal for award if it determines that the bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for the contract in question;
  - (c) will cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a beneficiary of the loan engaged in corrupt, fraudulent, collusive, or coercive practices during the procurement or the execution of that contract, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur;
  - (d) will sanction a firm or individual, at any time, in accordance with prevailing Bank's sanctions procedures,<sup>a</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>b</sup> sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract;
  - (e) will have the right to require that a provision be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors to permit the Bank to inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by the Bank.
- 37.2** Furthermore, Bidders shall be aware of the provision stated in sub-clause 23.2 and 59.2 (h) of the Conditions of Contract.

---

<sup>a</sup> A firm or an individual may be declared ineligible to be awarded a Bank-financed contract upon completion of the Bank's sanctions proceedings as per its sanctions procedures, including inter alia: (i) temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding; (ii) cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks; and (iii) the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption.

<sup>b</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: (i) either been included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

SECTION 2: FORMS OF BID, QUALIFICATION INFORMATION AND LETTER OF ACCEPTANCE

Table of Forms:

- AFFIDAVIT
  
- CONTRACTOR'S BID
  
- QUALIFICATION INFORMATION
  
- LETTER OF ACCEPTANCE
  
- NOTICE TO PROCEED WITH THE WORK
  
- AGREEMENT FORM

**AFFIDAVIT**

1. I, the undersigned, do hereby certify that all the statements made in the required attachments are true and correct.
  
2. The undersigned also hereby certifies that neither our firm M/S. \_\_\_\_\_ have abandoned any work \_\_\_\_\_ in India nor any contract awarded to us for such works have been rescinded, during last five years prior to the date of this bid.
  
3. The undersigned hereby authorize(s) and request(s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by the Department to verify this statement or regarding my (our) competence and general reputation.
  
4. The undersigned understand and agrees that further qualifying information may be requested, and agrees to furnish any furnish any such information at the request of the Department/Project implementing agency

\_\_\_\_\_  
Signed by an Authorized Officer of the Firm)

Title of Officer

\_\_\_\_\_

Name of Firm

\_\_\_\_\_

Date

\_\_\_\_\_



**Contractor's Bid**

Description of the Works: \_\_\_\_\_  
\_\_\_\_\_

**BID**

To : \_\_\_\_\_ [the Employer]

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

GENTLEMEN,

Having examined the bidding documents including addendum, we offer to execute the Works described above in accordance with the Conditions of Contract, Specifications, Drawings and Bill of Quantities accompanying this Bid for the Contract Price of \_\_\_\_\_ [in figures] ( \_\_\_\_\_ ) [in letters].<sup>6</sup>

The advance Payment required is: Rupees \_\_\_\_\_.

We accept the appointment of \_\_\_\_\_ as the Adjudicator.

(OR)

We do not accept the appointment of \_\_\_\_\_ as the Adjudicator and propose instead that \_\_\_\_\_ 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 certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

We also undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of Corruption Act 1988".

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 :

<u>Name and address of agent</u>	<u>Amount</u>	<u>Purpose of Commission or gratuity</u>
_____	_____	_____
_____	_____	_____

(if none, state "none")

We hereby confirm that this Bid complies with the Eligibility, Bid Validity and Bid Security required by the Bidding documents.

Yours faithfully,

Authorized Signature:

Name & Title of Signatory \_\_\_\_\_

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

3 To be filled in by the Bidder, together with his particulars and date of submission at the bottom of the Form of Bid.

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

**Qualification Information**

The information to be filled in by the Bidder in the following pages will be used for purposes of post qualification as provided for in Clause 4 of the Instructions to Bidders. This information will not be incorporated in the Contract.

**1. For Individual Bidders**

1.1 Constitution or legal status of Bidder

**[Attach copy]**

Place of registration: \_\_\_\_\_

Principal place of business: \_\_\_\_\_

Power of attorney of signatory of Bid

**[Attach]**

1.2 Total value of interpretation work, museum, or similar

work executed and payments received in the

last five years\*\* (in Rs) 2012-2013 \_\_\_\_\_

2013-2014 \_\_\_\_\_

2014-2015 \_\_\_\_\_

2015-2016 \_\_\_\_\_

2016-2017 \_\_\_\_\_

1.3.1 Work performed as prime contractor (in the same name) on works of a similar nature over the last five years. \*\*

Project	Name of the Employer*	Description of work	Contract No.	Value of contract (Rs. Million)	Date of issue of work order	Stipulate	Actual date of completion*	Remarks explaining reasons for delay and work completed

1.3.2 Quantities of work executed as prime contractor (in the same name and style) in the last five years: \*\*

Year	Name of the Work	Name of the Employer*	Quantity of work performed				Remarks *
							(indicate contract Ref)
2012-2013							
2013-2014							
2014-2015							
2015-2016							
2016-2017							

\*Attach certificate(s) from the Engineer(s)-in-Charge

@The item of work for which data is requested should tally with that specified in ITB clause 4.5A(c).

\*\* immediately preceding the financial year in which bids are received.

β Attach certificate from Chartered Accountant.

1.4 Information on Bid Capacity (works for which bids have been submitted and works which are yet to be completed) as on the date of this bid.

(A) Existing commitments and on-going works:

Description of work	Place & State	Contract No. & Date	Name & Address of Employer	Value of Contract (Rs. Lakhs)	Stipulated period of completion	Value of work remaining to be completed (Rs. In Lakhs)	Anticipated date of completion
1	2	3	4	5	6	7	8

(B) Works for which bids already submitted:

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

\* Attach certificate(s) from the Engineer(s)-in-Charge.

1.5 The following items of Contractor's Equipment are essential for carrying out the Works. The Bidder should list all the information requested below. Refer also to Sub Clause 4.3 (d) of the Instructions to Bidders.

Item of equipment	Requirement		Availability proposals			Remarks (From whom to be purchased)
	No.	Capacity	Owned / leased / to be procured	Nos / Capacity	Age / Condition	

1.6 Qualifications and experience of key personnel proposed for administration and execution of the Contract. Attach biographical data. Refer also to Sub Clause 4.3 (e) and 4.5 (B) (b) of instructions to Bidders and Sub Clause 9.1 of the Conditions of Contract.

Position	Name	Qualification	Year of Experience	Year of experience in the proposed position

				(General)

1.7 Proposed subcontracts and firms involved. [Refer ITB Clause 4.3 (j)]

Sections of the works	Value of Sub-contract	Sub-contractor (name and address)	Experience in similar work
-----------------------	-----------------------	-----------------------------------	----------------------------

*	*	*	*
*	*	*	*
*	*	*	*
*	*	*	*

1.8 Financial reports for the last five years: balance sheets, profit and loss statements, auditors' reports (in case of companies/corporation), etc. List them below and attach copies.

1.9 Evidence of access to financial resources to meet the qualification requirements: cash in hand, lines of credit, etc. List them below and attach copies of support documents [sample format attached].

1.10. Name, address, and telephone, telex, and fax numbers of the Bidders' bankers who may provide references if contacted by the Employer.

1.11 Information on litigation history in which the Bidder is involved.

Other party(ies)	Employer	Cause of dispute	Amount involved	Remarks	Showing Present status
------------------	----------	------------------	-----------------	---------	------------------------

1.12 Statement of compliance under the requirements of Sub Clause 3.2 of the instructions to Bidders.

1.13 Proposed work method and schedule. The Bidder should attach descriptions, drawings and charts as necessary to comply with the requirements of the Bidding documents. [Refer ITB Clause 4.1 and 4.3 (k)].

**2. Joint Ventures**

2.1 The information listed in 1.1-1.12 above shall be provided for each partner of the joint venture.

2.2 The information in 1.13 above shall be provided for the joint venture.

2.3 Attach the power of attorney of the signatory [ies] of the bid authorizing signature of the bid on behalf of the joint venture.

2.4 Attach the agreement among all partners of the joint venture [and which is legally binding on all partners], which shows the requirements as indicated in sub-clause 4.4 of the Instructions to Bidders'. 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

2.5 Furnish details of participation proposed in the joint venture as below:

**DETAILS OF PARTICIPATION IN THE JOINT VENTURE**

<b><i>PARTICIPATION DETAILS</i></b>	<b><i>FIRM 'A'</i></b> <b><i>(Lead Partner)</i></b>	<b><i>FIRM 'B'</i></b>	<b><i>FIRM 'C'</i></b>
Financial			
Name of the Banker(s)			
Planning			
Construction/interpretation Equipment			
Key Personnel			
Execution of Work (Give details on contribution of each)			

**3. Additional Requirements**

3.1 Bidders should provide any additional information required to fulfill the requirements of Clause 4 of the Instructions to the Bidders, if applicable.

**SAMPLE FORMAT FOR EVIDENCE OF ACCESS TO OR AVAILABILITY OF CREDIT FACILITIES – \* CLAUSE**

**4.5 [B] [c] OF ITB**

**BANK CERTIFICATE**

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

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

\_\_ Sd. \_\_  
Name of Bank  
Senior Bank Manager  
Address of the Bank

---

Form .....

(Name of the Project)

(Declaration regarding customs/excise duty exemption for materials/  
Construction equipment bought for the work)

(Bidder's Name and Address)

To: .....  
(Name of the Employer)

Dear Sir:

Re: [Name of Work] .....

Certificate for Import/Procurement of Goods/Construction Equipment

1. We confirm that we are solely responsible for obtaining customs/excise duty waivers which we have considered in our bid and in case of failure to receive such waivers for reasons whatsoever, the Employer will not compensate us.

2. We are furnishing below the information required by the Employer for issue of the necessary certificates in terms of the Government of India Central Excise Notification No. 108/95 and Customs Notification No. 85/99.

3. The goods/equipment which certificates are required are as under:

Items	Make/ Brand Name	Capacity [where applicable]	Qua ntity	Value	State whether it will be procured locally or imported [if so from which country]	Remarks regarding justification for the quantity and their usage in works
<b>Goods</b>						
[a]						
[b]						



Equipment						
[a]						
[b]						
[c]						
[d]						

4. We agree that no modification to the above list is permitted after bids are opened.

5. We agree that the certificate will be issued only to the extent considered reasonable by the Employer for the work, based on the Bill of Quantities and the construction programme and methodology as furnished by us along with the bid.

6. We confirm that the above goods will be exclusively used for the construction of the above work and construction equipment will not be sold or otherwise disposed of in any manner for a period of five years from the date of acquisition.

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

(Signature) \_\_\_\_\_

Place: \_\_\_\_\_

(Printed Name) \_\_\_\_\_

(Designation) \_\_\_\_\_

(Common Seal) \_\_\_\_\_

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

**Letter of Acceptance**

(Letter head paper of the Employer)

\_\_\_\_\_ [date]

To: \_\_\_\_\_ [name and address of the Contractor]

Dear Sirs,

This is to notify you that your Bid dated \_\_\_\_\_ for execution of the \_\_\_\_\_ [name of the contract and identification number, as given in the Instructions to Bidders] for the Contract Price of Rupees \_\_\_\_\_ (\_\_\_\_\_) [amount in words and figures], as corrected and modified in accordance with the Instructions to Bidders<sup>1</sup> is hereby accepted by our Agency.

We accept/do not accept that \_\_\_\_\_ be appointed as the Adjudicator<sup>2</sup>.

We note that as per bid, you do not intend to subcontract any component of work.

[OR]

We note that as per bid, you propose to employ M/s. .... as sub-contractor for executing .....

*[Delete whichever is not applicable]*

You are hereby requested to furnish Performance Security, plus additional security for unbalanced bids in terms of ITB clause 29.5, in the form detailed in Para 34.1 of ITB for an amount of Rs. \_\_\_\_\_ within 21 days of the receipt of this letter of acceptance valid upto 28 days from the date of expiry of Defects Liability Period i.e. upto ..... and sign the contract, failing which action as stated in Para 34.3 of ITB will be taken.

We have reviewed the construction methodology submitted by you along with the bid in response to ITB Clause 4.3[k] and our comments are given in the attachment. You are requested to submit a revised Program including environmental management plan as per Clause 27 of General Conditions of Contract within 14 days of receipt of this letter.

Yours faithfully,

Name and Title of Signatory

Name of Agency

Authorized Signature

- 1 Delete "corrected and" or "and modified" if only one of these actions applies. Delete "as corrected and modified in accordance with the Instructions to Bidders" if corrections or modifications have not been effected.
- 2 To be used only if the Contractor disagrees in his Bid with the Adjudicator proposed by the Employer in the "Instructions to Bidders."



**Issue of Notice to proceed with the work**

(Letterhead of the Employer)

\_\_\_\_\_ (date)

To

\_\_\_\_\_ (name and address of the Contractor)

\_\_\_\_\_

\_\_\_\_\_

Dear Sirs:

Pursuant to your furnishing the requisite security as stipulated in ITB clause 34.1 and signing of the contract agreement for the construction of \_\_\_\_\_ @ a Bid Price of Rs. \_\_\_\_\_, you are hereby instructed to proceed with the execution of the said works in accordance with the contract documents.

Yours faithfully,

(Signature, name and title of  
signatory authorized to sign on  
behalf of Employer)

**Agreement Form**

**Agreement**

This agreement, made the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_,  
between \_\_\_\_\_  
\_\_\_\_\_ [name and address of Employer] (hereinafter called "the  
Employer)" of the one part and  
\_\_\_\_\_ [name  
and address of contractor] (hereinafter called "the Contractor" ) of the other part.

Whereas the Employer is desirous that the Contractor execute  
\_\_\_\_\_  
\_\_\_\_\_ [ name and identification number of Contract] (hereinafter called "the Works")  
and the Employer has accepted the Bid by the Contractor for the execution and completion of  
such Works and the remedying of any defects therein, at a contract price of  
Rs.....

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expression shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to, and they shall be deemed to form and be read and construed as part of this Agreement.
2. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all aspects with the provisions of the Contract.
3. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying the defects wherein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.
4. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
  - i) Letter of Acceptance;
  - ii) Notice to proceed with the works;
  - iii) Contractor's Bid;
  - iv) Contract Data;
  - v) Conditions of contract (including Special Conditions of Contract);
  - vi) Specifications;
  - vii) Drawings;
  - viii) Bill of Quantities; and

ix) Any other document listed in the Contract Data as forming part of the contract.

x) Joint Venture Agreement

In witness whereof the parties thereto have caused this Agreement to be executed the day and year first before written.

The Common Seal of \_\_\_\_\_

was hereunto affixed in the presence of:

Signed, Sealed and Delivered by the said \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

in the presence of:

Binding Signature of Employer \_\_\_\_\_

Binding Signature of Contractor \_\_\_\_\_

**SECTION 3: CONDITIONS OF CONTRACT**

## Conditions of Contract

### Table of Contents

<b>A. <u>General</u></b>	<b>C. <u>Quality Control</u></b>
1. Definitions	33. Identifying Defects
2. Interpretation	34. Tests
3. Language and Law	35. Correction of Defects
4. Engineer's Decisions	36. Uncorrected Defects
5. Delegation	
6. Communications	
7. Subcontracting	<b>D. <u>Cost Control</u></b>
8. Other Contractors	37. Bill of Quantities
9. Personnel	38. Changes in the Quantities
10. Employer's & Contractor's Risks	39. Variations
11. Employer's Risks	40. Payments for Variations
12. Contractor's Risks	41. Cash Flow Forecasts
13. Insurance	42. Payment Certificates Payments
14. Site Investigation Reports	43. Payments
15. Queries about the Contract Data	44. Compensation Events
16. Contractor to Construct the works	45. Tax
17. The Works to Be Completed by the Intended Completion Date	46. Currencies
18. Approval by the Engineer	47. Price Adjustment (Deleted)
19. Safety	48. Retention
20. Discoveries	49. Liquidated Damages
21. Possession of the Site	50. Deleted
	51. Advance payment:
	52. Securities
	53. (Deleted) : 54 Cost of repairs
22. Access to the Site	<b>E. <u>Finishing the Contract</u></b>
23. Instructions	55. Completion
24. Disputes	56. Taking Over
25. Procedure for disputes	57. Final Account
26. Replacement of Adjudicator	58. Operating and Maintenance Manuals
	59. Termination
	60. Payment upon Termination
	61. Property
27. Programme	62. Release from performance due to Contractor



- 28. Time for completion & Extension Default
- of time for completion 63. Suspension of WORLD BANK Loan or Credit
- 29. Deleted 64. Fraud & Corruption
- 30. Delays Ordered by the Engineer
- 31. Management Meetings
- 32. Early Warning

## A. General

### 1. Definitions

- 1.1 Terms which are defined in the Contract Data are not also defined in the Conditions of Contract but keep their defined meanings. Capital initials are used to identify defined terms.

The **Adjudicator** is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in Clauses 24 and 25. The name of the Adjudicator is defined in the Contract Data.

**Bill of Quantities** means the priced and completed **Bill of Quantities** forming part of the Bid.

**Compensation Events** are those defined in Clause 44 hereunder.

The **Completion Date** is the date of completion of the Works as certified by the Engineer in accordance with Sub Clause 55.1.

The **Contract** is the contract between the Employer and the Contractor to execute, complete and maintain the Works. It consists of the documents listed in Clause 2.3 below.

The **Contract Data** defines the documents and other information which comprise the Contract.

The **Contractor** is a person or corporate body whose Bid to carry out the Works has been accepted by the Employer.

The **Contractor's Bid** is the completed Bidding document submitted by the Contractor to the Employer.

The **Contract Price** is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

**Days** are calendar days; **months** are calendar months.

A **Defect** is any part of the Works not completed in accordance with the Contract.

The **Defects Liability Period** is the period named in the Contract Data and calculated from the Completion Date.

The **Employer** is the party who will employ the Contractor to carry out the Works.

The **Engineer** is the person named in the Contract Data (or any other competent person appointed and notified to the contractor to act in replacement of the Engineer) who is responsible for supervising the execution of the works and administering the Contract.

**Equipment** is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.

The **Initial Contract Price** is the Contract Price listed in the Employer's Letter of Acceptance.

The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Engineer by issuing an extension of time.

**Materials** are all supplies, including consumables, used by the contractor for incorporation in the Works.

**Plant** is any integral part of the Works which is to have a mechanical, electrical, electronic or chemical or biological function.

The **Site** is the area defined as such in the Contract Data.

**Site Investigation Reports** are those which were included in the Bidding documents and are factual interpretative reports about the surface and sub-surface conditions at the site.

**Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by the Engineer.

The **Start Date** is given in the Contract Data. It is the date when the Contractor shall commence execution of the works. It does not necessarily coincide with any of the Site Possession Dates.

A **Subcontractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract which includes work on the Site.

**Temporary Works** are works designed, constructed, installed, and removed by the Contractor which are needed for construction or installation of the Works.

A **Variation** is an instruction given by the Engineer which varies the Works.

The **Works** are what the Contract requires the Contractor to construct, install, and turn over to the Employer, as defined in the Contract Data.

## 2. Interpretation

- 2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Engineer will provide instructions clarifying queries about the Conditions of Contract.

**2.2** If sectional completion is specified in the Contract Data, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion date for the whole of the Works).

**2.3** The documents forming the Contract shall be interpreted in the following order of priority:

(1) Agreement

(2) Letter of Acceptance, notice to proceed with the works

(3) Contractor's Bid

(4) Contract Data

(5) Conditions of Contract including Special Conditions of Contract

(6) Specifications

(7) Drawings

(8) Priced **Bill of Quantities** and/ or Lum Sum amount.

(9) Construction methodology/details of personnel/equipment & any other document listed in the Contract Data as forming part of the contract.

### **3. Language and Law**

**3.1** The language of the Contract and the law governing the Contract are stated in the Contract Data.

### **4. Engineer's Decisions**

**4.1** Except where otherwise specifically stated, the Engineer will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

### **5. Delegation**

**5.1** The Engineer may delegate any of his duties and responsibilities to other people except to the Adjudicator after notifying the Contractor and may cancel any delegation after notifying the Contractor.

### **6. Communications**

**6.1** Communications between parties which are referred to in the conditions are effective only when in writing. A notice shall be effective only when it is delivered (in terms of Indian Contract Act).

### **7. Subcontracting**

**7.1** The Contractor may subcontract with the approval of the Engineer but may not assign the Contract without the approval of the Employer in writing. Subcontracting does not alter the Contractor's obligations.

### **8. Other Contractors**

**8.1** The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors. The Contractor shall as referred to in the Contract Data, also

provide facilities and services for them as described in the Schedule. The employer may modify the schedule of other contractors and shall notify the contractor of any such modification.

## **9. Personnel**

- 9.1** The Contractor shall employ the key personnel named in the Schedule of Key Personnel as referred to in the Contract Data to carry out the functions stated in the Schedule or other personnel approved by the Engineer. The Engineer will approve any proposed replacement of key personnel only if their qualifications, abilities, and relevant experience are substantially equal to or better than those of the personnel listed in the Schedule.
- 9.2** If the Engineer asks the Contractor to remove a person who is a member of the Contractor's staff or his work force stating the reasons the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

## **10. Employer's and Contractor's Risks**

- 10.1** The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

## **11. Employer's Risks**

- 11.1** The Employer is responsible for the excepted risks which are (a) in so far as they directly affect the execution of the Works in the Employer's country, the risks of war, hostilities, invasion, act of foreign enemies, rebellion, revolution, insurrection or military or usurped power, civil war, riot commotion or disorder (unless restricted to the Contractor's employees), and contamination from any nuclear fuel or nuclear waste or radioactive toxic explosive, or (b) a cause due solely to the design of the Works, other than the Contractor's design.

## **12. Contractor's Risks**

- 12.1** All risks of loss of or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the Contract other than the excepted risks are the responsibility of the Contractor.

## **13. Insurance**

- 13.1** The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the Contract Data for the following events which are due to the Contractor's risks:
- (a) loss of or damage to the Works, Plant and Materials;
  - (b) loss of or damage to Construction Equipment;
  - (c) loss of or damage of property (except the Works, Plant, Materials and Equipment) in connection with the Contract; and
  - (d) personal injury or death.

- 13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Engineer for the Engineer's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.
- 13.3 If the Contractor does not provide any of the policies and certificates required, the Employer may affect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.
- 13.4 Alterations to the terms of insurance shall not be made without the approval of the Engineer.
- 13.5 Both parties shall comply with any conditions of the insurance policies.

#### **14. Site Investigation Reports**

- 14.1 The Contractor, in preparing the Bid, shall rely on any site Investigation Reports referred to in the Contract Data, supplemented by any information available to the Bidder.

#### **15. Queries about the Contract Data**

- 15.1 The Engineer will clarify queries on the Contract Data.

#### **16. Contractor to Construct the Works**

- 16.1 The Contractor shall construct and install the Works in accordance with the Specification and Drawings, and as per instructions of Engineer.

#### **17. The Works to Be Completed by the Intended Completion Date**

- 17.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the program submitted by the Contractor, as updated with the approval of the Engineer, and complete them by the Intended Completion Date.

#### **18. Approval by the Engineer**

- 18.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Engineer, who is to approve them if they comply with the Specifications and Drawings.
- 18.2 The Contractor shall be responsible for design of Temporary Works.
- 18.3 The Engineer's approval shall not alter the Contractor's responsibility for design of the Temporary Works.
- 18.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works where required.
- 18.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Engineer before their use.

## **19. Safety**

**19.1** The Contractor shall be responsible for the safety of all activities on the Site.

## **20. Discoveries**

**20.1** Anything of historical or other interest or of significant value unexpectedly discovered on the Site is the property of the Employer. The Contractor is to notify the Engineer of such discoveries and carry out the Engineer's instructions for dealing with them.

## **21. Possession of the Site**

**21.1** The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date stated in the Contract Data the Employer is deemed to have delayed the start of the relevant activities and this will be Compensation Event.

## **22. Access to the Site**

**22.1** The Contractor shall allow the Engineer and any person authorized by the Engineer access to the Site, to any place where work in connection with the Contract is being carried out or is intended to be carried out and to any place where materials or plant are being manufactured / fabricated / assembled for the works.

## **23. Instructions**

**23.1** The Contractor shall carry out all instructions of the Engineer which comply with the applicable laws where the Site is located.

### **23.2 Inspections and Audits by the Bank**

The Contractor shall permit the Bank and/or persons appointed by the Bank to inspect the Site and/or the accounts and records of the Contractor and its subcontractors relating to the performance of the Contract, and to have such accounts and records audited by auditors appointed by the Bank if required by the Bank. The Contractor's attention is drawn to Clause 64 [Corrupt or Fraudulent Practices] which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under Sub-Clause 23.2 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility under the Procurement Guidelines)."

## **24. Disputes**

**24.1** If the Contractor believes that a decision taken by the Engineer was either outside the authority given to the Engineer by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 14 days of the notification of the Engineer's decision.

## **25. Procedure for Disputes**

- 25.1 The Adjudicator should be in position before “notice to proceed with work” is issued to the contractor and an agreement should be signed with the Adjudicator jointly by Employer/Contractor in the form attached next to Section 8 s’ – Forms of securities .
- 25.2 The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute.
- 25.3 The Adjudicator shall be paid daily at the rate specified in the Contract Data together with reimbursable expenses of the types specified in the Contract Data and the cost shall be divided equally between the Employer and the Contractor, 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. If neither party refers the dispute to arbitration within the above 28 days, the Adjudicator's decision will be final and binding.
- 25.4 The arbitration shall be conducted in accordance with the arbitration procedures published by the institution named and in the place specified **in the SCC.**

The Arbitrators shall give a decision in writing within **120 days** of start of the proceedings except otherwise agreed to by the Parties. The Arbitrators shall entertain only those issues which have been earlier referred to the Adjudicator and either party is dissatisfied with the decision given by the Adjudicator.

## **26. Replacement of Adjudicator**

- 26.1 Should the Adjudicator resign or die, or sick or should the Employer and the Contractor agree that the Adjudicator is not fulfilling his functions in accordance with the provisions of the Contract, a new Adjudicator will be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority designated in the Contract Data at the request of either party, within 14 days of receipt of such request.

## **B. Time Control**

### **27. Program**

- 27.1 Within the time stated in the Contract Data after the date of the letter of acceptance, the Contractor shall submit to the Engineer for approval a revised Program including Environmental Management Plan showing the general methods, arrangements, order, and timing for all the activities in the Works along with monthly cash flow forecast.
- 27.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work including any changes to the sequence of the activities.
- 27.3 The Contractor shall submit to the Engineer, for approval, an updated Program (to achieve the contracted milestones) at intervals no longer than the period stated in the Contract Data. If the Contractor does not submit an updated Program within this period, the Engineer may withhold the amount stated in the Contract Data from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted.



**27.4** The Engineer's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Engineer again at any time. A revised Program is to show the effect of Variations and Compensation Events.

## **28. Extension of the Intended Completion Date**

**28.1** The Engineer shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work and which would cause the Contractor to incur additional cost.

**28.2** The Engineer shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Engineer for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

## **29. Deleted**

## **30. Delays Ordered by the Engineer**

**30.1** The Engineer may instruct the Contractor to delay the start or progress of any activity within the Works.

## **31. Management Meetings**

**31.1** Either the Engineer or the Contractor may require the other to attend a management meeting which will be held at Jamnagar, Gujarat. The business of a management meeting shall be to review the progress of construction and the plans for construction of remaining work and to deal with matters raised in accordance with the early warning procedure.

**31.2** The Engineer shall record the business of management meetings and is to provide copies of his record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken is to be decided by the Engineer either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

## **32. Early Warning**

**32.1** The Contractor is to warn the Engineer at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price or delay the execution of works. The Engineer may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate is to be provided by the Contractor as soon as reasonably possible.

**32.2** The Contractor shall cooperate with the Engineer in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Engineer.

## **C. Quality Control**

### **33. Identifying Defects**

- 33.1** The Engineer shall check the Contractor's work and notify the Contractor of any Defects that are found specifying a time limit by which it should be corrected. Such checking shall not affect the Contractor's responsibilities. The Engineer may instruct the Contractor to search for a Defect and to uncover and test any work that the Engineer considers may have a Defect.
- 33.2** The contractor shall permit the Employer's Technical auditor to check the contractor's work and notify the Engineer and Contractor of any defects that are found. Such a check shall not affect the Contractor's or the Engineer's responsibility as defined in the Contract Agreement.

### **34. Tests**

- 34.1** If the Engineer instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect the test shall be a Compensation Event.

### **35. Correction of Defects**

- 35.1** The Engineer shall give notice to the Contractor of any Defects (specifying a time by which it should be corrected) before the end of the Defects Liability Period, which begins at Completion and is defined in the Contract Data. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.
- 35.2** Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Engineer's notice.

### **36. Uncorrected Defects**

- 36.1** If the Contractor has not corrected a Defect within the time specified in the Engineer's notice, the Engineer will assess the cost of having the Defect corrected, and the Contractor will pay this amount.

*Note: (1)Where in certain cases, the technical specifications provide for acceptance of works within specified tolerance limits at reduced rates, Engineer will certify payments to Contractor accordingly.*

*(2)Where the failure to correct a particular defect within the specified time is considered as a fundamental breach of contract, a notice should be given to the contractor as stated in G.C.C. 59.2(2)*

## **D. Cost Control**

### **37. Bill of Quantities**

- 37.1** The Bill of Quantities shall contain items for the construction, installation, testing, and commissioning work to be done by the contractor.
- 37.2** The Bill of Quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the Bill of Quantities for each item.

### **38. Changes in the Quantities**

- 38.1** If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1% of Initial Contract Price, the Engineer shall adjust the rate to allow for the change.
- 38.2** The Engineer shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the Prior approval of the Employer.
- 38.3** If requested by the Engineer, the Contractor shall provide the Engineer with a detailed cost breakdown of any rate in the Bill of Quantities.

### **39. Variations**

- 39.1** All Variations shall be included in updated Programs produced by the Contractor.

### **40. Payments for Variations**

- 40.1** The Contractor shall provide the Engineer with a quotation (with breakdown of unit rates based on current SOR) for carrying out the Variation when requested to do so by the Engineer. The Engineer shall assess the quotation, which shall be given within seven days of the request or within any longer period stated by the Engineer and before the Variation is ordered.
- 40.2** If the work in the Variation corresponds with an item description in the Bill of Quantities and if, in the opinion of the Engineer, the quantity of work above the limit stated in Sub Clause 38.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in form of new rates for the relevant items of work, which shall be based on current Gujarat Water Supply and Sewerage Board Schedule of Rates.
- 40.3** If the Contractor's quotation is unreasonable (or if the contractor fails to provide the Engineer with a quotation within a reasonable time specified by the engineer in accordance with Clause 40.1), the Engineer may order the Variation and make a change to the Contract Price which shall be based on Engineer's own forecast of the effects of the Variation on the Contractor's costs.
- 40.4** If the Engineer decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.
- 40.5** The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.

### **41. Cash flow forecasts**

- 41.1** When the Program is updated, the contractor is to provide the Engineer with an updated cash flow forecast.

### **42. Payment Certificates**

**Deleted**

## **43. Payments**

### **43.1** Payments shall be made as under.

1. 90% of the contract value will be paid on satisfactory installation Fixing, anchoring by rope commissioning and testing of the work entrusted by the employer. i.e. CCF, MNP&S
2. Remaining 10 % of the contract value will be paid after one month satisfactory performance of the entrusted work,

## **44. Compensation Events**

### **44.1** The following are Compensation Events unless they are caused by the Contractor:

- (a) The Employer does not give access to a part of the Site by the Site Possession Date stated in the Contract Data.
- (b) The Employer modifies the schedule of other contractors in a way which affects the work of the contractor under the contract.
- (c) The Engineer orders a delay or does not issue drawings, specifications or instructions required for execution of works on time.
- (d) The Engineer instructs the Contractor to uncover or to carry out additional tests upon work which is then found to have no Defects.
- (e) The Engineer unreasonably does not approve for a subcontract to be let.
- (f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of Letter of Acceptance from the information issued to Bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site.
- (g) The Engineer gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.
- (h) Other contractors, public authorities, utilities or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.
- (i) The advance payment is delayed.
- (j) The effect on the Contractor of any of the Employer's Risks.
- (k) The Engineer unreasonably delays issuing a Certificate of Completion.
- (l) Other Compensation Events listed in the Contract Data or mentioned in the Contract.

### **44.2** If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date is extended. The Engineer shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

### **44.3** As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it is to be assessed by the Engineer and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Engineer shall adjust the Contract Price based on Engineer's own forecast. The Engineer will assume that the Contractor will react competently and promptly to the event.

44.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor not having given early warning or not having cooperated with the Engineer.

**45. Tax**

45.1 The rates quoted by the Contractor shall be deemed to be inclusive of the VAT / sales and other taxes that the Contractor will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at source (TDS) as per applicable law.

**46. Currencies**

46.1 All payments shall be made in Indian Rupees.

**47. (Deleted)**

47.2 To the extent that full compensation for any rise or fall in costs to the contractor is not covered by the provisions of this or other clauses in the contract, the unit rates and prices included in the contract shall be deemed to include amounts to cover the contingency of such other rise or fall in costs.

**48. Retention**

48.1 The Employer shall retain from each payment due to the Contractor the proportion stated in the Contract Data until Completion of the whole of the Works.

48.2 On Completion of the whole of the Works half the total amount retained is repaid to the Contractor and half when the Defects Liability Period has passed and the Engineer has certified that all Defects notified by the Engineer to the Contractor before the end of this period have been corrected.

48.3 On completion of the whole works, the contractor may substitute retention money (*balance half*) with an "on demand" Bank guarantee.

**49. Liquidated Damages**

49.1 The Contractor shall pay liquidated damages to the Employer at the rate per day stated in the Contract Data for each day that the Completion Date is later than the Intended Completion Date (for the whole of the works or the milestone as stated in the contract data). The total amount of liquidated damages shall not exceed the amount defined in the Contract Data. The Employer/Engineer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages does not affect the Contractor's liabilities.

49.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Engineer shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the over payment calculated from the date of payment to the date of repayment at the rates specified in Sub Clause 43.1.

**50. Deleted**

**51. Advance Payment**

51.1 The Employer shall make advance payment to the Contractor of the amounts stated in the Contract Data by the date stated in the Contract Data, against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a bank acceptable to the Employer in amounts and currencies equal to the advance payment. The guarantee shall remain effective until the advance payment has been repaid, but the amount of the guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest will not be charged on the advance payment.

51.2 The Contractor is to use the advance payment only to pay for Equipment, Plant and Mobilization expenses required specifically for execution of the Works. The

Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Engineer.

**51.3** The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance (mobilization and equipment only) payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, or Liquidated Damages.

**51.4 Secured Advance:**

The Engineer shall make advance payment in respect of materials intended for but not yet incorporated in the Works in accordance with conditions stipulated in the Contract Data.

**52. Securities**

**52.1** The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a bank or surety acceptable to the Employer, and denominated in Indian Rupees. The Performance Security shall be valid until a date 28 days from the date of expiry of Defects Liability Period and the additional security for unbalanced bids shall be valid until a date 28 days from the date of issue of the certificate of completion.

**53. Deleted**

**54. Cost of Repairs**

**54.1** Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

**E. Finishing the Contract**

**55. Completion**

**55.1** The Contractor shall request the Engineer to issue a Certificate of Completion of the Works and the Engineer will do so upon deciding that the Work is completed.

**56. Taking Over**

**56.1** The Employer shall take over the Site and the Works within seven days of the Engineer issuing a certificate of Completion.

**57. Final Account**

Deleted

**58. Operating and Maintenance Manuals**

**58.1** If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the Contract Data.

**58.2** If the Contractor does not supply the Drawings and/or manuals by the dates stated in the Contract Data, or they do not receive the Engineer's approval, the Engineer

shall withhold the amount stated in the Contract Data from payments due to the Contractor.

## **59. Termination**

**59.1** The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

**59.2** Fundamental breaches of Contract include, but shall not be limited to the following:

- (a) the Contractor stops work for 28 days when no stoppage of work is shown on the current program and the stoppage has not been authorized by the Engineer;
- (b) the Engineer instructs the Contractor to delay the progress of the Works and the instruction is not withdrawn within 28 days;
- (c) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- (d) a payment certified by the Engineer is not paid by the Employer to the Contractor within 56 days of the date of the Engineer's certificate;
- (e) the Engineer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer;
- (f) the Contractor does not maintain a security which is required;
- (g) the Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the Contract data; and
- (h) if the Contractor, in the judgment of the Employer has engaged in fraud and corruption, as defined in GCC Clause 64, in competing for or in executing the Contract.

**59.3** When either party to the Contract gives notice of a breach of contract to the Engineer for a cause other than those listed under Sub Clause 59.2 above, the Engineer shall decide whether the breach is fundamental or not.

**59.4** Notwithstanding the above, the Employer may terminate the Contract for convenience.

**59.5** If the Contract is terminated the Contractor shall stop work immediately, make the Site safe and secure and leave the Site as soon as reasonably possible.

## **60. Payment upon Termination**

**60.1** If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Engineer shall issue a certificate for the value of the work done less advance payments received up to the date of the issue of the certificate, less other recoveries due in terms of the contract, less taxes due to be deducted at source as per applicable law and less the percentage to apply to the work not completed as

indicated in the Contract Data. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor the difference shall be a debt payable to the Employer.

**60.2** If the Contract is terminated at the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Engineer shall issue a certificate for the value of the work done, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works and less advance payments received up to the date of the certificate, less other recoveries due in terms of the contract and less taxes due to be deducted at source as per applicable law.

## **61. Property**

**61.1** All materials on the Site, Plant, Equipment, Temporary Works and Works are deemed to be the property of the Employer, if the Contract is terminated because of a Contractor's default.

## **62. Release from Performance**

**62.1** If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor the Engineer shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which commitment was made.

## **63. Suspension of World Bank Loan or Credit**

**63.1** In the event that the World Bank suspends the Loan or Credit to the Employer, from which part of the payments to the Contractor are being made:

- (a) The Employer is obligated to notify the Contractor of such suspension within 7 days of having received the World Bank's suspension notice.
- (b) If the Contractor has not received sums due to it upon the expiration of the 28 days for payment provided for in Sub-Clause 43.1, the Contractor may immediately issue a 14-day termination notice.

## **64. Corrupt or Fraudulent Practices:**

**64.1** If the Employer determines that the Contractor has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract, then the Employer may, after giving 14 days notice to the Contractor, terminate the Contractor's employment under the Contract and expel him from the Site, and the provisions of Clause 59 shall apply as if such expulsion had been made under Sub-Clause 59.2 [Termination by Employer].

**64.2** Should any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the Works, then that employee shall be removed in accordance with Clause 9.



64.3 For the purposes of this Sub-Clause:

- (i) "corrupt practice"<sup>7</sup> is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
- (ii) "fraudulent practice"<sup>8</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;
- (iii) "collusive practice"<sup>9</sup> is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
- (iv) "coercive practice"<sup>10</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;
- (v) "Obstructive practice" is
  - (aa) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
  - (bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under clause 23.2 [Inspections and Audits by the Bank]."

---

<sup>7</sup>For the purpose of these Guidelines, "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>8</sup> For the purpose of these Guidelines, "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.

<sup>9</sup> For the purpose of these Guidelines, "parties" refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, non competitive levels.

<sup>10</sup>For the purpose of these Guidelines, "party" refers to a participant in the procurement process or contract execution.

## F. Special Conditions of Contract

### 1. LABOUR:

The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

The Contractor shall, if required by the Engineer, deliver to the Engineer a return in detail, in such form and at such intervals as the Engineer may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Engineer may require.

### 2. COMPLIANCE WITH LABOUR REGULATIONS:

During continuance of the contract, the Contractor and his sub contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. Salient features of some of the major labour laws that are applicable to construction industry are given below. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/ regulations including amendments, if any, on the part of the Contractor, the Engineer/Employer shall have the right to deduct any money due to the Contractor including his amount of performance security. The Employer/Engineer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time.

## **SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS**

### **ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK**

**(The law as current on the date of bid opening will apply)**

- a) Workmen Compensation Act 1923: The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- b) Payment of Gratuity Act 1972: Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years service or more or on death the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.
- c) Employees P.F. and Miscellaneous Provision Act 1952 (since amended): The Act Provides for monthly contributions by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are:
  - (i) Pension or family pension on retirement or death, as the case may be.
  - (ii) Deposit linked insurance on the death in harness of the worker.
  - (iii) Payment of P.F. accumulation on retirement/death etc.
- d) Maternity Benefit Act 1951: The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.
- e) Contract Labour (Regulation & Abolition) Act 1970: The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labour.
- f) Minimum Wages Act 1948: The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employments.
- g) Payment of Wages Act 1936: It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.
- h) Equal Remuneration Act 1979: The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.
- i) Payment of Bonus Act 1965: The Act is applicable to all establishments employing 20 or more employees. The Act provides for payments of annual bonus subject to a minimum

of 8.33% of wages and maximum of 20% of wages to employees drawing Rs.3500/-per month or less. The bonus to be paid to employees getting Rs.2500/- per month or above upto Rs.3500/- per month shall be worked out by taking wages as Rs.2500/-per month only. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.

- j) Industrial Disputes Act 1947: The Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- k) Industrial Employment (Standing Orders) Act 1946: It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.
- l) Trade Unions Act 1926: The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.
- m) Child Labour (Prohibition & Regulation) Act 1986: The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in Building and Construction Industry.
- n) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979: The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, travelling expenses from home upto the establishment and back, etc.
- o) The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996: All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the

establishment is required to provide safety measures at the Building or construction work and other welfare measures, such as Canteens, First-Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

- p) Factories Act 1948: The Act lays down the procedure for approval at plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power engaged in manufacturing process.

### **3. SUB-CONTRACTING (GCC Clause 7)**

Please add the following as Clause 7.2:

The contractor shall not be required to obtain any consent from the employer for:

- a) The sub-contracting of any part of the Works for which the Sub-contractor is named in the contract;
- b) The provision of labour; and
- c) The purchase of materials which are in accordance with the standards specified in the Contract.

Beyond this if the contractor proposes sub-contracting any part of the work during execution of works, because of some unforeseen circumstances to enable him to complete the work as per terms of the contract; the Engineer will consider the following before according approval:

- The contractor shall not sub-contract the whole of the Works.
- The contractor shall not sub-contract any part of the Work without prior consent of the Engineer. Any such consent shall not relieve the contractor from any liability or obligations under the contract and he shall be responsible for the acts, defaults and neglects of any sub-contractor, his agents or workmen as fully as if they were the acts, defaults or neglects of the contractor, his agents or workmen.
- The Engineer should satisfy whether (a) the circumstances warrant such sub-contracting; and (b) the sub-contractors so proposed for the Work possess the experience, qualifications and equipment necessary for the job proposed to be entrusted to them in proportion to the quantum of work to be sub-contracted.
- If payments are proposed to be made directly to that sub-contractor, this should be subject to specific authorization by the prime contractor so that this

arrangement does not alter the contractor's liability or obligations under the contract.

#### **4. ARBITRATION (GCC Clause 25.3)**

The procedure for arbitration will be as follows:

- 25.3 (a) In case of Dispute or difference arising between the Employer and a domestic contractor relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996. The arbitral tribunal shall consist of 3 arbitrators one each to be appointed by the Employer and the Contractor. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties and shall act as presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the President of the Institution of Engineers (India)

---

*(Note: 1. all bidders are expected to indicate clearly in the bid, if they proposed sub-contracting elements of the works amounting to more than 20 percent of the Bid Price. For each such proposal the qualification and the experience of the identified sub-contractor in the relevant field should be furnished along with the bid to enable the employer to satisfy himself about their qualifications before agreeing for such sub-contracting and include it in the contract. In view of the above, normally no additional sub-contracting should arise during execution of the contract.*

*2. However, [a] sub contracting for certain specialized elements of the work is not unusual and acceptable for carrying out the works more effectively; but vertical splitting of the works for subcontracting is not acceptable. [b] In any case, proposal for sub-contracting in addition to what was specified in bid and stated in contract agreement will not be acceptable if the value of such additional sub-contracting exceeds 25% of value of work which was to be executed by Contractor without sub-contracting.*

*3. Assignment of the contract may be acceptable only under exceptional circumstances such as insolvencies/liquidation or merger of companies etc.*

- (b) In the case of dispute with a foreign contractor the dispute shall be settled in accordance with provisions of UNCITRAL Arbitration Rules. The Arbitral Tribunal shall consist of three Arbitrators one each to be appointed by the Employer and the Contractor. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties, and shall act a presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, the Presiding arbitrator shall be appointed by the President of the Institution of Engineers (India).
- (c) If one of the parties fails to appoint its arbitrator in pursuance of sub-clause (a) and (b) above within 30 days after receipt of the notice of the appointment of its arbitrator by the other party, then the President of the

Institution of Engineers (India) shall appoint the arbitrator. A certified copy of the order of the President of the Institution of Engineers (India) making such an appointment shall be furnished to each of the parties.

(d) Arbitration proceedings shall be held at Jamnagar in India, and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English.

(e) The decision of the majority of arbitrators shall be final and binding upon both parties. The cost and expenses of Arbitration proceedings will be paid as determined by the arbitral tribunal. However, the expenses incurred by each party in connection with the preparation, presentation, etc. of its proceedings as also the fees and expenses paid to the arbitrator appointed by such party or on its behalf shall be borne by each party itself.

(f) Where the value of the contract is Rs.50 millions and below, the disputes or differences arising shall be referred to the Sole Arbitrator. The Sole Arbitrator should be appointed by agreement between the parties; failing such agreement, by the appointing authority, namely the President of the Institution of Engineers (India).

(g) Performance under the contract shall continue during the arbitration proceedings and payments due to the contractor by the owners shall not be withheld, unless they are the subject matter of the arbitration proceedings.

**5. PROTECTION OF ENVIRONMENT:**

Add the following as GCC Clause 16.2:

The contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation.

During continuance of the contract, the contractor and his sub-contractors shall abide at all times by all existing enactments on environmental protection and rules made there under, regulations, notifications and bye-laws of the State or Central Government, or local authorities and any other law, bye-law, regulations that may be passed or notification that may be issued in this respect in future by the State or Central Government or the local authority.

Salient features of some of the major laws that are applicable are given below :

The Water (Prevention and Control of Pollution) Act, 1974, this provides for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of water. 'Pollution' means such contamination of water or such alteration of the physical,

chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms.

The Air (Prevention and Control of Pollution) Act, 1981, this provides for prevention, control and abatement of air pollution. 'Air Pollution' means the presence in the atmosphere of any 'air pollutant', which means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment.

The Environment (Protection) Act, 1986, this provides for the protection and improvement of environment and for matters connected therewith, and the prevention of hazards to human beings, other living creatures, plants and property. 'Environment' includes water, air and land and the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property.

The contractor shall take all reasonable steps to protect the environment on and off the work sites and to avoid damage or nuisance to persons or to public or private properties resulting from pollution, noise or other causes arising as consequences of the methods of operation. These environmental management and conservation measures, including the ones described below, are incidental to work and to the quality of workmanship, and payment for these are deemed to be included in the payment for all items described in the bill of quantities.

- Before starting any construction activity, the contractor shall obtain all relevant no-objection certificate, consent to operate and consent to establish site, machines and equipments from the Gujarat State Pollution Control Board, Gujarat State Groundwater Board, and other concerned regulatory authorities, if any.
- The contractor shall mitigate and control all point sources of air, water and soil and noise pollution during all stages of construction on all sites, including on temporarily occupied land during construction. Contractors shall ensure that no construction material, construction waste or any other pollutant and effluent is discharged into any river, stream or drains; or temporarily stored within 20 meter of such rivers and streams.



- Contractors shall not fell any tree, nor clear any vegetative cover on and off the work sites, unless specifically directed by the employer in writing. Contractors shall ensure that no forest land is used for any construction activity, waste or debris disposal, or any associated activities.
- Contractors shall use only the designated and approved work sites. For all temporary storage or equipment sites, for all sites for borrowing of material or waste disposal, Contractors shall prepare site redevelopment and restoration plan for each such site, and shall use these sites only after such plan is duly approved by the Employers or any other relevant regulatory agencies. Each such site shall be methodically restored and redeveloped sufficiently in advance of closure of the contract to the satisfaction of the Employer, and the respective owners of the sites. If any of such approved sites is originally an agricultural land, top soil up to a depth of 30 centimeters from the entire site shall be stripped, stored systematically in well protected heaps not exceeding a height of 90 centimeters, and such protected and stored top soil shall be used in redevelopment and restoration of sites.
- Contractors shall ensure proper drainage and no stagnation of water on any work sites during construction.
- Contractors shall ensure proper signage at all work sites including that at each work site, prominent signage should describe the contact address for lodging grievance and suggestions from public. Adequate signage should be provided in the vicinity of all work sites to ensure convenience of public and traffic.
- Contractors shall ensure that no construction work is undertaken during the night and early morning hours (2000 hours 0800 hours) within 100m of any hospital and any such other receptors sensitive to noise.
- The contractor shall ensure safe handling transport and storage of hazardous materials and wastes if any, including lubricants, oils etc., on and off the work sites, including that all required materials, equipment and processes shall be in place before any such use of hazardous materials, or disposal of hazardous wastes arise.
- The contractor shall ensure that all required measures for safeguarding health and occupational safety of all workers employed, and all public in the vicinity of the work sites, as per liberal interpretation of all existing laws and regulations. These would include, among others, (i) provision of adequate number and quality of work camps, workers' accommodation; sanitation facilities separate for men and women; potable drinking water facilities; (ii) provision of first-aid, basic medicine and medical kits with qualified

personnel to administer these; readiness and provision for ambulance; provision and organization of crèche facilities for children of women employed; (iii) provision and enforcement of all personal safety gears and equipments, including dust masks, helmet, appropriate footwear, noise plug, gas masks, etc; (iv) provision of clear prominent safety signs and warnings; and (v) awareness campaign among workers on health, hygiene and personal safety. Contractors shall also ensure that no child is employed or working on any of the work sites at any period during the contract.

- Contractor shall ensure that all construction work or any other associated activities immediately stop within 100 meter of any site where any archaeological or cultural properties or any other relics are discovered during any excavation. In such events, the Employer and the State Department of Archaeology shall be notified promptly, and no work shall resume until expressly permitted by the State Department of Archaeology and/or SPMU.
- The contractor shall ensure that existing utilities, including electricity and telephone services, are not disrupted during construction. The contractor will prepare a plan for shifting, if required, of these utilities and obtain the necessary approvals sufficiently in advance of actual relocation of such utilities.
- Contractor shall ensure that access to any public or private property is not obstructed due to construction or related activities. In cases where digging or other construction activities have to be carried out in close proximity to public or private properties and obstruction is unavoidable, the contractor will plan and provide adequate and safe temporary access. On completion of the activity, the contractor will ensure that the site and access is restored to its original state.
- Contractor shall ensure that any construction activity at any work site which may result in disruption of water supply to any neighborhood, property or household is approved sufficiently in advance of beginning of such construction activity. In all such cases, the contractor shall ensure that the work starts only after confirmation from Employers that sufficient and adequate early notice has been provided to the affected neighborhood, property or household.

The Public Liability Insurance Act, 1991, This provides for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for matters connected herewith or incidental thereto. Hazardous substance means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act 1986, and exceeding such quantity as may be specified by notification by the Central Government.

**6. LIQUIDATED DAMAGES:**

Sub-clause 47.1:

Please substitute the last sentence with the following:

“Time is the essence of the contract and payment or deduction of liquidated damages shall not relieve the contractor from his obligation to complete the work as per agreed construction program and milestones or from any other of the contractor’s obligations and liabilities under the contract.”

**7. Payment for Variation (Clause 38 &40)**

Any variations in the quantities during the time of execution, payments shall be made only as per quoted rate. No variation rate will be applicable in this contract for any increased or decreased quantities. GCC clause 38 and 40 shall not be applicable and stands deleted.

**SECTION 4: CONTRACT DATA**

## Contract Data

**Items marked "N/A" do not apply in this Contract.**

The following documents are also part of the Contract:

**Clause Reference**

- The Schedule of Operating and Maintenance Manuals [58]
- The Schedule of Other Contractors [NA]
- The Schedule of Key Personnel [9]
- The Methodology and Program of Construction & Environmental Management Plan  
The Schedule of Key and Critical equipment to be deployed on the work  
as per agreed program of construction [27]
- Site Investigation reports [14]

The Borrower is Government of India and SPMU Gujarat is a recipient of the credit under ICZM [1.1]

The World Bank means "International Bank for Reconstruction and Development (IBRD)" or International Development Association (IDA), "as appropriate],

The above insertions should correspond to the information provided in the Invitation of Bids.

The Employer is

Name: **Gujarat Ecology Commission**  
**Gandhinagar**

Address: As above.

Name of authorized Representative: \_\_\_\_\_

The Engineer is

[1.1]

Name: As nominated By GEC

The Adjudicator appointed jointly by the Employer and Contractor is:

\*Name : Mr. S V Ahuja [1.1]

\*Address : Rt. Chief Engineer, GWSSB, Shardhadeep Society,  
B/h central school, Kalavad Road, Rajkot

THE NAME AND IDENTIFICATION NUMBER OF THE CONTRACT IS:

### **CONSTRUCTION WORK OF PRECAST COMPOUND WALL AT PROPOSED BLUE FLAG BEACH AT SHIVRAJPUR DISTRICT DEVBHUMI DWARKA**

The Start Date shall be the date of issue of notice to proceed with the work. [1.1]

The Intended Completion Date for the whole of the Works is **One month** with the following milestones: [17, 28]

Milestone dates:

Physical works to be completed Period from the date of issue of notice to proceed with the work

Milestone	Physical Work	% of work to be completed under the milestone
1	Within one Month	Start of work, and Delivery of manufactured material at site. 25% of over all work completion.
2	Within Two months from the date of award of contract	70 % Completion of trail work.
3	Within Three months from the date of award of contract	100% of completeion and final testing and handing over to MNP.

The following documents also form part of the Contract: [2.3]

The Contractor shall submit a revised Program including Environmental Management Plan for the Works (in such form and detail as the engineer shall reasonably prescribe) within 14 days of delivery of the Letter of Acceptance. [27]

*[This program should be in adequate detail and generally conform to the program submitted along with bid in response to ITB Clause 4.3 (k). Deviations if any from that should be clearly explained and should be satisfactory to the Engineer]*

The Site Possession Dates shall be: [21]

Within 7 days of notice to procède with the Works

The Site is located at Narara Jamanagar City, Gujarat [1]

**The Defects Liability Period is 1 years** from the date of certification of completion of works. (Where sectional completion certificate is issued this will apply from those dates for those sections). [35]

Insurance requirements are as under: [13]

		Minimum Cover for Insurance	Maximum deductible for Insurance
(i)	Providing and fixing Floating Jetty of size 24 m x 3 m with necessary anchoring facility at Four places for Eco Tourism Activities within MNP&S, Jamnagar	100%	100%
(ii)	Loss or damage to Equipments	100%	100%
(iii)	Other Property		
(iv)	Personal injury or death insurance: a) for other people;	Rs. 5 Lakhs	Rs. 5 lakhs

	b) for Contractor's Employees	Rs. 2 Lakhs in accordance with the statutory requirements applicable to India
--	-------------------------------	---

The following events shall also be Compensation Events: Nil [44]

The period between Program updates shall be 15 days. [27]

The amount to be withheld for late submission of an updated Program shall be 0.1% the contract value [27]

The language of the Contract documents is English [3]

The law which applies to the Contract is the laws of Union of India [3]

The currency of the Contract is Indian Rupees. [46]

Fees and types of reimbursable expenses to be paid to the Adjudicator [24]

Rs. 7000/ per day plus other out of pocket expenses as per actual on

Appointing Authority for the Adjudicator: Member Secretary.  
Gujarat Ecology Commission  
Gandhinagar. [26]

The proportion of payments retained (retention money) shall be 5% from each bill subject to a maximum of 5% of final contract price

Payment Certificate [42]

Payments [43]

**The liquidated damages will be calculated at the rate 0.05% of the contract price per day with a maximum as 10% of the contract value (49)**

The amounts of the advance payment are: [51]

**Performance Security for 5 per cent of contract price [52]**

The standard form of Performance Security acceptable to the Employer shall be an unconditional Bank Guarantee of the type as presented in Section 8 of the Bidding Documents.

\*The date by which operating and maintenance manuals are required is within [54] 28 days of issue of certificate of completion of whole or section of the work, as the case may be.

\*The date by which "as-built" drawings (in scale ...) in 2 sets are required is within 28 days of issue of certificate of completion of whole or section of the work, as [54] the case may be.

The amount to be withheld for failing to supply "as built" drawings and/or operating and maintenance manuals \*by the date required is Rs. **0.5%** of contract value

The following events shall also be fundamental breach of contract:

[59.2]

1. The Contractor has contravened Sub-clause 7 of GCC read with SCC and Clause 9.0 of GCC

2. The contractor does not adhere to the agreed construction program and agreed environmental management plan (Clause 27 of GCC) and also fails to take satisfactory remedial action as per agreements reached in the management meetings (Clause 30) for a period of 60 days.
3. The contractor fails to carry out of the instructions of Engineer within a reasonable time determined by the Engineer in accordance with GCC Clause 16.1 and 23.1.

The percentage to apply to the value of the work not completed [60] representing the Employer's additional cost for completing the Works shall be 20 percent.



**SECTION 5: SPECIFICATIONS**

**PART-I**  
**MATERIALS**

## **1.1 GENERAL SPECIFICATION OF MATERIALS**

- (1) All materials to be used shall conform to the relevant specifications as per the latest edition of Indian Standard, unless otherwise stated in the detailed specifications of items of work.
- (2) Wherever a reference to any Indian Standard appears in the specification, it shall be taken to mean as a reference to the latest version of the standard.
- (3) Test for material shall be invariably is carried out by the contractor, when the same are specified in the specifications. Tests shall also have to be carried out, even though the same are not specifically mentioned in the specifications but in the opinion of the Engineer-In-Charge, the same are required to be carried out. All such tests shall be carried out in Government Lab or laboratories approved by the Engineer-in-charge and cost there of shall be entirely borne by the Contractor.
- (4) No collection of materials shall be made before it is got approved from the Engineer-In-Charge.
- 1.1.1.1.1.1** (5) Collection of approved materials shall be done at site of work in a systematic manner. Materials shall be stored in such a manner as to prevent deterioration or intrusions of foreign matter and to ensure the preservation of their quality and fitness for the work.
- (6) Materials, if rejected by the Engineer-In-Charge, shall be immediately removed from the site of work. If they are not removed within twenty four hours of receiving such intimation, Engineer-In-Charge shall get the same removed at contractor's cost. The Engineer-In-Charge shall dispose off such materials in a manner as he chooses and the contractor shall not be entitled to any compensation for the cost of such materials.
- (7) Approval to the samples of various materials given by the Engineer-In-Charge will not absolve the contractor from the responsibility of replacing the defective material brought on site or materials used in the work found defective at a latter date. The contractor shall have no claim to any payment or compensation whatsoever on account of any such materials rejected by the Engineer-In-Charge.
- (8) The contractor shall be responsible for observing the laws, rules and regulations imposed under the "Mineral Acts" and such other laws and rules prescribed by Government from time to time.

### **M-1 WATER:**

Water shall conform to IS: 456.

Water shall not be salty or brackish and shall be clean, reasonably clear and free from objectionable quantities of silt and traces of oil and injurious alkalis, salts, organic matter and other deleterious material, which will either weaken the mortar or concrete or cause efflorescence or attack the steel in RCC. Container for transport, storage and handling of water shall be clean.

If required by the Engineer-In-Charge it shall be tested by comparison with distilled water. Comparison shall be made by means of standard cement tests soundness time of setting and mortar strength as specified in IS-269-1976. Any indication of unsoundness, change in time of setting by 30 minutes or more or decrease of more than 10 percent in strength of mortar, prepared with water sample when compared with the results obtained with mortar prepared with distilled water shall be sufficient cause for rejection of water under test.

Water fit for drinking will generally be found suitable for mortar or concrete.

Water for curing of mortar, concrete or masonry should not be too acidic or too alkaline. It shall be free from elements, which significantly affect the hydration reaction or otherwise interfere with the hardening of mortar or concrete or produce objectionable stains or other unsighting deposits on concrete or mortar surfaces.

Hard and bitter water shall not be used for curing. Potable water will generally be found suitable for curing of mortar or concrete.

#### **M-2 CEMENT:**

Cement shall be Sulphate Resistant Cement conforming to IS: 12330, Ordinary Portland cement as per I.S. 269-1976 or Portland slag cement as per I.S.455-1976.

The Grade of cement should be of 43 grade or higher grade.

The contractor shall take every precaution to store the cement properly so that it is not spoiled by dampness etc. Cement required for use shall be fresh as far as possible and stored on planks raised 15 to 20 cms above the floor and stacked 30 cms away from the wall in suitable closed weather proof go down at the site of work. Cement shall be stored in such a way so as to allow the removal and use of cement in chronological order of receipt i.e. first received being first used. Not more than 15 bags shall be stacked vertically in one pile and maximum width of the piles should not be more than 3 meters. Any cement, which has deteriorated, caked or which has been set or partially set shall not be used. When temporarily stored in open for use, it shall be kept on a suitable platform and suitably protected as necessary.

Different brands of cement or cement of the same brand from different factories shall be stored in separate groups and shall not be mixed during use. Cement shall be kept in a store under double locking arrangements. A board indicating stock and daily transactions of cement shall be kept in each room of the cement store. Daily account of receipt and use of cement bags shall be maintained by the Contractor in the proforma prescribed by the Engineer-In-Charge.

The cement shall be measured by no. of bags for all use in concrete (except otherwise stated) and masonry etc. In no case, cement shall be measured by boxes or other means for the volumetric proportion of concrete and mortar. For calculation for the proportion, the volume of the cement bag shall be taken as 0.0342 cu.m. (1.20 cft.) And measuring box of size of 30 cm x 30 x 38 cms for concrete works.



be broken from the best black trap stone as approved by the Engineer-In-Charge. Grit shall have no deleterious reaction with cement.

The grit shall conform to the following gradation as per sieve analysis.

<b>I.S. Sieve Designation</b>	<b>Percentage passing for sieve</b>
12.50mm	100%
10.00mm	85-100%
4.75mm	0-20%
2.36mm	0-5 %

The crushing strength of grit will be such as to allow the concrete in which it is used to built-up the specified strength of concrete.

The necessary test for grit shall be carried out as per the requirements of IS: 2386 or as revised from time to time and as per instructions of the Engineer-In-Charge.

**M-5 CEMENT MORTAR:**

**(A) Cément Mortar:**

**Cement:** Cement shall conform to specification M-2.

**Water:** The water shall conform to specification M-1.

**Sand:** The sand shall conform to specification M-3.

**Proportion of Mix:** Cement and sand shall be mixed to specified proportion. Sand being measured by measuring boxes. The proportion of cement will be by volume on the basis of 50 kg. /bag of cement being equal to 0.0342 cu.m. The mortar may be hand mixed or machine mixed as directed by the Engineer-In-Charge.

**(B) Preparation of Mortar:**

In hand mixed mortar, cement and sand in the specified proportion shall be thoroughly mixed dry on a clean impervious platform by turning over at least 3 times or more till a homogeneous mixture of uniform colour is obtained. Mixing platform shall be so arranged that no deleterious extraneous material shall get mixed with mortar or mortar shall flow out. While mixing, the water shall be gradually added and thoroughly mixed to form a stiff plastic mass of uniform colour, so that each particle of sand shall be completely covered with a film of wet cement. The water cement ratio may be adopted as directed by the Engineer-In-Charge.

The mortar so prepared shall be used within 30 minuets of adding water. Only such quantity of mortar shall be prepared as can be used within 30 minutes. The mortar remaining unused after that period or mortar which has partially hardened or damaged shall not be re-tempered or remixed. It shall be destroyed or thrown away.

**M-6 BLACK TRAP STONE COARSE AGGREGATE FOR PLAIN AND ORDINARY REINFORCED CONCRETE.**

Coarse aggregate shall be of machine crushed stone of black trap and be hard strong, dense durable, clean and free in skin and coating likely to prevent proper adhesion of mortar. The aggregates shall

generally be cubical in shape. Unless special stones of particular quarries are mentioned, aggregates shall be machine crushed from the best black trap stone as approved by the Engineer-In-Charge. Aggregate shall have no deleterious reaction with cement. The size of the coarse aggregate for plain cement concrete and ordinary reinforced cement concrete shall generally be as per the table given below. However, in case of reinforced cement concrete the maximum limit may be restricted to 6 mm less than the minimum lateral clear distance between bars or 6 mm less than the cover whichever is smaller.

1.1.1.1.1.2 TABLE - SIZE OF COARSE AGGREGATE

I.S. Sieve Designation	Percentage Passing for single and nominal sized aggregate		
	40 mm	20 mm	16 mm
40 mm	85-100	100	-
20 mm	0-20	85-100	100
16 mm	-	-	85-100
12.5 mm	-	-	-
10 mm	0.5	0-20	0-30
4.75 mm	-	0-5	0-5
2.36 mm	-	-	-

**Note:** This percentage may be varied some what by the Engineer-in-charge who considered necessary for obtaining better density and strength of concrete.

Single size coarse aggregates confirming to the requirements in table No.1 above, or following nominal sizes shall be used at site with the other ingredients of concrete as indicated below. The mixing shall be in a mixture or on the 1:2:4 and C.C. 1: 1:2 mixing with the other ingredient of concrete shall be done in the mixture only except for small work.

- (1) C.C. 1:5:10 - Nominal size of aggregate 40 mm
- (2) C.C. 1:4:8 - Nominal size of aggregate 40 mm
- (3) C.C. 1:3:6 - Nominal size of aggregate 40 mm
- (4) C.C. 1:2:4 - Nominal size of aggregate 20 mm
- (5) C.C. 1:1 ½:3 - Nominal size of aggregate 20 mm
- (6) C.C. 1:1:2 - Nominal size of aggregate 20 mm

The grading test shall be taken in the beginning and at the change of the source of materials. The necessary test indicated in IS – 383 and IS – 456 shall have to be carried out to ensure the acceptability. The aggregates shall be stored separately and handled in such a manner to prevent the inter-mixing of different aggregates. If the aggregates are covered with the dust, it shall be washed with water to make it clean. The course/aggregates for plain and reinforced concrete shall be measured by volume in the steel or wooden boxes prepared as per the direction of the Engineer-In-Charge.

**M-7 BLACK TRAP STONE COURSE AGGREGATES FOR CONTROLLED REINFORCED CONCRETE**

Coarse aggregate shall be of machine-crushed stone of black trap and be hard / strong, dense, and durable clean and free from skin and coating likely to prevent proper adhesion of mortar. The aggregates shall generally be cubical in shape. Unless special stones of particular quarries are mentioned, aggregates shall be machine crushed from the best, black trap stone as approved by the Engineer-In-Charge. Aggregate shall have no deleterious reaction with cement. In proportion concrete, the quantity of coarse aggregates shall be determined by weight only. The grading of coarse aggregate shall be controlled by obtaining the aggregate in different sizes and blending them in the right proportions as per concrete mix design approved by the Engineer-In-Charge. The different sizes shall be stocked in separate stockpiles; the grading of aggregates shall be checked as frequently as possible. The frequency for verification of the grading shall be as directed by the Engineer-In-Charge to ensure that the grading is maintained uniform with that of the samples used in the preliminary tests.

The necessary test indicated in IS - 383 and IS - 456 shall have to be carried out to ensure the acceptability of the material.

If aggregate is covered with dust it shall be washed with water to make it clean.

#### **M-8 BRICKS:**

##### **(A) First Class Bricks**

The bricks shall be hand or machine moulded and made from suitable soils and kiln burnt. They shall be free from cracks and flaws and modules of free lime. They shall have smooth rectangular faces with sharp corners and shall be of uniform colour. The bricks shall be moulded with a frog of 100 mm x 40 mm and 10 mm to 20 mm deep on one of its flat sides. The bricks shall not break when thrown on the ground from a height of 600 mm.

The size of modular bricks shall be 190 mm x 90 mm x 90 mm. The standard size of bricks shall be 8 ¾" x 4 ¼" x 2 ⅝". Bricks conform to I.S. 1077 in respect of tolerance for sub-class A bricks. The size of the conventional bricks shall be 225 mm x 110 mm x 75mm.

The crushing strength of the bricks shall not be less than 35 kg/sq.cm. The average water absorption shall not be more than 20 percent by weight. A necessary test for crushing strength and water absorption shall be carried out as per I S 4883-1988 for sewer bricks and I S 2212-1962 practice for Brick works and IS: 3495 (Parts I to IV) as directed by the Engineer-In-Charge.

##### **(B) Second Class Bricks**

The second class bricks shall be similar to first class bricks except that they may be permitted to have slight distorted and rounded edges provided no difficulty shall arise on this account in laying of uniform courses.

##### 1.1.1.2

##### 1.1.1.3 M-9 MILD STEEL BARS

Mild steel bars reinforcement for R.C.C. work shall conform to IS. 432 and shall be of tested quality. It shall also comply with relevant part of IS. 456. All the reinforcement shall be clean and free from dirt, oil, paint, grease, mill scale or loose or thick rust at the time of placing.



Reinforcement steel shall be stored such as to avoid distortion and sags of long length and shall be protected as far as possible from surface deterioration. All bars of the same designation shall be stacked separately as far as possible and distinctly marked.

For the purpose of payment the bar shall be measured correct up to 10 mm length and weight payable worked out at the rate specified below.

(1)	6 mm	0.22 Kg/Rmt.
(2)	8 mm	0.39 Kg/Rmt.
(3)	10 mm	0.62 Kg/Rmt.
(4)	12 mm	0.89 Kg/Rmt.
(5)	14 mm	1.21 Kg/Rmt.
(6)	16 mm	1.58 Kg/Rmt.
(7)	18 mm	2.00 Kg/Rmt.
(8)	20 mm	2.47 Kg/Rmt.
(9)	22 mm	2.98 Kg/Rmt.
(10)	25 mm	3.85 Kg/Rmt.
(11)	28 mm	4.83 Kg/Rmt.
(12)	32 mm	6.31 Kg/Rmt.
(13)	36 mm	7.99 Kg/Rmt.
(14)	40 mm	9.86 Kg/Rmt.

**M-10 TMT BARS: Scope of work:**

The scope of work consists of providing and laying mild steel reinforcement and TMT reinforcement for RCC works of various components of the structure. This may be of Tiscon, Sulekhram, SAIL or Punjab Rolling Mill or any other Approved make. This includes cuttings, bending, binding, placing, with all Equipments and labour required for the work as directed by the Engineer-in-charge and all operations covered within the intent and purpose of the Specification.

**Bending of Reinforcement:**

Reinforcing steel shall conform accurately to the dimensions shown on relevant drawings and conforming to the relevant IS codes (latest revision)

Bars shall be bent cold to the specified shape and dimensions or as directed by the Engineer-in-charge using a proper bar bender, operated by hand or power to attain proper radii of bends. Bars shall not be bent or strengthened in a manner that will cause injury to the material. Bars bent during transport or handling shall be straightened before being used on work; they shall not be heated to facilitate bending.

The bending of the TMT bars shall be carried out as per the following:

**Operation Size TMT Fe-510**

1 Bend Up to 22 mm dia. 3d

Over 22 mm dia. 4d

2 Rebend Up to 10 mm dia. 4d

Over 10 mm dia. 5d

### **Placing of Reinforcement:**

All reinforcing bars shall be accurately placed in the exact position shown on the drawings, and shall be securely held in position during placing of concrete by annealed binding wire not less than 1 mm. in size and conforming to IS: 280 and by using stays blocks or metal chairs, spacer, metal hangers, supporting wires or other approved devices at sufficiently close intervals. Bars will not be neither allowed to sag between supports nor displaced during concreting or any other Operation over the work. All devices used for positioning shall be of no corrodible material. Wooden and metal supports will not extend to the Surface of concrete, except where shown on the drawings, Placing bars on layers of freshly laid concrete as the work progresses for adjusting bar spacing will not be allowed. Pieces of broken stone, brick or wooden blocks shall not be used. Layers of bars shall be separated by spacer bars, precast mortar blocks or other approved devices. Reinforcement after being placed in position shall be maintained in a clean condition until completely embedded in concrete. Special care shall be exercised to prevent any displacement of reinforcement in concrete already placed. To protect reinforcement from corrosion, concrete cover shall be provided as indicated on the drawings. All bars protruding from concrete to which other bars are to be spliced and which are likely to be exposed for an indefinite period shall be protected by a thick coat of neat cement grout. In the case of columns and walls, vertical bars shall be kept in normal position with timber templates having slots accurately cut in for bar position. Such templates shall be removed after the concreting has progressed up to a level just below them. Bars crossing each other, where required, shall be secured by binding wire (annealed) of size not less than 1 mm and conforming to IS : 280 in such a manner that they do not slip over each other at the time of fixing and concreting. As far as possible, bars of full length shall be used. In case this is not possible, overlapping of bars shall be done as directed by the Engineer-in-charge. When practicable, overlapping bars shall not touch each other, but be kept apart by 25 mm or 1 1/4 times the maximum size of the coarse aggregates whichever is greater, by concrete between them. Where this is not feasible, overlapping bars shall be bound with annealed steel wire, not less than 1mm thickness twisted tight in eight shape around the lapped bars. The overlaps shall be staggered for different bars and located at fixed locations only along the span where neither shear nor bending moment is maximum.

### **Welding of Bars**

33 per cent of the rods are welded. No pre-warming or post heat treatment is necessary. Interpose temperature should be limited to 200oC with low heat input and equivalent strength low hydrogen type electrode. Suitable means shall be provided for holding the bars securely in position Welding of TMT bars can be permitted if specified on the drawings, joints of Reinforcement bars shall be butt

welded so as to transmit their full strength. Welded joints shall preferably be located at points where steel will not be subject to more than 75 percent of the maximum permissible stresses and welds so staggered that at any one section, not more than during welding. It must be ensured that no voids are left in welding and when welding is done in 2 or 3 stages, previous surface shall be cleaned properly. Ends of the bars shall be cleaned of all loose scale, rust. Grease, paint and other foreign matter before welding. Only competent welders shall be employed on the work. Welded pieces of reinforcement shall be tested. Specimens shall be taken from the actual site and their number and frequency of tests shall be as directed by the Engineer-in-charge..

**M-11 MILD STEEL BINDING WIRE:**

The mild steel wire shall be of 1.63 mm or 1.22 mm (16 or 18 gauge) diameter and shall conform to IS-280 or as revised from time to time.

The use of black wire will be permitted for binding reinforcement bars. It shall be free from dust, oil paint, grease, loose mill scale or any other undesirable coating, which may prevent adhesion of cement mortar.

Storage: The wire coils shall be stored such as to avoid deterioration.

Measurement: No measurement will be taken of the wire used for tying reinforcement bars.  
The rate for reinforcement steel and its fabrication shall include the cost of binding wire.

**M-12 STRUCTURAL STEEL:**

All structural steel shall conform to IS-226 and IS-800 or as revised from time to time. The steel shall be free from the defects mentioned in IS. 226 and shall have a smooth finish. The Material shall be free from loose mill scale, rust pits or other defects affecting the strength and durability. Rivet bars shall be conforming to IS-1148.

Structural steel shall be stored such as to avoid distortion of section of long length and shall be protected as far as practicable from surface deterioration. It should be so stored and handled that material will not be subjected to excessive stress and damages. All deformed structural material will be properly straightened by methods, which are not injurious prior or being, and off, punched or otherwise worked in the shop. Sharp kinds and bends shall be caused for rejection.

When the steel is supplied by the Contractor test certificate of the manufactures shall be produced, if so required by the Engineer-In-Charge. If further test be necessary, they will be done according to IS-226 and IS-23 or as revised from time to time.

**M-13 SHUTTERING:**

The shuttering shall be either of wooden planking of 30mm minimum thickness with or without steel sheet lining or of steel plates stiffened by steel angles. The shuttering shall be supported on battens and beams and props of vertical ballies properly cross braced together so as to make the form work rigid.

The form work shall be sufficiently strong and shall have camber, so that it assumes correct shape after deposition of the concrete and shall be able to resist forces caused by vibration of live load of men working over it and other incidental loads associated with it. The shuttering shall have smooth and even surface and its joints shall not permit leakage of cement grout.

If at any stage of work during or after placing concrete in the structure the form work sags or budes out beyond the required shape of the structure, the concrete shall be removed and work redone with fresh concrete and adequate rigid form work. The complete formwork shall be got inspected by and approved from the Engineer-In-Charge before the reinforcement bars are placed in position.

If wooden props are used, the props shall consist of ballies having 100 mm minimum diameter measured at mid length and 80 mm at thin end and shall be placed at 1 to 1.20m spacing. These shall rest squarely on wooden sole places 40 mm thick and minimum bearing area of 0.10 sq.m. Lay on sufficiently hard base.

Double wedges shall further be provide between the sole plate and the wooden props so as to facilitate tightening and easing of shuttering without jerking the concrete.

The timber used in shuttering shall not be so dry as to absorb water from concrete and swell budge nor so green or wet as to shrink after erection. The timber shall be properly swan and planned on the sides and the surface coming in contact with concrete. Wooden form work with metal sheet lining or steel plates stiffened by steel shall be permitted.

As far as practicable clamp shall be used to hold the forms together and use of nails and spikes avoided.

The surface of timber shuttering that would come in contact with concrete shall be well wetted and coated with soap solution before the concreting is done. Alternatively coat of soap solution or raw linseed oil shall be applied after thoroughly cleaning the surface.

The shuttering for beams and slabs shall have camber of 4 mm per meter (1 in 250) or as directed by the Engineer-In-Charge so as to offset the subsequent deflection. For cantilever the camber at free end shall be 1/50 of the projected length or as directed by the Engineer-In-Charge.

The period that shall elapse after the concrete has been laid before easing and removal of centering and shuttering as under taken shall be as follows.

	<b>Part of structure</b>	<b>Period</b>
1.	Sides of Foundation, Columns beams & walls.	24 to 48 hours.
2.	Undersides of slabs up to 4.5 m span.	7 days.
3.	-do- above 4.50 m and under side of Beams and arches up to 6 m span.	14 days.
4.	-do- above 6 m span & upto 9 m. span	21 days.
5.	Inner sides of beams and arches over 9 m span.	28 days.
6.	Domes, shell & other structures of Special nature.	as per instruction

Work damaged through premature or careless removal of forms shall be reconstructed.

The period for striking the form work shall be 0.5 times more in case of Puzzoloana Cement if used than that of the ordinary Portland cement and the contractor shall not entitle for any extra claim for the same.

**B) STONEWARE PIPES AND FITTINGS**

The pipes and fittings shall be of best quality as approved by the Engineer-In-Charge. The pipe shall be of best quality and as per I S 651-1980 manufactured from stoneware of fire clay, salt glazed thoroughly burnt through the whole thickness, of a close even texture, free from air blows, fire blisters, crack and other imperfections, which effect the serviceability. The inner and outer surfaces shall be smooth and perfectly glazed. The pipe shall be capable to withstand pressure of 1.5m head without showing sign of leakage. The thickness of the wall shall not be less than 1/12<sup>th</sup> of the internal dia. The depth of socket shall not be less than 38mm. The socket shall be sufficiently large to allow a joint of 1 mm around the pipe. All pipes with spigot and socket ends shall conform to IS.651 and shall be of grade 'A'. These shall be sound, free from visible defects such as fine cracks or hair cracks. The glaze of the pipes shall be free from crazing. The pipes shall give a sharp clear noise when struck with a light hammer.

The following information shall be clearly marked on each pipe and fitting:

- (a) Internal diameter;
- (b) Grade;
- (c) Date of manufacture;
- (d) Name of manufacturer or his registered trade-mark or both.

The dia, thickness and weight of stone ware pipe as per IS shall be as below:

Internal Dia of Pipe mm	Mean thickness of barrel and of socket mm	Weights of each pipe 60 cm long. kg approx
100	12	14
150	16	22
200	17	33
250	20	52

**M-14. Teak wood:**

The teak wood shall be of good quality as required for the item to be executed. When the kind of wood is not specifically mentioned, good Indian teak wood as approved shall be used.

Teak wood shall generally be free from large, loose, dead or cluster knots, flaws, shakes, warps, twists bends or any other defects. It shall generally be uniform in substance and of straight fibres as far as possible. It shall be free from rot, decay, harmful fungi and other defects of harmful nature which will affect the strength durability of its usefulness for the purpose for which it is required. The colour shall be uniform as far as possible. Any effort like painting, using any adhesive or resins materials made to hide the defects shall render the pieces liable to rejection by the Engineer-in-charge. All scantlings, planks etc. shall be sawn in straight lines and planes in the direction of grains and of uniform thickness.

The tolerances in the dimensions shall be allowed at the rate of 1.5 m.m. per face to be planed.

**First class teak wood :**

First class teak wood shall have no individual hard and sound knots, more than 6 sq. cm. size and the aggregate area of such knots shall not be more than 1% of area of piece. The timber shall be closed grained.

**Second Class Teak Wood :**

No individual hard and sound knots shall be more than 15 Sq. cms. in size and aggregate area of such knots shall not-exceed 2% of the area of piece.

<b>CODE OF PRACTICE</b>
-------------------------

**GENERAL:**

- (1) The method of the execution of the items shall conform to the relevant specifications as per the latest version of the Indian Standard ,List of applicable Indian Standards **Annexed** below, unless specified otherwise and as far as is applicable.
- (2) Wherever a reference to any Indian Standard appears in the code, it shall be taken to mean as a reference to the latest version of the Standard.
- (3) Work Tests shall invariably be got carried out by the Contractor, when the same are specified in this Code. Tests shall also have to be carried out, even though the same may not have been specifically mentioned in the Code, if in the opinion of the Engineer-In-Charge, they are required to be carried out. All the tests shall be got carried out in Government or approved laboratories and cost there of shall be entirely borne by the Contractor. All moulds, equipments, etc. required of preparing specimens for tests shall be kept in sufficient numbers and in good state, as directed by the Engineer-In-Charge, on the site of work. Specimen for tests shall be, sent to the Laboratory along with the representative of municipality/ consultant in time and the results thereof shall be promptly obtained and reported to the Engineer-In-Charge.
- (4) Satisfactory test results shall not absolve the Contractor, from dismantling and re-doing any work revealed to be defective at a later date. The contractor shall have no claim for any payment or compensation whatsoever on account of replacement of such defective work. Contractor shall take all precautions and care during dismantling and re-doing the work to ensure that any other work, so far executed does not get damage or affected.
- (5) The work shall be carried out in true line and level, and in conformity with the detailed drawings and specified patterns.
- (6) All work shall be carried out in a workman-like manner and as per the best techniques for the particular item.
- (7) All tools, templates, equipments etc. for correct execution of the work, as well as for checking lines, levels alignments of the works, during execution shall be kept in sufficient numbers on the site of work.
- (8) All installations pertaining to water supply and drainage lines fixtures as well as and sanitary fittings shall be deemed to be completed only after giving satisfactory test by the Contractors.

- (9) Scaffolding shall be provided by the Contractor at his own cost for such of the items for the execution of which it is essential

<b>CODE OF PRACTICE</b>		
<b>List of I S (Indian Standard) For DRAINAGE WORKS</b>		
<b>Sr.No</b>	<b>I S number</b>	<b>Particulars of Code</b>
1	651-1980	Code of Practice for Stone Ware Pipes and Fittings
2	4127-1983	Code of practice for laying of Stone ware pipe
3	458-2003	Code of practice for Concrete Pipe (with & without reinforcement)
4	783	Code of practice for laying of Concrete pipe
5	784-1978	Pre Stressed Concrete Pipe
6	3597- 2003	Method of test of Concrete Pipe
7	8329-2000	D.I. Pipe centrifugally cast (spun) for water, Gas Sewerage.
8	12288-1987	Laying of D I Pipe.
9	9523- 2000	D I Fittings/Specials
10	1539-&1536-1989	C I pipe Centrifugally casted (spun) iron pressure pipe for water, Gas, and Sewage.
11	3114-1985	Laying of C I pipe
12	5531-1977	C I Fittings/Specials
13	3486-1966	C I Spigot and Sockets drain pipe
14	5455-1969	C I Steps
15	1726	C I Man Hole and Frame Cover
16	1729	Sand C I spigot and sockets soil fittings
17	780-1980	C I Sluice Valve up to 300 mm Dia.
18	2906-1980	C I Sluice Valve above 300 mm Dia.
19	14333-1996	H D P E pipe for sewerage.
20	7634 (Part-2) 1973	Laying and Jointing HDPE Pipe
21	8360 (part 1 to 3)	HDPE fabricated fittings
22	8008 (part 1 to 7)	HDPE fitting injection molded
23	7328-1992	H D Polyethylene material for molding & extrusion
24	4985-1988	P V C Pipe
25	1239	Code of practice for G I Pipe
26	7634	Code of Practice for Plastic pipe
27	1592-2003	Code of practice for A C pressure pipe
28	12709-& 14402	G R P Pipes used for water & Sewerage
29	1592-2003	code of practice for A C pipes & Fittings.
30	6530	Code of practice for laying of A C pressure pipes
31	3589	Electrically Welded steel pipe
32	5504-1969	Spiral Welded pipe
33	5822-1986	Laying of Steel Welded pipe

34	<b>6392-1971</b>	Steel pipe flanges.
35	<b>8062</b>	Code of practice for Cathodic protection
36	<b>4111-1986 Part 1</b>	Code of practice for Man Hole Chamber construction
37	<b>4111-1986</b> (Part 1 to 4)	Code of practice for Ancillary Structure in Sewage system Man Hole, Invert Syphon, Flushing Tank, Pumping Station. & pumping Main.
38	<b>12592-1991 Part 1 &amp; 2</b>	Precast Man Hole Frame & Cover specification
39	<b>1538-1976 (part 1 to 10)</b>	General Requirements.
40	<b>3764-1966</b>	Safety code for Excavation Works
41	<b>5382-1985</b>	Rubber Ceiling Ring for Water, Gas & Sewerage
42	<b>12820-1989</b>	Dimensional requirements for Rubber Ring Gaskets
43	<b>4883-1988</b>	Specification for Sewer Bricks
44	<b>2212-1962</b>	Code of practice for Brick works.
45	<b>6280-2001</b>	Sewerage Screen.
46	<b>11117-1984</b>	Requirements for High pressure Jetting Machine for Sewerage
47	<b>11397-1985</b>	Attachment Tools for Power Driven Roding Machine.
48	<b>5600-1970</b>	Sewage and Drainage Pumps.
49	<b>6279-1971</b>	Equipment for Grit removal device.
50	<b>10037-1981</b> (part 1 to 3)	Requirements for Sludge dewatering equipment.
51	<b>11972-1967</b>	Code of practice for Safety precaution to be taken when entering in a Sewage system.
52	<b>10261-1982</b>	Requirements for settling Tank.
53	<b>10552-1983</b>	Buckets to be use in power driven bucket type sewage cleaning machine.
54	<b>10595-1983</b>	Requirements for power driven Bucket type of sewage cleaning machine.
55	<b>210</b>	Specification for Grey Iron Casting
56	<b>269</b>	Specification for ordinary and low heat Portland Cement
57	<b>383</b>	Specification for Coarse and fine aggregates from natural sources for concrete
58	<b>432</b>	Specification for Mild Steel and Medium tensile steel bars and Hard drawn steel wire for concrete reinforcement.
59	<b>456</b>	Code of practice for Plain and reinforcement concrete.
60	<b>516</b>	Methods of tests for strength of concrete
61	<b>554</b>	Dimension for pipe threads where pressure tight joints are required on the threads.
62	<b>774</b>	Flushing Cisterns for Water closets and urinals (Valve less symphonic type)
63	<b>775</b>	C I brackets & Supports for wash basin and sink.
64	<b>1786</b>	Specification for high strength deformed steel bars and wires for concrete reinforcement.
65	<b>1742</b>	Code of practice for building drainage works



66	<b>3370</b> (Prat1 to 5)	Code of practice for concrete structures for storage of liquids
67	<b>269</b>	Specification for 33 Grade ordinary Portland Cement.
68	<b>10262</b>	Recommended guidelines for concrete mix design.
69	<b>12269</b>	Specification for 53 Grade ordinary Portland cement.
70	<b>455</b>	Specification for Portland Slag Cement
71	<b>12330 or 6909</b>	Specification for Sulphate resisting Portland Cement.
72	<b>3696</b>	Safety Code for scaffolds and ladder.(Part1 &2)
73	<b>2720</b>	Method of test for soils (Part 1 to 38)
74	<b>8989</b>	Safety Code for erection of concrete framed structures.
75	<b>6587</b>	Specification for spun hemp yarn.
76	<b>5611-.2002</b>	Code of practice for Waste Stabilization Ponds (Facultative Type)
77	<b>14846</b>	C I Air Valve.
78	<b>226 &amp; 800-1975</b>	Structural Steel
79	<b>1538 P- i to xxii</b>	C I Fitting for pressure pipe.

**Item No :**

**Box cutting the road surface to proper slope and camber for making a base for road work including ramming the excavated stuff and despositing on the road side slope as directed up to 50 mt. lead.**

Any soil which generally yields to the application of pickaxes and shovels, spades, rakes or any such ordinary excavating implement or organic soil, gravel, silt, sand turf loam, clay, peat etc. falls under this category. For materials and workmanship for earthwork and excavation, relevant specification IS: 3764 & IS 1200 (Part I) shall be followed. To protect persons from injury and to avoid damage to property, adequate barricades, construction signs, red lanterns and guards as required shall be placed and maintained during the progress of the construction work and until it is safe for the traffic to use the roadways. The relevant Indian standards and the rules and regulations of local authorities in regards to safety provisions shall be observed.

The depth of the excavation shall be as required. The site shall be cleared and all obstructions, loose stones, materials and rubbish of all kind, bush; wood and all type trees shall be removed, as directed. The materials so obtained shall be the property of AMC and shall be conveyed and stacked as directed, within 50-m. lead. The roots of the trees coming in the sides of the trenches shall be cut and coated with hot Bitumen. All types of trees, woods etc. which requires prior permission of Govt./ Forest Authority / Municipal Commissioner, before cutting shall be cut after obtaining such permission from them. The rate of site clearance is deemed to be included in the rate of earthwork. The excavation shall be carried out in true line and level and having width and depth, as shown in the drawings or as directed. The Contractor shall do the necessary shoring and strutting or shall provide necessary slopes to a safe angle or steps, as required or directed, at his own cost. No extra payment shall be made for such precautionary measures, taken. The bottom of the excavated area shall be leveled both longitudinally and transversely, as directed, by removing excess soil and watering, as required. No earth filling will be allowed for bringing it to level, if by mistake or any

other reason, excavation is made deeper or wider than shown on the drawings or as directed. The extra depth or width shall be made up with sand filling, as specified for the bottom level of the subsequent finishing at the cost of the Contractor or as directed by Engineer-In-Charge.

The Contractor shall at his own expense and without extra charge make provision of supporting all utility services, lighting the excavated areas, separating and stacking serviceable materials neatly, shoring, timbering, strutting, bailing out water either sub-soil or rainwater, including pumping at any GEC GANDHINAGAR - stage of the work. Excavated areas shall be kept free of water while masonry or concrete or relevant base works are in progress and till the Engineer-in-charge considers it necessary.

**Disposal of the Excavated Stuff:**

The excavated stuff of the selected type shall be used in backfilling the excavated areas wherever required in layers, including ramming and watering, ensuring proper compaction etc. complete up to lead of 50mt. The Contractor shall remove the balance of the excavated quantity from the site of work, to a place, as directed by engineer in charge. The lead is the shortest practical route and not necessarily the route actually taken. The decision of Engineer-In-charge shall be final in this regard. The measurement of excavation of excavated area shall be made according to the sections shown on the drawing or as per sections given by the Engineer-in-charge. The rate shall include for clearing the site, surface dressing, making layout for road.

**The rate shall be for a unit of one cubic metre**

All the surplus earth/excavated material etc. shall be carried away immediately from the site of work to a place within distance specified in the relevant item or as directed and ordered by the Engineer, so as not to cause any inconvenience to the public traffic. If the instructions are not complied within 7 days from the date of order to cart the surplus materials and clear the site, the said work shall be carried out by the Municipal Corporation at the risk and cost of the contractor and no claim or dispute shall be entertained in this respect. The rate of carting including carting of brick bats, metal, rubble vegetable and garbage, if necessary to clear the road surface.

**The rate shall be for a unit of one cubic metre.**

**Item No.2**

**Providing & laying spreading and compacting 150mm thick WBM Grade - II of B.T.M.C. metal 40mm to 63mm size including using 20% (13+7%) filler i.e. stone screening 13.2 mm at the rate 0.16 Cumt. & 0.08 stone dust including spreading in uniform thickness hand packing rolling with vibratory roller 8-10 tonnes in stages to proper garde and cmaber applying and brooming required types of screening/binding materials to fill up the interstices of coarse aggregate watering and compacting to the required density.**

**1) SCOPE:**

This item shall consist of compacting, rolling, watering and dressing the earth work in the required layers, not exceeding 25 cms in loose thickness, to be done for construction of embankments, side shoulders and miscellaneous back fill with excavated stuff under this

contract. The consolidation of earth work shall be carried out in accordance with the requirements of these specifications and in conformity with the lines, grades and cross sections shown in the drawings or as directed by the Engineer-in-charge. Relevant specification of **Item No. 1** above shall also be followed. The material obtained from the excavation of roadway, shoulders, verges, drains, crossdrainageworks etc., shall be used for filling up of (i) roadway embankment, (ii) the existing pits in the right-of way and (iii) for landscaping of the road as directed by the Engineer, including levelling and spreading with all lifts and lead. The useful excavated materials having P. I. value 6 to 9 shall be used in embankment and it shall be directly deposited at the required location in specified layer. No handling or conveyance charges shall be paid. The useful excavated useful stuff is to be stacked temporarily before use under the same agreement; the contractor shall make his own arrangements for the stacking of this material temporarily on private land or land of plot holders, by paying rent etc. without claiming any compensation. Surplus material not required for use on embankment or unsuitable materials may be used of his own cost to uniformly widen embankment to flatten slopes and fill low places in the road land or plot land, if so permitted by the Engineer in charge. Material not required for any use whatsoever may be disposed off by the contractor at his own cost in a manner approved by the Engineer in charge.

The compaction of earthwork done with excavated stuff shall be carried out in layers not exceeding 25 cms. in loose thickness or as directed by the Engineer-in-charge. M.D.D. test of excavated soil as per requirement shall be carried out at approved Govt. laboratory by the contractor at his own cost. Moisture content of each layer of the loose excavated stuff of soil, soft murrum etc. shall be checked in accordance with IS:2720 (PART-II) and suitably adjusted by sprinkling additional water from a hose line, truck mounted water tank or other approved means so that at the time of compaction, it is from 1% to 2% below O.M.C., corresponding to IS:2720 (PART-VII). While adding water, due allowance shall be made for evaporation losses. After adding the required amount of water, the soil shall be processed by means of harrows, rotary mixers or as otherwise approved until the layer is uniformly wet. Clods or hard lumps of earth shall be broken to have minimum size of 150mm or as directed. Immediately thereafter, rolling shall be started with vibrator roller of 80 to 100 KN static weight with plain drum or heavy pneumatic tyred roller of minimum 200 to 300 KN weight having tyre pressure 0.70 MN / M<sup>2</sup> of other approved plant. Rolling shall commence at the edges and progress towards the centre longitudinally except that on super elevated portions, it shall progress from the lower to the edge parallel to the centre line of the pavement, Each pass of the roller shall uniformly overlap not less one third of the track made in the proceeding pass. During rolling, the grade and camber shall be checked and any high spots or depressions, which become apparent corrected by removing or adding fresh material. Utmost care shall be taken during the rolling work so that earth do not get disturbed and pushed out so as to cause unevenness lumps, irregularities etc. in road surface. Each layer of the earthwork shall be thoroughly compacted to densities specified in table below:

## **2) MODE OF MEASUREMENT & PAYMENT:**

The relevant specifications for mode of measurement of **item No. 1 above** shall be followed. The contract unit rate shall be for a unit of one Cubic meter. Measurement of this item shall be paid on cross-sectional measurements and computing the volume of compacted earthwork done in cubic meters by average end area method. The measurements shall be taken on compacted earthwork. The contract unit rate for this item shall be payment in full for carrying out the required operations including all materials, labours, tools, equipment, testing charges and incidentals to complete the work to the specifications.

**The contract unit rate shall be for a unit of one Cubic meter of finished work compacted work in position at the site of work.**

### **Item No.3**

**Providing and filling in foundation with ordinary Cement concrete M-100 mix and providing necessary vertical pin headers including formwork, vibrating, ramming and curing complete (more than 10 ton)**

Providing and laying cement concrete 1:5:10 (1 Cement :5 coarse sand : 10 hand broken stone aggregate 40 mm nominal size) and curing complete excluding cost of form work in (A) Foundation and plinth.

The rate shall be for a unit of one cubic meter.

### **ItemNo.4**

**Providing and fixing Pre-cast rubber dye inter locking concrete block 60mm thick with grade of concrete M-250 punmatic compressed by mechanically pressed and as per approved design including 75mm sand layer for levelling and filling the joints with sand in proper line and level.**

#### *Scope of work:*

Excavation and compaction up to 30 cm in height. for footpath paving in all sorts of soil murrum including sorting outs and stacking of useful materials stuff up to 50 mt. lead from excavated place and same will be carted. up to 5 km. The scope of work includes manufacturing, supplying and laying of pre -cast paver blocks. The work includes :

1.1 Verification of the existing site condition and advising our project in charge to lay suitable base course if required. Contractors are required to satisfy themselves with quality of sub grade, sub-base course before the paver blocks are laid and suggest strengthening if required.

1.2 Clearing the site by removing all obstacles such as stones, debris etc. for laying of paver blocks.

1.3 Manufacturing of paver blocks in your plant as per requirements of AMC's technical specification.

1.4 Supplying of paver blocks at site, including handling at both ends.

1.5 Laying of paver blocks at site as per requirement in technical specification, within shortest possible time the site is public place hence care should be taken to ensure that the routine activities shall not be disturbed. The job of laying may required to be carried out during night also.

1.6 Testing of paver blocks through reputed Govt./Non Govt. Test house and submission of test results as per requirements in Technical Specifications. AMC reserves the right to carryout test at random. Cost for such tests to be borne by party incl. carting of materials.

1.7 The contractor shall guarantee that all material and components designed, fabricated, supplied and laid by him shall be free from any type of defect due to faulty material and/or workmanship/erection for a period of from the date of completion of work. However, the contractor shall render free maintenance for one year.

### **TECHNICAL SPECIFICATIONS :**

#### **I) Paver Block Manufacturing Facilities:**

The Paver Block shall be made in factory with following minimum facilities & shall be got approved before carting materials to site.

##### **1.1 Concrete Block making Machines :**

The machine should be capable of producing high quality Paver Blocks by obtaining high level of compaction by application of hydraulic compaction and also by high intensity vibration to the moulds.

The machine should have automatic control panel for uniformity in strength.

##### **1.2 Concrete Batching & Mixing**

The factory should equipped with automatic control panel for maintaining water cement ratio from batch to batch to obtain concrete of uniform quality and strength.

##### **1.3. Curing:**

The factory should have well designed curing area to ensure adequate curing of paver blocks.

##### **1.4 Laboratory (Desirable but not essential):**

The factory should have the following:

(i) Compression testing machine of adequate capacity.

(ii) Other tools and equipment for testing raw materials and paver blocks.

(iii) (1). Systematic record of test results of various paver blocks manufactured in the factory.

(2). Concrete Mix Design for various grade of concrete used for making of paver blocks.

### **SAMPLING AND TESTING PROCEDURES FOR PAVER BLOCKS.**

#### **Sample Size :**

**INTERNAL** – Average of minimum 3 samples per 5000 Blocks.

**Essential** – Minimum 2 Blocks per 10000 blocks. Average of minimum 8 blocks per site.

#### **1. Sampling For Testing**

Sampling for testing of paver blocks shall be done in accordance with Appendix -A.

#### **2. Compressive Strength**

Testing for compressive strength shall be undertaken in accordance with standard test as suggested by AMC. The average compressive strength of the blocks tested shall be Min. 35 N/Sqmm.

#### **3. Abrasion Resistance**

Testing for abrasion shall be in accordance with IS 1237 (Specifications for Cement Concrete Floor Tiles)

#### **4. Flexural Strength**

Testing for flexural shall be in accordance with IS 1237 (Specifications for Cement Concrete Floor Tiles)

#### **5. Water Absorption**

Testing for water absorption shall be in accordance with IS 2185:1979 : Part I (Specifications for Concrete Masonry Units)

Appendix – A

#### ***Sampling of Paver blocks.***

##### **1. Method of sampling :**

Before laying paver blocks, each designated section comprising not more than 50000 blocks, shall be divided into ten approximately equal groups. Three blocks shall be drawn from each group.

## **2. Marking and identification :**

All samples shall be clearly marked at the time of sampling in such a way that the designated section of part thereof, and the consignment represented by the sample, are clearly defined. The sample shall be dispatched to the approved test laboratory taking precaution to avoid damage to the paving in transit. Protect the paving from damage and contamination until they have been tested. The testing shall be carried as soon as possible, after the sample has been taken. As soon as practicable after sampling. The samples shall be stored in water at 20 degree C ? 75 degree C for 24 hours prior to testing. Payment shall be made after testing result, cost to be borne by the contractor. The mode of measurement shall be on Smt. basis.

### **Item No. 5**

**Providing and fixing pre-cast concrete kerb stone of gray cement based concrete block 30cm length,45cm height and 15cm thick of M250 grade concret as per approved design and including excavation for fixing in proper line and level,filling the joint with C:M 1:3 (1cement:3fine sand) etc complete. (upto 10 ton)**

Materials: 1.1 Water shall conform to M-1 Cement shall conform to M-3 Sand shall conform to M-6. Grit shall conform to M-8. Coarse aggregate shall confirm M-12 B.

2.0 General:

2.1 Ordinary concrete shall be followed except that the concrete mix shall be designed from preliminary tests, the proportioning of cement and aggregates shall be done by weight and necessary precautions shall be taken in the production to ensure that the required work cube strength is attained and maintained. The controlled concrete shall be in grades of M-100, M-150, M-200, M-250, M-300, M-350 & M-400 with prefix controlled added to it. The letter 'M' refers to mix and numbers specify 28 days works cube compressive strength. Cubes of the mix expressed in Kg./Cmt.

2.2 The proportion of cement sand and coarse aggregates shall be determined by weight, the weight batch machine shall be used for maintaining proper control over the proportion of aggregates as per mix design. Minimum cement consumption for design mix concrete shall be considered as per IS 456-2000.

The strength requirements of different grades of concrete shall be as under:

M-250 - Compressive strength of 15 cms.x 15 cm 28 days conducted in accordance Preliminary test Work test Min. 320

In all cases the 28 days compressive strength specified in above table the criteria for acceptance or rejection of the concrete. Where the strength of a concrete mix as indicated by tests, line in between the strength of any two grades specified in the above table, such concrete shall be classified in for all purpose as concrete belonging to the lower of the two grades between which its strength lies.

General:

The water cement ratio shall not more than those specified in Design mix. The cement content of the mix specified shall be increased if the quantity of water in a mix has to be increased to overcome the difficulties of placement and compaction so that the water-cement-ratio specified is not exceeded. Workability of the concrete shall be controlled by maintaining a water-cement-ratio that is bound to give a concrete mix which is just sufficiently wet to be placed and compacted without difficulty with the means available.

For reinforced concrete work, coarse aggregates having a nominal size of 20 mm. Are generally considered satisfactory. Admixture may be used in concrete only with approval of Engineer-in-charge upon the evidence that with the passage of time, neither the compressive strength of concrete is reduced nor are other requisite qualities of concrete and steel impaired by the use of such admixtures

Workmanship:

2.3 The proportions for ingredients chosen shall be such that concrete has adequate workability for conditions prevailing on the work in question and can be properly compacted with means available except where it can be shown to the satisfaction of the Engineer-in-charge that the supply of properly graded aggregate of uniform quality can be maintained till the completion of work. Grading of aggregate shall be controlled by obtaining the coarse aggregates in different sizes and mixing them in the right proportions

as required. Aggregate of different sizes shall be stocked in separate stockpiles. The required quantity of material shall be stock piled several hours, preferably a day before use. The grading of coarse and fine aggregate shall be checked as frequently as possible the frequency for a given job being determined by the Engineer-in-charge to ensure that the suppliers are maintaining the uniform grading as approved for samples used in the preliminary tests.

2.4 In proportioning concrete the quantity of both cement and aggregate shall be determined by weight. Where the weight of cement is determined by accepting the maker's weight per bag a reasonable number of bags shall be weighted separately to check the net weight. Where cement is weighted from bulk stocks at site and not by bags it shall be weighted separately from the aggregates. Water shall either be measured by volume in calibrated tanks or weighed. All measuring equipments shall be maintained in clean and serviceable condition. Their accuracy shall be periodically checked. It is most important to keep the specified water cement ratio constant and at its correct value. To this end moisture content in both fine and coarse aggregates shall be determined by the Engineer-in-charge according to the weather conditions the amount of mixing water shall then be adjusted to compensate for variations in the moisture content. For the determination of moisture content in the aggregates I. S. 2389 (Part-III) shall be referred to suitable adjustments shall also be made in the weights of aggregates due to variation in their moisture content.

#### Mixing:

3.2.1 For all work. Concrete shall be mixed in a mechanical mixer which along with other accessories shall be kept in first class working condition and so maintained throughout the construction. Measured quantity of aggregate, sand, cement required for each batch shall be poured into the drum of the mechanical mixer while it is continuously running. After about half a minute of dry mixing, measured quantity of water required for each batch of concrete mix shall be added gradually and mixing continued for another one and a half minute. Mixing shall be continued till materials are uniformly distributed and uniform color of the entire mass is obtained and each individual particle of the coarse aggregate shows complete coating of mortar containing its proportionate amount of cement. In no case shall the mixing be done for less than

2 minutes after all ingredients have been put into the mixer.

3.2.2 When hand mixing is permitted by the Engineer-in-charge for small jobs or for certain other reasons, it shall be done on the smooth watertight platform large enough to allow efficient turning over the ingredients of concrete before and after adding water. Mixing platform shall be so arranged that no foreign materials get mixed with concrete nor does the mixing water flow out. Cement in required number of bags shall be placed in a uniform layer on top of the measured quantity of fine and coarse aggregate, which shall also be spread in a layer of uniform thickness on the mixing platform. Dry coarse and fine aggregate and cement shall then be mixed thoroughly by turning over to get a mixture to uniform color. Specified quantity of water shall then be added gradually through a rose-can and the mass turned over till a mix of required consistency is obtained. In hand mixing, quantity of cement shall be increased by 10 percent above that specified.

3.2.3 Mixers which have been out of use for more than 30 minutes shall be thoroughly cleaned before putting in a new batch. Unless otherwise agreed to by the Engineer-in-charge the first batch of concrete from the mixture shall contain only two thirds of normal quantity of coarse aggregate. Mixing plant shall be thoroughly cleaned before changing from one type of cement to another. Consistency: 3.3.1 The degree of consistency which shall depend upon the nature of the work and methods of vibration of concrete, shall be determined by regular slumps tests in accordance with I. S. 1199-1959. The slumps of 100 mm. To 125 mm. shall be adopted when vibrators are used and 80 mm. when vibrators are not used. Inspection: 3.4.1 Contractor shall give the Engineer-in-charge due notice before placing any concrete in the forms to permit him to inspect and accept the false work and forms as to their strength, alignment, and general fitness but such inspection shall not relieve the contractor of his responsibility for the safety of men, machinery, materials and for results obtained. Immediately before concreting, all forms shall be thoroughly cleaned. Centering design and its erection shall be got approved from the Engineer-in-charge. One carpenter with helper shall invariably be kept present throughout the period of concreting. Movement of labor and other persons shall be totally prohibited for reinforcement laid in position. or access to different parts, suitable mobile platforms shall be provided so that steel reinforcement in position is not

disturbed for ensuring proper cover, mortar blocks of suitable size shall be cast and tied to the reinforcement. Timber, kapachi or metal pieces shall not be used for this purpose.

### 3.5 Transporting and laying:

The method of transporting and placing concrete shall be as approved. Concrete shall be so transported and placed that no contamination, segregation or loss of its constituent material takes place. All formwork shall be cleaned and made free from standing water, dust show or ice immediately before placing of concrete. No concrete shall be placed in any part of the structure until the approval of the Engineer-in-charge has been obtained. Concreting shall proceed continuously over the area between construction joints. Fresh concrete shall not be placed against concrete which has been in position for more than 30 minutes unless a proper construction joints is formed. Concrete shall be compacted in its final position within 30 minutes of its discharge from the mixer. Except where otherwise agreed to by the Engineer-in-charge concrete shall be deposited in horizontal layers to a compacted depth of not more than 0.45 meter when internal vibrators are used and not exceeding 0.30 meter in all other cases. Unless otherwise agreed to by the Engineer-in-charge, concrete shall not be dropped into place from a height exceeding 2 meters. When trucking or chutes are used they shall be kept close and used in such a way as to avoid segregation. When concreting has to be resumed on a surface which has hardened, it shall be roughened, swept clean, thoroughly wetted and covered with a 13 mm. Thick layer of mortar composed of cement and sand in the same ratio as in the concrete mix itself. This 13 mm. Layer of mortar shall be fr shly mixed and placed immediately before placing of new concrete. Where concrete has not fully hardened, all laitance shall be removed by scrubbing the wet surface with wire or bristle brushes, care being taken to avoid dislodgement of any particles of coarse aggregate. The surface shall then be thoroughly wetted all free water removed and then coated with neat cement grout. The first layer of concrete to be placed on his surface shall not exceed 150 mm. In thickness and shall be well rammed against old work, particular attention being given to corners and close spots. All concrete shall be compacted to produce a dense homogeneous mass with the assistance of vibrators, unless otherwise permitted by the Engineer-in-charge for exceptional cases, such as concreting under water, where vibrators cannot be used. Sufficient vibrators in serviceable condition shall be kept at site so that spare equipment is always available in the event of breakdowns. Concrete shall be judged to be compacted when the mortar fills the spaces between the coarse aggregate and begins to cream up to form an even surface. Compaction shall be completed before the initial setting starts i.e. Within 30 minutes of addition of water to dry mixture. During compaction, it shall be observed that needle vibrators are not applied on reinforcement which is likely to destroy the bond between concrete and reinforcement.

3.6 Curing: Immediately after compaction, concrete shall be protected from weather, including rain, running water, shocks, vibration, traffic, rapid temperature changes, frost and drying out process. It shall be covered with wet sacking, hessian or other similar absorbent material approved soon after the initial set and shall be kept continuously wet for a period of not less than 14 days from the date of placement. Masonry work over foundation concrete may be started after 48 hours of its laying but curing of concrete shall be continued for a minimum period of 14 days.

### Stripping:

3.7 The Engineer-in-charge shall be informed in advanced by the contractor of his intention to strike the form work. While fixing the time for removal of form work due consideration shall be given to local conditions, character of the structure the weather and other condition that influence the setting of concrete and of the materials used in the mix in normal circumstances (generally where temperatures are above 20°C) and where ordinary concrete is used forms may be struck after expiry of periods specified in item No. 9.1 (A) for respective item of form work. All formwork shall be removed without causing any shock or vibration as would damage the concrete. Before the soffits and struts are removed the concrete surface shall be exposed where necessary in order to ascertain that the concrete has sufficiently hardened. Centering shall be gradually and uniformly lowered in such manner as to permit the concrete to take stresses due to its own weight uniformly and gradually. Where internal metal ties are permitted they or their removable parts shall be extracted without causing any damage to the concrete and remaining holes filled with mortar. No permanently embedded metal part shall have less than 25 mm. Cover to the

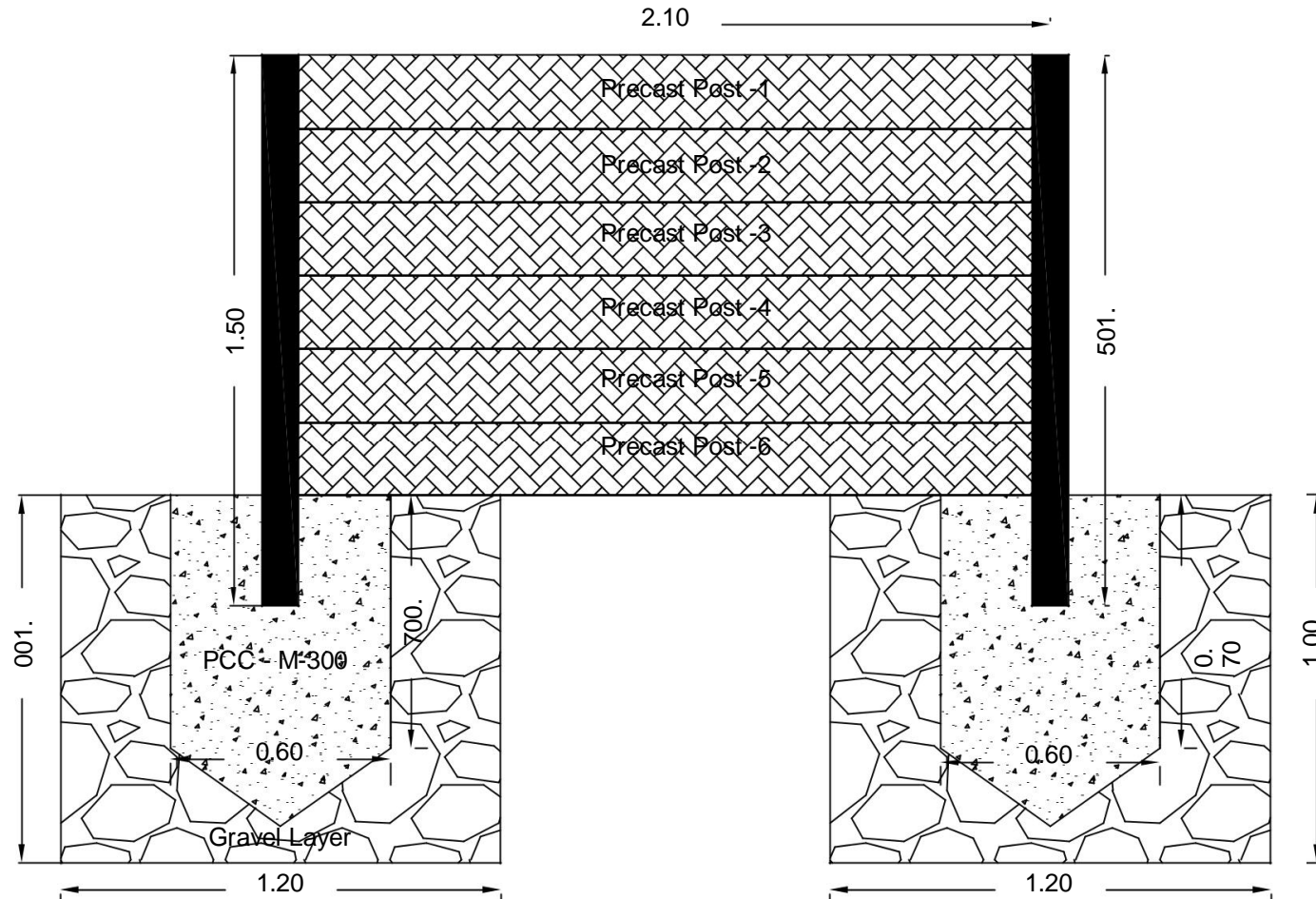


finished concrete surface. Where it is intended to re-use the formwork, it shall be cleaned and made good to the satisfaction of the Engineer-in-charge. After removal of form work and shuttering the Executive Engineer shall inspect the work and satisfy by random checks that concrete produced is of good quality. Immediately after the removal of forms all exposed bolts etc., passing through the cement concrete member and use for shuttering or any other purpose shall be cut inside the cement concrete members to a depth of at least 25 mm. Below the surface of the concrete and the resulting holes be filled by cement mortar. All fine caused by form joints, all cavities produced by the removal of forms ties and all other holes and depressions honeycomb spots broken edges or corners and other defects shall be thoroughly cleaned, saturated with water and carefully pointed and rendered true with mortar of cement and fine aggregate mixed in the proportion used in the grade of concrete that is being finished and of as dry consistency as is possible to use. Considerable pressure shall be applied in filling and pointing to ensure through filling in all voids. Surfaces which are pointed shall be kept moist for a period of 24 hours. If rock pockets honeycombs in the opinion of the Engineer-in-charge are of such an extent or character as to affect the strength of the structure materially or to endanger the life of the steel reinforcement he may declare the concrete defective and require the removal and replacement of the portions of the structure affected.

4.3 The rate shall be for a unit of one cubic meter.

## SECTION 6: DRAWINGS

# GUJARAT ECOLOGY COMMISSION - GANDHINAGAR



## **SECTION 7: FORMS OF SECURITIES**

### **Forms of Securities**

Acceptable forms of securities are annexed. Bidders should not complete the Performance and Advance Payment Security forms at this time. Only the successful Bidder will be required to provide Performance and Advance Payment Securities in accordance with one of the forms, or in a similar form acceptable to the Employer.

**Annex A:** Bid Security (Bank Guarantee)

**Annex B:** Performance Bank Guarantee

**Annex B1:** Performance Bank Guarantee for Unbalanced Items

**Annex C:** Deleted

**Annex A**

**BID SECURITY (BANK GUARANTEE)**

WHEREAS, \_\_\_\_\_ [name of Bidder] (hereinafter called "the Bidder") has submitted his Bid dated \_\_\_\_\_ [date] for the construction of \_\_\_\_\_ [name of Contract] (hereinafter called "the Bid").

KNOW ALL PEOPLE by these presents that We \_\_\_\_\_ [name of bank] of \_\_\_\_\_ [name of country] having our registered office at \_\_\_\_\_ (hereinafter called "the Bank") are bound unto **Additional Project Director, State Project Management Unit, Gujarat Ecology Commission** in the sum of \_\_\_\_\_<sup>1</sup> for which payment well and truly to be made to the Additional Project Director, State Project Management Unit, Gujarat Ecology Commission the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

THE CONDITIONS of this obligation are:

- (1) If after Bid opening the Bidder withdraws his bid during the period of Bid validity specified in the Form of Bid; or
- (2) If the Bidder having been notified of the acceptance of his bid by the Employer during the period of Bid validity:
  - (a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, if required; or
  - (b) fails or refuses to furnish the Performance Security, in accordance with the Instruction to Bidders; or
  - (c) does not accept the correction of the Bid Price pursuant to Clause 27;

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

This Guarantee will remain in force up to and including the date \_\_\_\_\_<sup>2</sup> days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not later than the above date.

DATE \_\_\_\_\_ SIGNATURE OF THE BANK \_\_\_\_\_

WITNESS \_\_\_\_\_ SEAL \_\_\_\_\_

\_\_\_\_\_  
[signature, name, and address]

1 The Bidder should insert the amount of the guarantee in words and figures denominated in Indian Rupees. This figure should be the same as shown in Clause 16.1 of the Instructions to Bidders.

2 45 days after the end of the validity period of the Bid.

**Annex B**  
**PERFORMANCE BANK GUARANTEE**

To: \_\_\_\_\_ [name of Employer]  
\_\_\_\_\_ [address of Employer]

WHEREAS \_\_\_\_\_ [name and address of Contractor] (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. \_\_\_\_ dated \_\_\_\_\_ to execute \_\_\_\_\_ [name of Contract and brief description of Works] (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of \_\_\_\_\_ [amount of guarantee]<sup>1</sup> \_\_\_\_\_ [in words], such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of \_\_\_\_\_ [amount of guarantee]<sup>1</sup> as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed hereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until ..... (i.e.) 28 days from the date of expiry of the Defects Liability Period.

Signature and seal of the guarantor \_\_\_\_\_

Name of Bank \_\_\_\_\_

Address \_\_\_\_\_

Date \_\_\_\_\_

1 An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract and denominated in Indian Rupees.



**Annex B1**

**PERFORMANCE BANK GUARANTEE (for unbalanced items)**

To: \_\_\_\_\_ [name of Employer]  
\_\_\_\_\_ [address of Employer]

WHEREAS \_\_\_\_\_ [name and address of Contractor] (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. \_\_\_\_ dated \_\_\_\_\_ to execute \_\_\_\_\_ [name of Contract and brief description of Works] (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of \_\_\_\_\_ [amount of guarantee]<sup>1</sup> \_\_\_\_\_ [in words], such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of \_\_\_\_\_ [amount of guarantee]<sup>1</sup> as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed hereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until ..... (i.e.) 28 days from the date of issue of the certificate of completion of works.

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

1 \_\_\_\_\_ An amount shall be inserted by the Guarantor, representing additional security for unbalanced Bids, if any and denominated in Indian Rupees.

Additional Project Director, ICZM Unit, Gujarat State Project Management Unit

**TENDER NOTICE NO. SPMU/ICZMP/ NCB/01/2018-19.**

Tender Document  
For

**CONSTRUCTION WORK OF PRECAST COMPOUND WALL AT PROPOSED BLUE  
FLAG BEACH AT SHIVRAJPUR DISTRICT DEVBHUMI DWARKA**

**BID No: SPMU /ICZMP/ NCB/01/2018-19**

**IDA Credit Number: #0146-IN**

**September - 2018.**

- 1) Date of download : From: **08/09/2018 to 08/10/2018** on [www.geciczmp.com](http://www.geciczmp.com)
- (2) Last of Date of Submission of Tender Fees, EMD & Other Documents: **09/10/2018 upto 15:00 hours**
- (3) Date of Tender Opening: **09/10/2018 at 15:30 hours**

**Additional Project Director,  
ICZMP Unit,  
Gujarat State Project Management Unit,  
Gujarat Ecology Commission,  
Block NO. 18, 1<sup>st</sup> Floor, Udhyog Bhavan,  
Gandhinagar**

**PRICE SHEET**

**Earnest Money Paid: Rs 18,000/-** (Demand Draft in favour of Add. Project Director, Gujarat State Project Management Unit, ICZM Project /Bank Guarantee) To be submitted as prescribed in Nationalized Bank and valid for **(90 days + 45 days) i.e. 21/02/2019.**

**Date of Opening of Tender: 09/10/2018 at 15.30 Hours**

**Name of Work:**

**CONSTRUCTION WORK OF PRECAST COMPOUND WALL AT PROPOSED BLUE FLAG BEACH AT SHIVRAJPUR DISTRICT DEVBHUMI DWARKA**

I / We am / are willing to carry out work at \_\_\_\_\_ % above / below\* percent (should be written in figures and words) of the estimated cost, as mentioned above. Amount of my / our tender works out for Rs. \_\_\_\_\_ (in figures)

Rupees \_\_\_\_\_ (in words)

Note : \* Please strike out above or below, whichever is not applicable.

**Add. Project Director,  
ICZM Unit,  
Gujarat State Project Management Unit,  
Gandhinagar**

**Company's seal:**

**Date:**

**SECTION 8: BILL OF QUANTITIES**

GUJARAT ECOLOGY COMMISSION - GANDHINAGAR

RECAPITULATION SHEET

CONSTRUCTION WORK OF PRECAST COMPOUND WALL AT PROPOSED BLUE FLAG BEACH AT SHIVRAJPUR DIST

Sr. No.	Particular	Amount
1	Construction Work of Precast Compound Wall	Rs.....
Net Amount Rs		

## GUJARAT ECOLOGY COMMISSION - GANDHINAGAR

NAME OF WORK :- CONSTRUCTION WORK OF PRECAST COMPOUND WALL AT PROPOSED BLUE FLAG BEACH AT SHIVRAJPUR DISTRICT DEVBHUMI DWARKA

### ABSTRACT SHEET

Item No. & Description	Quantity	Rate	Per	Amount
<b>Item No. 1</b>				
Excavation for foundation in sand, gravel clay, soft soil and murrum etc. including shorting, strutting and dewatering as necessary and disposing of the excavated stuff as directed (A) Depth upto 3.0m. And Lead Up To 100mt(P.No.198 /I.Code.27007A,I.No.0)				
	582.00			
<b>Item No. 2</b>				
Supplying of Rubble materials (R.A.) Lead 10 Km.				
	378.30			
<b>Item No. 3</b>				
Spreading the stone aggregate for rolling and W.B.M. including filling the interstices to required camber and gradient (excluding spreading of Blindage)(ii) 40mm to 63mm size aggregates (H.B.) (P.No. 158/I.Code.26018A,I.No.26.2)				
	378.30			
<b>Item No. 4</b>				
Providing and filling in foundation with ordinary Cement concrete M-100 mix and providing necessary vertical pin headers including formwork, vibrating, ramming and curing complete.(P.No.199 /I.Code.27012,I.No.0)				
	203.70			
<b>Item No. 5</b>				
Providing and Fixing Precast Compound Wall.(MR)				
	1500.00			
<b>Total Amounts Rs.....</b>				

**GUJARAT ECOLOGY COMMISSION - GANDHINAGAR**

**NAME OF WORK :- CONSTRUCTION WORK OF PRECAST COMPOUND WALL AT PROPOSED BLUE FLAG BEACH AT SHIVRAJPUR DISTRICT DEVBHUMI DWARKA**

**MEASUREMENT SHEET**

Item No. & Description	Nos.	Length	Width	Depth	Quantity	Total Qty.
<b>Item No. 1</b>						
Excavation for foundation in sand, gravel clay, soft soil and murrum etc. including shorting, strutting and dewatering as necessary and disposing of the excavated stuff as directed (A) Depth upto 3.0m. And Lead Up To 100mt						
Compound Wall Foundation	1	485.00	1.20	1.00	582.00	
				Total :	582.00	<b>582.00</b>
						<b>Cumt.</b>
<b>Item No. 2</b>						
Supplying of Rubble materials (R.A.) Lead 10 Km.						
Compound Wall Foundation	1	485.00	1.20	1.00	582.00	
				Total :	582.00	.....(A)
					Cumt.	
<b>Deduction :</b>						
P.C.C Qty.			Asper	Item no.4	203.70	
				Total :	203.70	.....(B)
					Cumt.	
				Net Qty. ( A - B ) =	378.30	<b>378.30</b>
						<b>Cumt.</b>
<b>Item No. 3</b>						
Spreading the stone aggregate for rolling and W.B.M. including filling the interstices to required camber and gradient (excluding spreading of Blindage)(ii) 40mm to 63mm size aggregates (H.B.)						
	1	Same	Qty item No. 2		378.30	<b>378.30</b>
						<b>Cumt.</b>
<b>Item No. 4</b>						
Providing and filling in foundation with ordinary Cement concrete M-100 mix and providing necessary vertical pin headers including formwork, vibrating, ramming and curing complete						
Compound Wall Foundation	1	485.00	0.60	0.70	203.70	
				Total :	203.70	<b>203.70</b>
						<b>Cumt.</b>
<b>Item No. 5</b>						
Providing and Fixing Precast Compound Wall.(MR)						
	1	1000.00	-	1.50	1500.00	
				Total :	1500.00	<b>1500.00</b>
						<b>Sqmt.</b>

**GUJARAT ECOLOGY COMMISSION - GANDHINAGAR**

NAME OF WORK :- CONSTRUCTION WORK OF PRECAST COMPOUND WALL AT PROPOSED BLUE  
FLAG BEACH AT SHIVRAJPUR DISTRICT DEVBHUMI DWARKA

**RATE ANALYSIS**

I. No.	Description	Basic Rate	Conveyance		Total Rs. = A+B+C	Rs.
			Charges			
		(A)	(B)	(C)		
2	Supplying of Rubble materials Lead 10 Km.					



**INTEGRATED COASTAL ZONE MANAGEMENT PROJECT**

**State Project Management Unit**

Gujarat Ecology Commission

Udhyog Bhavan, Block No. 18, 1<sup>st</sup> Floor, Gandhinagar – 382 010, Gujarat

**BID No. SPMU/ ICZMP/ NCB /01/2018-19**

**National Competitive Bidding (NCB)**

The Government of India has received a credit from the International Development Association towards the cost of 222 million US dollars equivalent towards implementing the Integrated Coastal Zone Management Project (ICZMP) and intends to apply a part of the funds to cover eligible payments under the contracts for construction of works as detailed below. Bidding is open to all bidders from eligible source countries as defined in the *IBRD Guidelines for Procurement*. Bidders having experience of execution of similar type of work can participate. **Bidders are advised to note the minimum qualification criteria specified in Clause 4 of the Instructions to Bidders in the bid documents to qualify for consideration for the award of the contract.**

The Additional Project Director, State Project Management Unit, Gujarat Ecology Commission for and on behalf of **Gujarat Ecology Commission, Gandhinagar** now invites Single Stage Single Envelope sealed and super scribed bids for the Marine Interpretation centre related works detailed in the table below. The bidders may submit bids for the following work as per Instructions to Bidders.

Name of the Work	Estimated cost put to bid in INR	Bid Security	Cost of Bid Document	Period of completion
<b>CONSTRUCTION WORK OF PRECAST COMPOUND WALL AT PROPOSED BLUE FLAG BEACH AT SHIVRAJPUR DISTRICT DEVBHUMI DWARKA</b>	Rs. 17,69,600/-	Rs. 18,000/-	Rs.1,500/-	1 Months

Interested eligible bidders may obtain further information from and inspect bidding documents at the office of the Additional Project Director, State Project Management Unit (SPMU), Gujarat Ecology Commission, Udhyog Bhavan, Block No 18, 1<sup>st</sup> Floor, Gandhinagar – 382 010, Gujarat, India. Phone No. 079-23257656, Fax No. 079-23257657, Email: [mail@geciczm.com](mailto:mail@geciczm.com) from **08/09/2018 to 08/10/2018**. The interested bidders may also contact Gujarat Ecology Commission, Gandhinagar for any clarification or information

A complete set of Bid documents may be purchased by the interested bidders on submission of a written application at the above address from **08/09/2018 to 08/10/2018** and upon payment of nonrefundable fee of **Rs. 1,500/-** for the bid in the form of a demand draft from a scheduled bank payable to the **Additional Project Director, State Project Management Unit, Gujarat Ecology Commission** payable at Gandhinagar, Gujarat. Bidding documents requested by mail will be dispatched by registered/speed post on payment of an extra amount of **Rs. 1,000/-**. The Additional Project Director, SPMU will not be held responsible for the postal delay if any, in the delivery of the documents or non-receipt of the same.

Bidding will be conducted through the Single Stage Single Envelope, National Competitive Bidding Procedure specified in the World Bank Guidelines for procurement under IBRD Loans and IDA Credits.

Bids must be accompanied by bid security of the amount specified for the work in the table as above, drawn in favour of **Additional Project Director, State Project Management Unit, Gujarat Ecology Commission**. Bid security will have to be in any one of the forms as specified in the bidding document and shall have to be valid for 45 days beyond the validity of the bid.

Bids must be delivered to **Additional Project Director, State Project Management Unit, Gujarat Ecology Commission, Udhog Bhavan, Block No. 18, 1st Floor, Gandhinagar, Gujarat, India** on or before **15:00** hours on **09/10/2018** and will be opened on the same day at **15:30** hours, in the presence of the bidders who wish to attend. If the office happens to be closed on the date of receipt of the bids as specified, the bids will be received and opened on the next working day at the same time and venue.

Other details can be seen in the bidding documents.

**Add. Project Director**  
**SPMU-ICZM Project**  
**Gujarat Ecology Commission**  
**Gandhinagar**



**INTEGRATED COASTAL ZONE MANAGEMENT PROJECT**  
**State Project Management Unit (SPMU)**

Gujarat Ecology Commission  
Udhyog Bhavan, Block No. 18, 1<sup>st</sup> Floor, Gandhinagar – 382 010, Gujarat

**National Competitive Bidding (NCB)**

Gujarat SPMU invites single envelop sealed bids for CONSTRUCTION WORK OF PRECAST COMPOUND WALL AT PROPOSED BLUE FLAG BEACH AT SHIVRAJPUR DISTRICT DEVBHUMI DWARKA. Under the World Bank funded ICZM Project.

**BID No. SPMU/ ICZMP/ NCB /01/2018-19**

<b>Estimated Cost of work</b>	Rs. 17,69,600/-
<b>Bid Security (EMD)</b>	Rs. 18,000/-
<b>Bid Document Cost</b>	Rs. 1500/-
<b>Starting sale of Bid Document/ Last date of sale of bid document</b>	08/09/2018 to 08/10/2018
<b>Last Date &amp; Time for Bid Submission</b>	09/10/2018 up to 15:00 Hrs. & Opening at 15:30 Hrs. on same day.
<b>Stipulated time for completion of work</b>	01 months

The Invitation for Bid [IFB] which includes detailed instructions for submission of bids and all other relevant information is available on [www.geciczmp.com](http://www.geciczmp.com)

Add. Project Director, SPMU-ICZM Project  
email: mail@geciczmp.com; Tel: 079-23257656