

# **STANDARD BIDDING DOCUMENT PROCUREMENT OF CIVIL WORKS**

## **COMPLETE BIDDING DOCUMENT**

**Renovation of Sujlam Suflam Sub Division No. 5 Office at  
Mahesana**

**Estimated Amount : - Rs.7,56,575.13**



**GOVERNMENT OF GUJARAT  
Water Resources Department**

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**INVITATIONFORBID  
(IFB)**

## **NATIONALCOMPETITIVEBIDDING**

1. The Executive Engineer, Sujlam Suflam Division 2, Visnagar invites bids for the construction / Supply of works detailed in the table.  
The bidders may submit bids for any or all of the following works.

### **1. TABLE**

Package No.	Name ofwork	Approximate valueof works (Rs.)	Bid security (Rs.)	Cost of document	Period of completion	#Class of Registration/ Category of contractor if required
1	2	3	4	5	6	7
1	Renovation of Sujlam Suflam Sub Division No. 5 Office at Mahesana	756575.13	8000	900	3 month	E-2 and above

2. Prospective/Interested biddermaydownload theBidDocumentsfromwebsite <https://www.nprocure.com> freeofcosttilltheTimeandDateasmentionedonline NITatwebsite <https://www.nprocure.com>.

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3. However, Bidder who is submitting the Bid Online will have to pay the Bid Document Fee /Tender Fee through Demand Draft only of any Schedule Bank payable at Visnagar and in favourof 'Executive Engineer, Sujlam Suflam Division 2, Visnagar'. Once the Bid is received online, Bid Document/Tender Fee will not be refundable. AsPer GoG R&B Department's Circular No. PARACH/102/000/IB/221/(59)/CDated.24/01/2007

The Demand Draft for Bid Document/Tender fee and FDR/Bank Guarantee against Bid Security/EMD shall be submitted in electronic format through online(byscanning) while uploading the bid, this submissions hall mean that bid document/tender fee and Bid Security/ EMD hasbeen received. Accordingly, the offer of only those shallbe opened whose BidDocument/ TenderFee and BidSecurity /EMD have been received electronically. However, for the purpose of realization of Demand Draft, and FDR/Bank Guarantee bidders hall send the same in original through R.P.A.D. so as to reach to # 'Executive Engineer,Sujlam Suflam Division 2, Visnagar within 7 Days from the last day of bid submission.

Penalitive action for not submitting Demand Draft/FDR/Bank Guarantee in original to Executive Engineer/ Tender Inviting Authority by bidders shall be initiated.  
**WRD GR No.PRC-102014-1-MICell-K.1 Dated: 29/10/2014**

4. Bids received online, will be opened on the time, date and place as specified in the online NIT at website <https://www.nprocure.com> in the presence of the bidders or their authorized representatives, who wish to remain present.  
 If the office happens to be closed on the day of opening of the bids as specified, the bids will be opened on the next working day at the same time and venue.
5. A pre bid meeting will be held on ..... at ..... hrs. at the office of Executive Engineer, Sujlam Suflam Division 2, Visnagar to clarify the issues and to answer questions on any matter that may be raised at that stage as stated in clause 9.2 of instructions to Bidders' of the bidding documents.
6. # Bid Security (EMD) is equal to 1% of Estimated Amount put to bid/tender and should be rounded off to the next thousand rupees.
7. Other Information is as under:
  - A. Agencies can prepare and edit their offers a number of times before the end of the tender submission date and time. After the tender submission date and time, the bidder cannot modify/ edit/ withdraw their submitted offer in any case. Now written or online request in this regard shall be granted.
  - B. Offers in physical form will not be accepted in any case.
  - C. Demand Draft purchased by the other than bidder and issued after the last date of submission of Bids, will not be considered or accepted.
  - D. The cost incurred by the contractor for this offer for clarification or attending discussion, conference or site visits will not be reimbursed by the Employer or Engineer-in-Charge.
  - E. Conditional tenders shall not be accepted.
  - F. Any changes, addition, alternation made in the prescribed form attached with tender are liable to be rejected.
  - G. Any change in formator conditional Bank Guarantee will not be accepted and the bidder will be considered non-responsive.
  - H. All the bidders are instructed to fill in information strictly in accordance with the format given in the checklist/qualification document/tender document.
  - I. It is mandatory for the bidder to supply each and every information as asked strictly in electronic format at appropriate places only.
  - J. Blank/insufficient information shall be treated as nil information and shall result in disqualification.
  - K. Even if the bidder has been qualified in a similar or larger size of project in the past, it shall not be deemed to be a ground /reason for not giving required information for this work/ bid.
  - L. Information supplied for earlier project shall not be considered while evaluation of this bid. The Government will not ask for any other information, unless it is found absolutely necessary by the competent authority.
  - M. If found necessary, the contractor will be intimated for negotiation.
  - N. The contractors, who are registered in appropriate category of C.P.W.D., M.E.S. and Railways and other Indian State Governments, can also bid provided the bidder produce such registration certificate at the time of bidding and obtain registration in required class & category from the Gujarat State WRD/ R & B before opening of price bid. Bidder will solely be responsible for obtaining the required registration.

# **FortheworkscostinguptoRs.7.5crore(WRDWorks),Rs.7.0crore(ROAD/  
BRIDGE/BUILDINGWORKS), Rs.0.5Crore(ElectricalWorks)kindlyrefertoGoG  
NWRWS &K Department'sCircular No.Paracha/1097/1397(11)/pa.fa./ MICELL(k-  
1)dated 18/01/2018andDated 30/09/2022**

Fortheworks costingunderRs.7.5 croreforConstructionworkofWaterResources  
Department,Rs. 7.0 crore forRoads,BridgesandBuildingandRs. 050 croreforElectrical  
workfollowingdocumentsshallbesubmittedinelectronicformatonlythroughonline by  
scanningandthe(i)BidDocumentFee/ Tender Fee(ii)BidSecurity/EMDshouldbe sent  
inoriginalto the TenderopeningauthoritythroughRPAD,soastoreachthe Executive  
Engineer within7daysfromlastdayof submissionof Bid.

- (i) BidDocumentFee/TenderFee
- (ii) Bid Security/EMD orValidEMD Exemption CertificateofAppropriate Classof  
RegistrationofApprovedContractors
- (iii) Registration Certificate of Appropriate Class
- (iv) **Registration Certificateofspecialcategory—Road/Building and  
Category I/II/III,if required**
- (v) GST Registration
- (vi) Work Experience,ifnecessary...
- (vii) Solvency (20% of estimate cost)
- (viii) OtherDocuments,asrequired...

**SECTION-1**  
**INSTRUCTIONSTOBIDDERS**  
**(ITB)**

## Section 1: Instructions to Bidders

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## **A. GENERAL**

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

- 1.1 The Employer (Named in Appendix to ITB) 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.
- 1.2 The successful bidder will be expected to complete the works by the intended completion dates specified in the Contract data.
- 1.3 Throughout these bidding documents, the terms 'bid' and 'tender' and their derivatives (bidder/ tenderer, bid / tender, bidding/ tendering, etc.) are synonymous.

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

- 2.1 The expenditure on this project will be met from the budget of Govt. of Gujarat/ Govt. of India for centrally sponsored projects.

### **3. Eligible Bidders**

- 3.1 This Invitation for Bids is open to all eligible bidders.
- 3.2 All bidders shall provide in Section 2, Forms of Bid and Qualification Information, a statement that the Bidder is neither associated, nor has been associated, 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 Employer to provide consulting services for the preparation or supervision of the works, and any of its affiliates, shall not be eligible to bid.

### **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. The proposed methodology should include a program of construction backed with equipment planning and deployment duly supported with broad calculations and quality assurance procedures proposed to be adopted justifying their capability of execution and completion of work as per technical specifications, within stipulated period of completion.
- 4.2 Deleted
- 4.3 Deleted
- 4.4 Deleted

#### **~~#4.5 QUALIFICATION CRITERIA:~~**

**~~(Applicable for the works which require Pre Qualification) As Per GoGNWRWS & K Department's Circular No. Paracha/1097/1397(11)/pa.f.a./MICELL(k-1) Dated 18/01/2018~~**

- ~~4.5.1~~** Qualification will be based on Applicant's meeting all the following minimum pass/fail criteria regarding the Applicant's general and particular experience, personnel and equipment capabilities and financial positions, as demonstrated by the applicant's responses in the forms attached to the letter of application (specified requirement for joint ventures are given under para 4.6 below) Subcontractors experience and resources shall not be taken into account in determining the applicant's compliance with the qualifying criteria

To qualify for more than one contract, the applicant must demonstrate having experience and resources sufficient to meet the aggregate of the qualification criteria for each contract given in paragraphs 4.5.4, 4.5.5 and 4.5.9 below

#### 4.5.2 Base year and Escalation

The base year shall be taken as Current financial year

Following enhancement factors will be used for the costs of work executed and the financial figure to a common base value for works completed in India.

<u>Year</u>	<u>Financial Year</u>	<u>Multiplying factor</u>
Base year of inviting tender	2025-2026	1.00
-1	2024-2025	1.10
-2	2023-2024	1.21
-3	2022-2023	1.33
-4	2021-2022	1.46
-5	2020-2021	1.61

Applicants should indicate actual figures of costs and amount for the works executed by them without accounting for the above mentioned factors.

In case the financial figures and value of completed works are in foreign currency, the above enhanced multiplying factors will not be applied. Instead, the current market exchange rate (State Bank of India BCS Selling rate as on the last date of submission of the bid) will be applied for the purpose of conversion of the amount in foreign currency into Indian rupees.

#### 4.5.3. General Experience.

The Applicant shall meet with the following minimum criteria:

- (a) Achieved a minimum annual financial turnover of Rs. Crore for works in progress and completed in all classes of civil engineering construction works in any one year, over the last five financial years.
- (b) Experience in successfully completing or substantially completing at least one contract of similar work (.....) of at least 40 percent of the value of proposed contract within the last five financial years.

The works may have been executed by the applicant as prime contractor or as a member of a joint venture or as a nominated sub-contractor. As sub-contractor, he should have acquired the experience of execution of all major items of works under the proposed contract. In case a project has been executed by a joint venture, weight towards experience of the project would be given to each joint venture in proportion to their financial participation in the joint venture if work executed jointly otherwise as per the scope of work defined in Joint Venture agreement.

Substantially completed works mean those works which are at least 90% completed as on the date of submission (i.e. gross value of work done up to the last date of submission is 90% or more of the original contract price) and continuing satisfactorily.

For these, a certificate from the employers shall be submitted along with the application incorporating clearly the name of the work, contract value, billing amount, date of commencement of works, satisfactory performance of the contractor and any other relevant information.

(the experience certificates should be signed by the officer not below the rank of EE)

~~(c) Contractor should have completed 60% of quantity of principal items of work like concrete, earthwork, pipeline, pumping station etc. within last five financial years. Certificate of competent authority of work done with detail shall be produced.~~

#### **4.5.4. Personnel Capabilities.**

~~Availability for his work of personnel with adequate experience as required; as per~~  
**Appendix.**

#### **4.5.5. Equipment Capabilities**

~~Based on the studies carried out by the Engineer, the minimum suggested major equipment to attain the completion of works in accordance with the prescribed construction schedule are shown in the Appendix.~~

~~The bidders should, however, undertake their own studies and furnish with their bid, a detailed construction planning and methodology supported with layout and necessary drawings and calculations to allow the employer to review their proposals. The numbers, types and capacities of each plant/equipment shall be shown in the proposals along with the cycle time for each operation for the given production capacity to match the requirements.~~

#### **4.5.6. Financial Position**

~~The Applicants should give undertaking that he has access to, or has available, liquid assets (aggregate of working capital, cash in hand and uncommitted bank guarantees) and/or credit facilities up to 25 percent of the value of the contract / contracts applied.~~

~~4.5.7. The audited balance sheets for the last five years should be submitted, which must demonstrate the soundness of the applicant's financial position, showing long-term profitability including an estimated financial projection for the next two years. If necessary, the employer will make inquiries with the applicant's bankers.~~

#### **4.5.8. Litigation History**

~~The Applicants should provide accurate information on any litigation or arbitration resulting from contracts completed or under execution by him over the last five financial years. A consistent history of awards against the Applicant or any partner of a joint venture may result in failure of the applicant.~~

#### **4.5.9. Disqualification**

~~Even though the applicants meet the above criteria, they are subject to be disqualified if they have:~~

~~Mademising or false representation in the forms, statements submitted, and/or  
Record of poor performances such as abandoning the work, rescinding of contract for which the reasons are attributable to the non-performance of the contractor;  
consistent history of litigation awarded against the applicant or financial failure due to bankruptcy. The rescinding of contract of a joint venture on account of reasons other than non-performance, such as Most Experienced partner of joint venture pulling out, court directions leading to breaking up of a joint venture before the start of work, which are not attributable to the poor performance of the contractor will, however, not affect the qualification of the individual partners.~~

~~4.5.10. The bidder who have applied for corporate Debt Restructuring (CDR)/facing recovery proceedings from financial institutions/ facing winding up processing/ those under BIFR in the last 5 financial year shall be considered for bid qualification. However if the bank/ financial institution has accepted the proposal of debt restructuring or before the last date of online submission, the same shall be considered for further evaluation. An affidavit by bidder along with certificate from bank must be produced in such cases. In case of Joint Venture agreement, this provision shall be applicable for both lead partner and JV partner.~~

**#4.6 — ~~JOINT VENTURE: (Maximum 3 Members i.e.1 Lead & 2 Others)~~  
(Applicable only for estimated project cost of 50 Crore and above)**

**4.6.1. — ~~Joint ventures must comply with the following requirement: (a)~~**

~~—— Following are the minimum qualification requirements:~~

- ~~(i) — The lead partner shall meet not less than 50 percent of all criteria given in para 4.5.3 & 4.5.6 above. The joint venture must collectively satisfy the criteria of para 4.5.3 & 4.5.6 above. The experience of the other joint venture partners shall be considered if it is not less than 30 percent of the qualifying criteria in para 4.5.3 & 4.5.6 above.~~
- ~~(ii) — Individually each member must satisfy the requirements of para 4.5.7 & 4.5.8 above.~~
- ~~(b) — Bid shall be signed so as to legally bind all partners, jointly and severally, and shall be submitted with a copy of the joint venture agreement providing the joint and several liabilities with respect to the contract.~~

**4.6.2. — ~~Qualification of a joint venture does not necessarily qualify any of its partners individually or as a partner in any other joint venture. In case of dissolution of a joint venture, each one of the constituent firms may qualify if they meet all the qualification requirements, subject to the written approval of the Employer.~~**

**4.7. — Bid Capacity.**

~~Applicants who meet the minimum qualification criteria will be qualified only if their available bid capacity at the expected time of bidding is more than the total estimated cost of the works. The available bid capacity will be calculated as under:~~

**Assessed Available Bid Capacity = (A\*N\*2-B), where**

~~A — = Maximum value of work executed in any one year during the last five years (updated to the price level of the year indicated in appendix) taking into account the completed as well as works in Progress.~~

~~B — = Value at current price level of the existing commitments and ongoing works to be completed during the next (period of completion of work for which bids are invited); and~~

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

**Note: — In Case of joint venture, the available bid capacity will be applied for each partner to the extent of his proposed participation in the execution of the work.**

**4.8 Event though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have:**

- Made misleading or false representation in the forms, statements and Attachments the submitted in proof the qualification requirements; and/ or

- Record of poor performances such as abandoning the works, not properly completing the contract, inordinate delay in completion, litigation history, or financial failures etc.; and/ or
- 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 for one package. 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 work and its surrounding and obtain all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works.  
The cost of visiting the sites shall be at the Bidder's own expense.

## B.BIDDINGDOCUMENTS

### 8. ContentofBiddingDocuments

8.1 Thesetofbidding documentscomprisesthedocumentslisted belowandaddenda issued inaccordance with Clause 10:

Section	Particulars	Volume No.
-	InvitationforBids	I
1	InstructionstoBidders	
2	QualificationInformation, andotherforms	
3	ConditionsofContract	
4	ContractData	
5	TechnicalSpecifications	II
6	FormofBid	III
7	Billof Quantities	
8	Securitiesandother forms	
9	Drawings	IV
10	Documentstobefurnishedbybidder	V

8.2. VolumesI,II,IIIand IVareavailableonline anddocumentstobe furnishedbythe bidderincompliancetosection2willbepreparedbyhimandfurnishedasVolume-Vintwoparts (refer clause 12).

8.3. Thebidderisexpectedtoexaminecarefully all instructions,conditionsof contract, contractdata,forms,terms,technicalspecifications,billof quantities, forms,Annexes and drawingsintheBid Document.Failureto complywiththerequirementsofBid Documentsshallbeat thebidder'sownrisk.Pursuantto clause26 hereof,bids whicharenotsubstantially responsivetotherequirementsoftheBid Documents shall be rejected.

### 9. ClarificationBiddingDocuments

9.1 Aprospective bidderrequiringanyclarificationofthebiddingdocumentsmay notifytheEmployerinwritingorthroughE-mailatthe Employer'saddress indicatedintheinvitationtobid.The Employerwillrespondtoanyrequestfor clarificationwhichhereceived earlierthan15days prior tothedeadlinefor submissionofbids. Employer'sresponsewill bepublishedon websiteincludinga description ofthe enquirybut without identifying its source.

#### ~~9.2. Pre-bidmeeting~~

~~9.2.1. The bidderorhis officialrepresentativeisinvitedtoattendapre-bidmeeting which willtake placeattheaddress, venue, timeand dateasindicatedinthe appendix.~~

- ~~9.2.2. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.~~
- ~~9.2.3. The bidders shall be required to submit any questions in writing or e-mail to reach the Employer not later than 03 days before the meeting.~~
- ~~9.2.4. Minutes of the meeting, including the question raised (Without identifying the source of enquiry) and the responses given will be published without delay on the tender website i.e. [www.nprocure.com](http://www.nprocure.com). Any modification of the bidding documents listed in sub-Clause 8.1 which may become necessary as a result of the pre-bid meetings shall be made by the Employer exclusively through the issue of an Addendum pursuant to Clause 10 and not through the minutes of the pre-bid meeting.~~
- ~~9.2.5. Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.~~

## **10. Amendment of Bidding Documents**

- 10.1 Before the deadline for submission of bids, the Employer may modify the bidding documents by issuing addenda.
- 10.2. Any addendum thus issued shall be part of the bidding documents. The Employer will assume no responsibility for the same.
- 10.3. To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer may, at his discretion, 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 to be submitted by the bidder as Volume V of the bid document (refer Clause 8.1) shall be in two separate parts:

**Part I shall be named "Technical Bid" and shall comprise**

- (i) Bid Security in the forms specified in Section 8
- (ii) Qualification Information and supporting documents as specified in Section 2 (iii) Certificates, undertakings, affidavits as specified in Section 2
- (iv) Any other information pursuant to Clause 4.5 of these instructions
- (v) Undertaking that the bid shall remain valid for the periods specified in Clause 15.1

**Part II shall be named "Financial Bid" and shall comprise**

- (i) Form of Bid as specified in Section 6
- (ii) Priced Bill of Quantities for items specified in Section 7

12.2. The Bidders shall submit the details/ information pertaining to each part i.e. technical as well as financial and must be submitted online only.

12.3. Following documents will be deemed to be part of the bid.

Section	Particulars	Volume No.
	<b>Invitation for Bids (IFB)</b>	
1	Instruction to Bidders	Volume I
3	Conditions of Contract	
4	Contract Data	
5	Specifications	Volume II
9	Drawings	Volume IV

### 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 of 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 Bill of Quantities.

13.3 All duties, taxes, and other levies except GST payable by the contractor under the contract, or for any other causes shall be included in the rates, prices and total Bid Price submitted by the Bidder. (GST will be paid extra)

13.4 Deleted

13.5 The rates and prices quoted by the bidder are subject to adjustment during the performance of the Contract in accordance with the provisions of Clause 47 of the Condition of Contract **(Irrespective of the time limit and Bid Amount)**

#### **14. Currencies of Bid and Payment**

14.1 The unit rates and the prices quoted by the bidders shall be entirely in Indian Rupees. All payments shall be made in Indian Rupees.

#### **15. Bid Validity**

15.1 Bid shall remain valid for a period of not less than 120 days after the deadline date for bid submission specified in Clause 20.

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 period. 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 security for a period of the extension, and in compliance with Clause 16 in all respects.

#### **#16. Bid Security**

16.1. The Bidders 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 favor of Employer as named in Appendix and may be in one of the following forms;

- a. Bank Guarantee from any scheduled Indian bank, in the format given in Volume III. **(Bank Guarantee is applicable only for Bid Estimated Amount of 01 Crore and above)** and Bank Guarantee of Schedule and Private Banks shall be considered as per GoG Finance Department's Circular No. FD/MSM/e-file/4/2023/0057/D.M.O. Date 21/04/2023 or as per their latest amendment.
- b. Fixed Deposit Receipt issued by any Scheduled Indian Bank or a foreign Bank approved by the Reserve Bank of India.

**OR**

#A Valid Bid Security / EMD Exemption Certificate issued by (1) Road & Building Department or (2) Narmada Water Resources, Water Supply and Kalpsar Department of Govt of Gujarat. **Exemption Certificate is applicable only when Registration Certificate of Appropriate Class and Category of Approved Contractors is required as eligible criteria of bidder.**

- 16.2. Bank guarantees (and other instruments having fixed validity) issued as surety for the bid shall be valid for 45 days beyond the validity of the bid i.e. total validity of 120+45=165 Days
- 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.
- 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, if any or
  - (c) In the case of a successful Bidder, if the Bidder fails the specified time limit to
    - (i) Sign the Agreement; or
    - (ii) Furnish the requirement Performance Security.
  - (d) #If found necessary, the bidder will be intimated for negotiation, He will be intimated maximum three times within the validity period for negotiation. If contractor does not respond in time, his Bid Security (EMD) will be forfeited and his tender will be rejected. Punitive action will be taken on such contractors. (As per GoG R&B Dept's Gr. No.S/22/2017/639/D, Dt.08/06/2018)

## **17. Alternative Proposals by Bidders.**

- 17.1. Bidders shall submit offers that fully comply with the requirements of the bidding documents, including the conditions of contract (including mobilization advance or time for completion), basic technical design as indicated in the drawing and specifications. Conditional offers or alternative offers will not be considered further in the process of tender evaluation.

## **18. Format and Signing of Bid**

- 18.1. The Bidders shall prepare documents comprising the bid as described in Clause 12 of these Instructions to bidder as the "Technical Bid" and "Financial Bid" in separate parts to be uploaded.

## **D. SUBMISSION OF BIDS**

### **19. Deleted**

### **20. Deadline for Submission of the Bids**

- 20.1. Complete Bids must be received online by the Employer at the tender website specified above not later than the date indicated in appendix.
- 20.2. The Employer may extend the deadline for submission of bids 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. Deleted**

### **22. Modification and Withdrawal of Bids**

- 22.1. Bidders may modify or withdraw their bid online before the deadline prescribed in Clause 20 or pursuant to Clause 23.
- 22.2. Deleted
- 22.3. No bid shall be modified or withdrawn after the deadline for submission of Bid.
- 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.

## **E.BID OPENING AND EVALUATION**

### **23. Bid Opening**

- 23.1 The Employer will open all the Bids received including modifications made pursuant to Clause 22, in the presence of the Bidders or their representatives who choose to attend at time, date and the places specified in Appendix in the manner specified in Clauses 20 and 23.3. 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. Deleted.
- 23.3. The “Technical Bid” shall be opened. The amount, form and validity of the bid security furnished with each bid will be announced. If the bid security furnished does not conform to the amount and validity period as specified in the invitation for bid (ref. Column 4 and paragraph 3), and has not been furnished in the form specified in Clause 16, the technical bid will not be opened.
- 23.4. (i) Subject to confirmation of the bid security by the issuing Bank, the bids accompanied with valid bid security will be taken up for evaluation with respect to the Qualification information and other information furnished in part I of the bid pursuant to Clause 12.1.
- (ii) If required, the bidder will be asked in writing to clarify his Qualification Documents with respect to any required clarification.
- (iii) The bidders will respond in not more than 7 days of issue of the clarification letter.
- (iv) Immediately (usually within 3 or 4 days), on receipt of these clarifications the Evaluation Committee will finalize the list of responsive bidders whose financial bids are eligible for consideration.
- 23.5. Deleted
- 23.6 At the time of opening of “Financial Bid”, the names of the bidders were found responsive in accordance with Clause 23.4(iv) will be announced. The bids of only these bidders will be opened. The responsive Bidders’ names, the Bid prices, the total amount of each bid, any discount and such other details as the Employer may consider appropriate, will be announced by the Employer at the opening.
- 23.7 the time of opening of “Financial Bid”, the names of the bidders were found responsive in accordance with Clause 23.4(iv) will be announced. The bids of only these bidders will be opened. The responsive Bidders’ names, the Bid prices, the total amount of each bid, any discount, and such other details as the Employer may consider appropriate, will be announced by the Employer at the opening.
- 23.8 In case bids are invited for more than one package, the order for opening of the “Financial Bid” shall be in order of Estimated amount of Bids from highest to lowest.
- 23.9 The Employers shall prepare minutes of the Bid opening, including the information disclosed to those present in accordance with Sub-Clause 23.6.

## **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 Bidders to influence the Employer's processing of Bids or award decisions may result in the rejection of this Bid.

## **25. Clarification of Financial 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 unit rates. The request for clarification and the responses shall be in writing or by e-mail, but no change in the price or substances 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.
- 25.2 Subject to sub-clause 25.1, no Bidder shall contact the Employer on any matter relating to this Bid opening to 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 Bidders to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decision may result in the rejection of the Bidders' bid.

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

- 26.1 During the detailed evaluation of "Technical Bid", the Employer will determine whether each Bid (a) meets the eligibility criteria defined in Clause 3 and 4; (b) has been properly signed; (c) is accompanied by the required securities and; (d) is substantially responsive to the requirements of the Bidding document. During the detailed evaluation of the "Financial Bid", the responsiveness of the bids will be further determined with respect to the remaining bid conditions, i.e., priced bill of quantities, technical specifications, and drawings.
- 26.2 A substantially responsive "Financial Bid" is one which confirms all the terms, conditions and specifications of 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 "Financial 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. Deleted**

**28. Deleted**

**29. Evaluation and Comparison of Financial Bids**

- 29.1. The Employer will evaluate and compare only the Bids determined to be substantially responsive in accordance with Sub-Clause 26.2.
- 29.2. Deleted.
- 29.3. The Employer reserves the right to accept or reject any variation or deviation. Variation and deviations 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 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.
- 29.6. A bid which contains several items in the bill of Quantities which are unrealistically priced low and which cannot be substantiated satisfactorily by the bidder may be rejected as non-responsive.

**30. Deleted**

## **F.AWARD OF CONTRACT**

### **31. Award Criteria**

- 31.1. Subject to Clause 32, the Employer will award the contract to the Bidder whose Bid has been determined.
- (i) to be substantially responsive to the Bidding documents and who has offered the lowest evaluated Bid Price; and
  - (ii) to be within the available bid capacity adjusted to account for his bid price which is the lowest evaluation in any of the packages opened earlier than the one consideration.
- In no case, the contract shall be awarded to any bidder whose available bid capacity is less than the evaluated bid price, even if the said bid is the lowest evaluated bid. The contract will in such cases be awarded to the next lowest bidder at this evaluation bid price.

### **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 Bidder 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 condition 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.
- 33.3. The Agreement will incorporate all agreements between the Employer and the successful Bidder. It will be signed by the Employer and to the successful Bidder, within 28 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. (A) Within 10 (Ten) days of receipt of Letter of Acceptance, the successful Bidder shall furnish to the Employer an irrevocable and unconditional guarantee from a Bank in the form set forth in Section 8 (the "Performance Security") for an amount equal to 5% (five percent) of its Contract Price. In case of bids mentioned below, the successful Bidder, along with the Performance Security,

shall also furnish to the Authority an irrevocable and unconditional guarantee from a Bank in the same form given at Section 8 towards an Additional Performance Security (The "Additional Performance Security") for an amount calculated as under:

- (a) If the Contract Price offered by the Selected Bidder is lower than 10% but up to 20% of the Estimated Project Cost, then the Additional Performance Security shall be calculated @ 20% of the difference in the (i) Estimated Project Cost (as mentioned in Bid Document) - Minus 10% of the Estimated Project Cost and (ii) Contract Price offered by the selected Bidder.
  - (b) If the Contract Price offered by the Selected Bidder is lower than 20% of the Estimated Project Cost, then the Additional Performance Security shall be calculated @ 30% of the difference in the (i) Estimated Project Cost (as mentioned in Bid Document) - Minus 10% of the Estimated Project Cost and (ii) Contract Price offered by the selected Bidder.
  - (c) This Additional Performance Security shall be treated as part of the Performance Security.
- (B) The Performance Security shall be valid beyond 60 (sixty) days from the stipulated date of completion of the project and the Additional Performance Security shall be valid beyond 28 (twenty-eight) days of Project Completion Date.

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. As per GoG Finance Department's Circular No. FD/MSM/e-file/4/2023/0057/D.M.O. Date 21/04/2023 or as per their latest amendment.

34.3. Failure of the successful Bidder to comply with the requirement of Sub-Clause 34.1 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Bid Security.

### **~~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. Deleted**

### **37. Corrupt or Fraudulent Practices**

37.1 The Employer will reject a proposal if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in completing for the contract in question and will declare the firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract with National Highways Authority of India/State PWD and any other agencies, if it at any time determines that the firm has engaged in corrupt or fraudulent practices in completing for the contractor, or in execution.

37.2 Furthermore, Bidders shall be aware of the provision stated in Sub-Clause 59.2 of the Conditions of Contract.



**APPENDIX TO ITB**  
**Clause Reference With**  
**respect to Section-I**

1.	The Name of the Employer is <b>Executive Engineer, Sujlam Suflam Division 2, Visnagar</b>	[ Cl.1.1]
2.	The last five financial years.	
	<del>2024-2025</del>	
	<del>2023-2024</del>	
	<del>2022-2023</del>	
	<del>2021-2022</del>	
	<del>2020-2021</del>	
3.	This Annual Financial Turnover Amount is <b>Rs. .... Lakh</b>	[Cl.4.5.3(a)]
4.	Value of Work is <b>Rs. 756575.13</b>	
5.	Deleted	
6.	The cost of electric work is Rs. <b>Nil</b>	
7.	The cost of water supply/sanitary works is Rs. <b>Nil</b>	
8.	Liquid assets and/or availability of credit facilities is Rs. <b>0.00</b>	[Cl.4.5.6]
9.	Price level of the financial year <b>Not Applicable</b>	[Cl.4.5.2]
10.	The pre-bid meeting will take place at <b>NA</b>	[Cl.9.2.1]
11.	The technical Bid will be opened at the office of the Executive Engineer on dt    /    /2025 at 11:00 AM/PM	
12.	Address of the Employer: <b>Executive Engineer, Sujlam Suflam Division 2, Visnagar, Dharoi Colony, Dharoi Colony Road, Visnagar-384315, Mehsana, Gujarat.</b>	
13.	Deleted	
14.	The bid should be submitted latest by <b>As stated on online NIT</b>	[Cl.20.1&20.2]
15.	The bid will be opened at Executive Engineer, Sujlam Suflam Division 2, Visnagar <b>As stated on online NIT</b>	[Cl.23.1]
16.	The Bank Draft in favor of Executive Engineer, Sujlam Suflam Division 2, Visnagar	
17.	Deleted	

18. Escalation factors (for the cost of works executed and financial figure to a common base value) for works completed [Cl.4.5.2]

<u>Year</u>	<u>Financial Year</u>	<u>Multiplying factor</u>
Base year of inviting tender	<del>2025-2026</del>	1.00
-1	<del>2024-2025</del>	1.10
-2	<del>2023-2024</del>	1.21
-3	<del>2022-2023</del>	1.33
-4	<del>2021-2022</del>	1.46
-5	<del>2020-2021</del>	1.61

## #LISTOFKEYPLANT&EQUIPMENTTOBEDEPLOYEDONCONTRACT WORK

[ReferenceCL.4.5.5]

Thecontractorsshallalsogivealistofmachineriessinhispossessionandwhichthey propose to use on thework.

Sr. No.	Plantor Machinery	Location	Age of Machinery {maximum 15 years}	Make	Capacity	Approximate Value	Remark
1	2(a)	2(b)	3	4	5	6	7

## **List of Key Personnel to be deployed on Contract Work (Reference Cl. 4.5.4)**

### **#Employment of a qualified site Engineer by the Contractor.**

The Contractor shall employ full-time technically qualified staff during the execution of this work as under:-

1. Two graduate Civil Engineers and three diploma Civil Engineers when cost of the work to be executed is more than Rs.50 lakhs.
2. One graduate & two diploma Civil Engineers when the cost of the work to be executed is more than Rs.15 lakhs but less than Rs.50 lakhs.
3. Minimum Two diploma Civil Engineer when the cost of work is less than Rs.15 lakhs but more than Rs.5 lakhs.
4. Minimum One diploma Civil Engineers for the work when the cost of work to be executed is less than Rs.5 lakhs. The Engineer so employed for the Government work must have sufficient experience to handle the work independently. Such an Engineer shall have to stay at the site of work and he shall not be entrusted with other duty except this work.

In case the contractor or partner of the contractor firm is a Civil Graduate Engineer, Employment of a separate Engineer will not be necessary provided that the Engineer partner himself attends the execution of the work on the site.

Within 15 days of issue of work-order the Contractor will have to furnish to the Deputy Executive Engineer-in-charge of the work the Name, Qualifications, copy of marksheet, Color Photograph and the appointment order issued such engineers engaged for this contract work. If 15 days after issue of work order such designated Site Engineers do not resume or do not remain present on site of work, the recovery at the rate of Rs.15,000-00 per month per Engineer will be made from the bills/deposit/dues of the contractor. Such recovery shall be non-refundable.

**SECTION-2**

**QUALIFICATION INFORMATION**

## QUALIFICATION INFORMATION

The information to be filled in by the Bidder in the following pages will be used for the purpose of post-qualification as provided for in Clause 4 of the Instruction 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 Civil engineering constructions — 2020  
Work performed in the last five years — 2020 {  
in Rs. Lakhs) 2020 \_\_\_\_\_  
2020 \_\_\_\_\_  
2020 \_\_\_\_\_

15.2.1 Work performed as prime contractor, work performed in the past as a nominated sub-contractor will \_\_\_\_\_ also be considered the sub-contract involved execution of all main items of work described in the bid documents, provided further that all other qualification criteria are satisfied (in the same name) on works of a similar nature over the last five years\*\* and in current year before the submission of the bid.

Project Name	Name of the Employer	Description of work	Contract No.	Value of contract (Rs. Crore)	Date of issue of work order	Stipulated period of completion	Actual date of completion*	Remark explaining reasons for delay & work Completed

\* Attach certificate(s) from the Engineer(s) in charge

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

~~#1.3.2 Quantities of work executed as prime contractor, work performed, in the past as a nominated sub-contractor, will also be considered provided the sub-contract involved execution of all main items of work described in the bid document, provided, further that all other qualification criteria are recalled (in the same name and style) in the last five years\*\* and in current year before the submission of the bid.~~

~~\*To be modified as per the nature and scope of work~~

Year	Name of the work	Name of the Employer	Quantity of work performed (Cum/MT)				Remarks* (indicate contract Ref)
			Cement Concrete (Including RCC & PCC) ITEM1	Masonry ITEM2	Earth Works ITEM3	Bituminous Work ITEM4	
20-20__							
20-20__							
20-20__							
20-20__							
20-20__							

~~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 works	Place & State	Contract No.	Name & Address of Employer	Value Contract (Rs. Cr)	Stipulated Period of Completion	Value of Works* remaining to be completed (Rs. Cr)	Anticipated of completion
1	2	3	4	5	6	7	8

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

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

~~1.5 Availability of key items of Contractor's Equipment for carrying out the works (Ref. Clause 4.5.5). The Bidders should list all the information requested below:~~

Item of Equipment	Requirement		Availability Proposals			Remarks (from whom to be purchased)
	NO	Capacity	Owned/Leased to be procured	Nos./Capacity	Age/Conditions	

~~1.6 Qualifications and experience of key personnel required for administration and execution of the contract. Attach biographical data. Refer also to Sub Clause 9.1 of the Conditions of Contract.~~

Position	Name	Qualification	Year of Experience (General)	Year of experience in the proposed position
Project Manager				
Etc.				

~~1.7 Proposed sub-contract and firms involved~~

Sections of the works	Value of Sub-Contractor	Sub-Contractor (Name & Address)	Experience in similar work

~~Attach copies of certificates on possession of valid license for executing water supply/ sanitary work/ building electrification works.~~

~~1.8 Financial reports for the last five years: balance sheets, profit and loss statements, auditors' reports (in case of companies/corporations), 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 copied documents.~~

~~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.~~

<b>Other Party (ies)</b>	<b>Employer</b>	<b>Cause of Dispute</b>	<b>Amount Involved</b>	<b>Remarks showing Present Status</b>

~~1.12. Statement of compliance under the requirements of Sub Clause 3.2 of the instruction to Bidders. (Name of Consultant engaged for project preparations is\* .....)~~

---

---

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

1.14 Programme

**2. Deleted**

**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.

(i) Affidavit

(ii) Undertaking

\* Fill the name of Consultant



**SAMPLEFORMATFOREVIDENCEOFACCESSTOOR  
AVAILABILITYOFCREDITFACILITIES**

~~{CLAUSE 4.5.6 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 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 during the  
contract period.~~

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

Name of Bank

Senior Bank Manager

Address of the Bank

## 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 not abandoned any work of \_\_\_\_\_ Government of Gujarat/Government of India/any Board or Corporation under Government of Gujarat/Government of India nor any contract awarded \_\_\_\_\_ to us \_\_\_\_\_ for such work 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 \_\_\_\_\_ any(our) competence and general reputation.~~
4. ~~The Undersigned understands and agrees that further \_\_\_\_\_ qualifying information may be requested, and agree to 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

## UNDERTAKING

I, the undersigned do hereby undertake..... that our firm  
M/s..... would  
invest a minimum cash upto 25% of the value of the work during implementation of the  
contract.

\_\_\_\_\_  
(Signed by an Authorized officer of the firm)

\_\_\_\_\_  
Title of officer

\_\_\_\_\_  
Name of firm

\_\_\_\_\_  
DATE

**SECTION-3**  
**CONDITIONS OF CONTRACT**

# ConditionsofContract

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## CONDITIONS OF CONTRACT

### 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 meaning.

**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 Contractor to execute, complete and maintain the Work **still the completion of Defects Liability Period**. 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 Work has been accepted by the Employer.

**The Contractor's Bid** is the completed Bidding documents submitted by the Contractor to the Employer and includes Technical and Financial Bids.

**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.

**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 Contractor, administering the Contract, certifying payments due to the Contractor, issuing and valuing Variations to the Contract, awarding extensions of time, and valuing the Compensation Events.

**Equipment** is 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 work which is to have mechanical, electrical, electronic or chemical or biological functions.

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 interpretive reports about the surface and subsurface conditions at the site.

**Specifications** mean the specifications 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. Heading 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 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 Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion date for the whole 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 works
- (3) Contractor's Bid

- (4) ContractData
- (5) ConditionsofContractincludingConditionsofContract
- (6) Specifications
- (7) Drawings
- (8) Billsofquantitiesand
- (9) AnyotherdocumentlistedintheContractDataasformingpartofthe Contract.

### **3. LanguageandLaw**

- 3.1 Thelanguageof theContractand thelaw governing theContractarestated in the Contract Data.

### **4. EngineersDecisions**

- 4.1 Except where otherwise specifically stated, the Engineer will decide contractualmatters between theEmployerandtheContractorintherole representingthe Employer.

### **5. Delegation**

- 5.1 TheEngineermaydelegateanyofhisdutiesandresponsibilitiestoother people afternotifyingtheContractorandmaycancelanydelegation after notifyingthe Contractor.

### **6. Communications**

- 6.1 Communicationsbetween partieswhich arereferred tointheconditionsare effective onlywhen inwriting. A noticeshall beeffectiveonly whenit isdelivered(in terms of Indian Contract Act).

### **~~7. Sub-Contracting~~**

- ~~7.1 TheContractormay subcontract any portion ofwork,upto alimitspecifiedin contractdata,withtheapprovaloftheengineerbutmaynot assignthe Contract withoutthe approvalof theEmployer inwriting. Subcontracting shallnot alterthe Contractor'sobligations. Sub-contractingof supplyor specific items ofwork is not allowed.~~

- ~~7.2 Thesub-contractor mustberegistered inappropriatclassand categoryfor the part of workto be subcontracted.~~

### **8. OtherContractors**

- 8.1 The ContractorshallcooperateandsharetheSitewithothercontractors, publicauthorities,utilitiesandthe Employerbetweenthe datesgiven inthe Scheduleof otherContractor.TheContractorsshallasrefertointheContract Data, alsoprovide facilitiesand servicesfor themas describedin theSchedule.Theemployer may modify theschedule of other contractorsand shall notifythe contractorofanysuchmodifications.



## **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 Staff or his workforce stating the reason, 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 risk which these Contract states are Employer's risks, and the Contractor carries the risks which these Contracts states are Contractor's risk.

## **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, the risk 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.

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

- 12.1 All risk of loss of or damage to physical property and of personal injury and death which arises 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 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 premium 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 an 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 Report~~**

~~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.

#### **17. The Work 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 programme 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, and the Employer is deemed to have delayed the start of the relevant activities and this will be a Compensation Event.
- 21.2 If within 25% of the time limit of the project, 80% of possession of the site is not handed over to the Contractor, then the Contractor/Employer may fore-close the contract. Contractor/Employer has to foreclose the work within 30 days after lapse of 25%-time limit and after 30 days fore-closure option will be closed.

## **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 plants are being manufactured/fabricated/assembled for the works.

## **23. Instructions**

- 23.1 The Contractor shall carry out all instructions of the Engineer pertaining to works which comply with the applicable laws where the site is located.
- 23.2 The Contractor shall permit the Employer to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the Employer, if so required by the Employer.

## **24. Disputes**

- 24.1 If the Contractor is of the view that a decision taken by the Engineer was either outside the authority given to the Engineer by the Contractor or that the decision was wrongly taken, the decision shall be referred to **#Superintending Engineer (Sujalam Sufalam Circle-2, Mehsana)** within 14 days of the notification of the Engineer's decision. If the issue is not resolved, any party can refer the matter for conciliation within 15 days from the decision given by the **#Superintending Engineer (Sujalam Sufalam Circle-2, Mehsana)**.
- 24.2
- (a) For the work up to Rs. 100 Cr., if any of the parties is not satisfied with the decision of the **#Superintending Engineer (Sujalam Sufalam Circle-2, Mehsana)**, both the parties have to refer to the Chief Engineer concerned for the conciliation process.
  - (b) For the work more than Rs. 100 Cr., if any of the parties is not satisfied with the decision of the **#Superintending Engineer (Sujalam Sufalam Circle-2, Mehsana)**, both the parties have to refer to the **#Secretary, Water Resources Department, Government of Gujarat** for the conciliation process.

If the dispute is not resolved through the conciliation process, he may refer the dispute to Gujarat Public Works Contract Dispute Arbitration Tribunal. If the Contractor fails to refer a claim/dispute to the Higher Authority within 14 days of the notification of the Engineer's decision, the Contractor shall not be entitled to any additional payment/claim if he doesn't follow the above sequence in stipulated time and he should not stop the work.

**25. Procedure for Disputes**

- 25.1 The arbitration shall be conducted in accordance with the arbitration procedure stated in the Special Conditions of Contract.

**26. Deleted**

## **B.TIMECONTROL**

### **27. Programme**

- 27.1 Within the time stated in the Contract Data the Contractor shall submit to the Engineer for approval a Programme showing the general methods, arrangements, orders, and timing for all the activities in the works along with monthly cash flow forecast.
- 27.2 An update of the Programme shall be a programme 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 programme at intervals not longer than the period stated in the Contract data. If the Contractor does not submit an updated programme within this period, the Engineer may withhold the amount stated in the Contract data from the next payment after the date on which the overdue programme has been submitted.
- 27.4 The Engineer's approval of the programme shall not alter the Contractor's obligations. The Contractor may revise the programme and submit it to the Engineer again at any time. A revised programme is to show the effect of Variations and Compensations 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 35 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.
- 28.3 The Engineer shall within 14 days of receiving full justification from the contractor for extension of Intended Completion Date refer to the Employer his decision. The employer shall in not more than 21 days communicate to the engineer the acceptance or otherwise of the Engineer's decision. If the employer fails to give his acceptance, the Engineer shall not grant the extension and the contractor may refer the matter under Clause 24.1

### **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. The business of a management meeting shall be to review the plans for 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 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.QUALITYCONTROL

### # 33. Identifying Defects/ Defect liability period

33.1 :Defect liability period:The contractor shall be responsible to make good and remedy at his own expense any defect which may develop or may be noticed before the period mentioned hereunder from the certified date of completion. The Engineer in charge shall give the contractor a notice in writing about the defects and the contractor shall make good the same within 15 days of receipt of the notice. In the case of failure on the part of the contractor, the Engineer-in-charge may rectify or remove or re-execute the work at the risk & cost of the contractor. The Engineer-in-charge shall be entitled to appropriate the whole or any part of the amount of security deposit towards the expenses, if any, incurred by him in rectification, removal or re-execution. The Defects Liability period shall be as under....

#### A. For works of WRD Except Building

- (a) (1) For all works costing up to Rs. 50,000 (amount put to tender), the period shall be 3 Months from the certified date of completion.
- (b) (1) For WRD works like Check Dam/ Canal/ Drainage/ Road Structure tender amount from RS. 50,000 to 10,00,000, the defect liability period shall be 12 months from the certified date of completion.  
(2) For WRD work except like Check Dam/ Canal/ Drainage/ Road Structure tender amount from RS. 50,000 to 10,00,000, the defect liability period shall be 6 months from the certified date of completion.
- (c) (1) For WRD works like Check Dam/ Canal/ Drainage/ Road Structure tender amount more than RS. 10,00,000, the defect liability period shall be 3 Years from the certified date of completion.  
(2) For WRD work except like Check Dam/ Canal/ Drainage/ Road Structure tender amount from RS. 10,00,000 to 1 Crore, the defect liability period shall be 12 months from the certified date of completion.
- (d) (1) For all WRD works of tender amount more than RS. 1 Crore, the defect liability period shall be 3 Years from the certified date of completion

#### B. For Building works of WRD:-

For Building works of WRD, Follow the R&B Circular dated 03/12/2009. For original building works the defect liability period will be 4 years or lapse of 4 monsoon period following date of possession of building taken over by user agency following the certified date of completion, whichever is later. For the purpose of deciding the monsoon period, the 30th September shall be treated as the last date.

WRD Circular No. Matas/102013/MICELL(K-1) Dated 13/12/2013

#### 33.2 For Road works :

Free maintenance guarantee period for works of **Road/Bridge construction**

- (a) For resurfacing work of road free maintenance guarantee period one year from the date of completion.
- (b) In case of widening of the road/ strengthening of the road/ bridge, the contractor shall have to give four years free maintenance guarantee from the certified date of completion. During this period the contractor shall visit the site every six months along with the concerned Section Officer/ Deputy Executive Engineer and will examine the work already carried out in this contract like road work, jungle cutting, side shoulders, side gutter, road furniture, patta etc. and will prepare Km. wise inspection report duly signed by all concerned and any defect observed shall be done within 15 days by the contractor at his risk and cost as per the direction of Engineer in charge. The contractor needs to do videography of these visits and require to submit at the time of release of FMG. If B.T. the surface during

the maintenance period of 4 years is sworn out then the agency shall have to provide renewal coating as per tender items as directed by the Engineer-in-charge. The amount equivalent to 5% of each running bill shall be withheld and will be released after the free maintenance guarantee period (i.e. 4 years) is over.

However, this amount shall be released against fixed depositor bank guarantee pledged in the name of Executive Engineer after completion of certificate of work is issued.

(1) The flakiness and elongation index (combined) for coarse aggregates under no circumstances shall exceed the allowable limit set forth in the relevant clause for the material in question.

(2) 2% of the amount eligible for the payment of bituminous items shall be withheld till the miscellaneous items like earthwork in embankment/ cutting for side shoulders, side gutters, kilometer /indicator /guard stones, sign board etc. are completed in all respect by the contractor.

After completion of the miscellaneous items, the above said 2% withheld amount shall be released.

(Govt. of Gujarat's G.R. No.: TNC-10-2013-3 (Part-3)/C, Dtd. 13/12/2013).

(3) Videography for the surface under Maintenance Guarantee is to be done as per Govt. letter No.: SSR/10/2015-16/26/C, Dtd. 26/11/15 for the work costing more than Rs. 5.00 Crore.

(4) Setting up of adequate laboratory & deployment of quality engineers.

The contractor shall have to set up the laboratory with adequate equipment. Till the setting up of adequate laboratory is completed & reported of this to the engineer (subject to due verification by engineer's representative) by contractor in writing, Rs. 2,00,000/- shall be withheld. The qualified quality Engineer shall be deployed exclusively for this contract by the contractors. If quality Engineer is not deployed by contractor within one month after the date of work order, the amount equivalent to Rs. 20,000 per month shall be recovered till the actual deployment of quality engineer. The amounts so recovered towards the deployment of quality engineers shall not be refunded.

(5) Asphalt work will have to be cross checked as per G.R. No.: RGN/60/2006/35/C, dtd. 31/05/07 before final bill is paid.

(6) Maintenance during Construction Period

During the Construction Period, the Contractor shall maintain, at his own risk and cost, the existing lane(s) of the road so that the traffic worthiness and safety thereof are not materially inferior as compared to their condition 10 (ten) days prior to the date of the Agreement, and shall undertake the necessary repair and maintenance works for this purpose; provided that the Contractor may, at his cost, interrupt and divert the flow



of traffic if such interruption and diversion is necessary for the efficient progress of works and conforms to Good Industry Practice; provided further that such interruption and diversions shall be undertaken by the Contractor only with the prior written approval of the Executive Engineer which approval shall not be unreasonably withheld. For the avoidance of doubt, it is agreed that the Contractor shall at all times be responsible for ensuring safe operation of the road.

- 33.3 The Engineers shall check the Contractor's work and notify the Contractor of any defects that are found. Such checkings 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.

#### **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.

- 34.2 #1% of the amount of work done for works up to Rs. 10 crore of estimate cost should be deducted from R.A. Bill of the contractor for testing the quality of material workmanship. Whereas for estimated cost of works more than 10 crore, the charges for testing of quality of material workmanship shall be deducted from R.A. bill of contractor as per actual charges. ~~As Per GoG NWRWS & K Department's Circular No. PARCH/132023/401/MICELL Dated: 05/10/2023~~

- 34.3 ~~Agency has to establish testing laboratory on site for the various tests to be carried out in the work for this purpose agency shall construct a pukka laboratory building with all facility on site at location specified by the engineer in charge.~~

#### **35. Correction of defects**

- 35.1 The engineers shall give notice to the Contractor of any defects 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.

## **D.COST CONTROL**

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

- 37.1 The bill of Quantities shall contain items for the constructions, 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. Change in the Quantities**

- 38.1 The Engineers shall have power to make any alterations in or addition to the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work and the contractor shall be bound to carry out the work in accordance with any instruction in this connection which may be given to him in writings signed by the Engineer and such alterations shall not invalidate the contract and any additional work which the contractor may be directed to do in the manner above specified as part of the work shall be carried out by the contractor on the same conditions in all respects on which he agreed to do the main work and at the same rates as are specified in the tender for the main work.

Except that when the quantity of any item exceeds the quantity as in the tender by more than 130%, the contractor will be paid for the quantity in excess of 130%, at the rate entered in the SOR of the year during which the excess in quantity is first executed.

### **39. Variations**

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

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

- 40.1 If the additional or altered work includes any class of work for which no rate is specified in this contract, then such class of work shall be carried out as under.
- (i) At the rate derived from the item within the contract which is comparable to the one involving additional or altered class of work; where there are more than one comparable items, the item of the contract which is nearest in comparison with regard to class or classes of the work involved shall be selected and the decision of the Superintending Engineer as to the nearest comparable item shall be final and binding on the contractor.
  - (ii) If the rate cannot be derived in accordance with (i) above, such class of works shall be carried out at the rate entered in the Schedule of Rates of the division

for the year in which the tender was received, increased or decreased by the percentage by which the tender amount is more or less as compared to the amount arrived at the rates in the "Schedule of Rates" of the Division in the year in which the tender was received. If the Schedule of rates of the Division does not contain all the items, the percentage increase or decrease of the tenders shall be calculated considering such items which were included in the "Scheduled Rates" of the division for the year and for materials consumed on such item that to be charged would be the basic rate taken into account for fixing the rate in S.O.R. referred to above.

- (iii) If it is not possible to arrive at the rate from (i) and (ii) above, such class of work shall be carried out at the rate decided by the competent authorities on the basis of detailed rate analysis after hearing the contractor before a Committee of two Superintending Engineers stationed at the same place or the nearest place.

40.2 If the additional or altered work, for which no rate is entered in the "Schedule of Rates" of the Division is ordered to be carried out before the rate is agreed upon, then the contractor shall within seven days of the date of receipt by him of the order to carry out the work, inform the Engineer-in-charge of the rate, which it is his intention to charge for such class of work and if the Engineer in charge does not agree to this rate, he shall by notice in writing be at liberty to cancel his order to carry out such class of work and arrange to carry it out in such manner as he may consider it advisable, provided always that if the contractor shall commence work or incur any expenditure in regard thereof before the rates shall have been determined as lastly herein before mentioned, then in such cases he shall only be entitled to be paid in respect of the work carried out or expenditure incurred by him prior to the date of the determination of the rate as aforesaid according to such rate or rates as shall be fixed by the Engineer-in-charge. In the event of the dispute, the decision of the Superintending Engineer of the Circle shall be final.

Where, however, the work is to be executed according to the designs, drawings and specifications recommended by the contractor and accepted by the competent authority, the alternation above referred to shall be within the scope of such designs, drawings and specifications appended to the tenders.

The time limit for the completion of the work shall be extended in the proportion that the increase in the cost occasioned by alterations bears to the cost of the original work and the certificate of the Engineer-in-charge as to such proportion shall be final and conclusive.

#### **41. Cash Flow Forecasts**

41.1 When the programme is updated, the contractor is to provide the engineer with an updated cash flow forecast.

#### **42. Payment certificates.**

- 42.1 The Contractor shall submit to the Engineer monthly statements of the estimated value of the work completed less the cumulative amount certified previously.
- 42.2 The Engineer shall check the Contractor's monthly statement within 14 days and certify the amount to be paid to the Contractor after taking into account any creditor or debit for the month in question in respect of materials for the works in the relevant amounts and under conditions set forth in sub-clause 32.3 of the Contract Data (Secured Advance).
- 42.3 The value of work executed shall be determined by the Engineer.
- 42.4 The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.
- 42.5 The value of work executed shall include the evaluation of variations and compensation events.
- 42.6 The Engineer may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

#### **43. Payments**

- 43.1 Payments shall be adjusted for deductions for advance payments, retention, other recoveries in terms of the contract and taxes at source, as applicable under the law. The Employer shall pay the Contractor the amounts certified by the Engineer within 28 days of the date of each certificate.
- 43.2 Payment of GST (prevailing rates) on the amount payable under the contract to the Contractor will be made by the Employer. Hence, it is the responsibility of the Contractor to pay the GST to the concerned Authority.
- 43.3 Items of the works for which no rate or price has been entered in will not be paid by the Employer and shall be deemed covered by other rates and prices in the Contract.

#### **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 Contract data to the Contractor
- 44.2 In case of a compensation event occurs and it prevents the work being completed beyond the Intended Completion Date then Authority will approve EOT with eligible contractual price escalation.

## **45. Tax**

45.1 The rates quoted by the Contractor must be inclusive of all taxes prevailing on the date of bid submission except GST. However, any subsequent changes in the tax structure by Government after the date of bid submission will be compensated (+/-) on availability or submission of actual documentation. Contractor will have to intimate Engineer regarding changes occurred in the tax structure after bid submission. If the contractor fails to provide such information and if any financial obligation may arise due to change in tax structure, same will be recovered from the contractor.

45.2 GST will be paid separately on the bills. Hence, it is the responsibility of the contractor to pay the GST to the concerned Authority.

## **46. Currencies.**

46.1 All payments shall be made in Indian Rupees.

## **47. Price Adjustment**

47.1 Contract prices shall be adjusted for increase or decrease in rates and price of labour, materials, fuels and lubricants in accordance with the following principles and procedures and as per formula given in the contract data:

(a) The price adjustments shall apply for the work done from the start date given in the contract data up to end of the initial intended completion date or extensions granted by the Engineer and shall not apply to the work carried out beyond the stipulated time for reasons attributable to the contractor.

(b) The price adjustments shall be determined during each month from the formula given in the contract data.

(c) Following expressions and meanings during to the work done during each month

$R = \text{Total value of work done during the month. It would include the amount of secured advance granted, if any, during the month less the amount of secured advance recovered, if any during the month. It will exclude value for work executed under variations for which price adjustment will be worked separately based on the terms mutually agreed.}$

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 clause 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 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 Work shall 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 with an "on demand" Bank guarantee.

In case, Contractor requests for refund of the Retention Money deducted by the Employer under the provision of this clause, Employer shall consider the said request of the Contractor provided that the refund hereunder shall be made in tranches of not less than 1% (One Percent) of the Contract Price and Contractor furnishes an irrevocable and unconditional Bank guarantee for an equal amount substantially in the format of Bank Guarantee for Performance Guarantee enclosed with SBD and valid up to 60 days beyond the scheduled / extended Defects Liability Period. On completion of the whole works, the contractor has however an option to submit a fresh irrevocable and unconditional Bank Guarantee for an amount equal to 5% of the total value of work executed substantially in the format of Bank Guarantee for Performance Guarantee enclosed with SBD and valid up to 60 days beyond the Defect Liability Period and yet refund the Retention Money Bank Guarantee submitted for refund of Retention Money.

#### **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 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 may deduct liquidated damages from payment 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 not be entitled for any interest on the over payment calculated from the date of payment to the date of repayment.

49.3 If the contractor fails to comply with the time for completion as stipulated in the tender, then the contractor shall pay to the employer the relevant sum stated in the Contract Data as Liquidated damages for such default and not as penalty for every day or part of day which shall elapse between relevant time for completion and the date stated in the taking over certificate of the whole of the works on the relevant section, subject to the limit stated in the contract data.

The employer may, without prejudice to any other method of recovery deduct the amount of such damages from any monies due or to become due to the contractor. The payment or deduction of such damages shall not relieve

the contractor from his obligation to complete the works on from any other of his obligations and liabilities under the contract.

- 49.4 If, before the Time for Completion of the whole of the Works or, if applicable any Section, a Taking Over Certificate has been issued for any part of the Works or of a Section, the liquidated damages for delay in completion of the remainder of the Works or of that Section shall, for any period of delay after the date stated in such Taking-Over-Certificate, and in the absence of alternative provisions in the Contract, be reduced in the proportion which the value of the part so certified bears to the value of the whole of the Works or Section, as applicable. The provisions of this Sub-clause shall only apply to the rate of liquidated damages and shall not affect the limit thereof.

## **50—Bonus**

- 50.1 If the contractor achieves completion of the whole of the works prior to the intended Completion Date prescribed in Contract Data the Employer shall pay to the contractor as stated in Contract Data as bonus for every completed month but subjected to maximum amount as stated in Contract Data; which shall lapse between the date of completion of all items of works as stipulated in the contract, including variations ordered by the Engineer and the time prescribed in Clause 17.

- 50.2 Bonus shall be paid only to works amounting to above INR 5 crore with time limit of the works is equal or more than 6 months. The bonus would be paid as under

% of Time Saved	% of Initial Contract Price entitled for Bonus
50%	5%
40%	4%
30%	3%
20%	2%
10%	1%
Less than 10%	0%

## **51.—Advance Payment.**

- 51.1 The Employer shall make advance payment (not to be paid less than two installments except in special circumstances for which there is reason to be Recorded in writing) to the Contractor of the amounts stated in the Contract Date by the date stated in the Contract Date, 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 at least 110% of 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. The Mobilization advance would be deemed as interest bearing advance at an interest rate of 10% to be compounded, quarterly.~~

~~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 payments shall be repaid by deduction proportionate amount from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuation of work done, variations, price adjustments, Compensation Events, or Liquidated damages.~~

~~51.4 Deleted~~

## **52. Securities**

52.1 The performance Security (including additional security for unbalanced bids) shall be provided to the Employer not later than the dates 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 60 days from the certified date of completion of the Project 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 Material to be incorporated in the Works between the Start date and the end of Defects Correction period shall be remedied by the Contractor at the Contractor's cost if the loss or damages 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**

- 57.1 The Contractor shall supply to the Engineer a detailed final account of the total amount that the Contractor considers payable as full and final settlement of all claims under the Contract for items before the end of the Defects Liability Period. The Engineer shall issue a Defect Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Engineer shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Engineer shall decide on the amount payable to the Contractor and issue a payment certificate, within 56 days of receiving the Contractor's revised account.
- 57.2 If a reversal in characteristic of tender (L1 becoming L2) on account of excesses and savings in final account is observed, the Engineer/Employer shall be at liberty to restrict the final payment of BOQ items to the lowest amount evaluated of the bids considering the final quantities and the rates quoted including the rebates if any. Payment of variation items shall however be made at the rates approved by the Employer, within 90 days from the physical completion of work.

### **~~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:

1. The contractor stops work for 28 days when no stoppage of work is shown on the current programme and the stoppage has not been authorized by the Engineer
2. The Engineer instructs the Contractor to delay the progress of the Works and the instructions is not withdrawn within 28 days;
3. The Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation
4. 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
5. The Engineer gives Notice that a 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;
6. The Contractor does not maintain a security which is required;
7. 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
8. If the Contractor, in the judgment of the Employer, has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the purpose of this paragraph: "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution. "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition.

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.

## **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 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 Engineers shall issue a certificate for the value of the work done, the cost of balance material brought by the contractor and available at site, the reasonable cost of removal of equipment, repatriation of the Contractor's personnel employed solely on the works, and the Contractor's cost of protecting and securing the Works and less advance payment received up to the date of the certificate, less other recoveries due in terms of the contract and less taxes due to deducted at source as per applicable law.

## **61. Property**

- 61.1 All material on the Site, Plant Equipments, Temporary Works and Works are deemed to be 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 Engineers 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.

## **F. SPECIAL CONDITIONS OF CONTRACT**

### **63. 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 of 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 these several classes of labour from time to time employed by the Contractor on the site and such other information as the Engineer may require.

### **64. COMPLIANCE WITH LABOUR REGULATIONS**

During continuance of the contract, the Contractor and his sub-contractor shall abide at all times by all existing labour enactments and rules made thereunder, regulations, notification and by laws of the State or central Government or local authority and any other labour law (including rules), regulations, by 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 the 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 thereunder, 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 observance of the provisions stipulated in the notifications/by 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 the 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 AND OTHER LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK

- 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 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**:- The Act provides for monthly contributions by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are :
1. Pension or family pension on retirement or death, as the case may be.
  2. Deposit linked insurance on the death in harness of the worker.
  3. 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 scheduled employment. Construction of Building, Roads, Runways are scheduled employment.
- 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 matter of transfer, 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 payment 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 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 State 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 the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have 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 establishments situated in another state). The inter-state migrant workmen, is an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home up to the establishment and back, etc.
- O) **The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996 :-** All the establishments who carry on any building or other construction work and employ 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 workplace etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officers appointed by the Government.

- P) **Factories Act 1948:-** The Act lays down the procedure for approval of plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual 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 the manufacturing process.
- Q) **Royalty charges-** The contractor shall pay the royalty to the competent authority as per rule. The **royalty** charges paid shall be borne by the contractor and shall not be reimbursed by the Employer.
- R) **Following Pollution control Acts and amendments made thereof from time to time shall be applicable.**
1. Water (Preservation and Control of Pollution) Act, 1974
  2. Air (Prevention and Control of Pollution) Act 1981
  3. Environmental (Protection) Act 1986

The contractor must commit to adopting Environmental management plan for best energy use, waste management, the reduction of pollution as in EMS (Environmental Management system) ISO-14001:2015

#### **65. ARBITRATION (GCC Clause 24)**

The procedure for arbitration will be as follows:-

- 24.1 If the Contractor is of the view that a decision taken by the Engineer was either outside the authority given to the Engineer by the Contractor or that the decision was wrongly taken, the decision shall be referred to the **Superintending Engineer** (Higher Authority) (.....Circle) within 14 days of the notification of the Engineer's decision. If the issue is not resolved, any party can refer the matter for conciliation within 15 days from the decision given by the **Superintending Engineer**.
- 24.2
- (a) For the work up to Rs. 100 Cr., if any of the parties is not satisfied with the decision of the **Superintending Engineer** (.....Circle), both the parties have to refer to the **Chief Engineer** concerned for the conciliation process.
  - (b) For the work more than Rs. 100 Cr., if any of the parties is not satisfied with the decision of the **Superintending Engineer**, both parties have to refer to the **Secretary, Water Resources Department, Government of Gujarat** for the conciliation process.
- If the dispute is not resolved through the conciliation process, the contractor may refer the dispute to Gujarat Public Works Contract Dispute Arbitration Tribunal. If the Contractor fails to refer a claim/dispute to the Higher Authority within 14 days of the notification of the Engineer's decision, the Contractor shall not be entitled to any additional payment/claim if he doesn't follow the above sequence in stipulated time. However, during such period, he would not stop the work in any case.

**SECTION-4**  
**CONTRACTDATA**



## #CONTRACTDATA

ClauseReferenceWith  
respectTo section 3

Item marked "N/A" donot applytothisContract.

1.	TheEmployersis Name:Executive Engineer, Sujlam Suflam Division 2, Visnagar Address: Office of the Executive Engineer, Sujlam Suflam Division 2, Dharoi Colony, Dharoi Colony Road, Visnagar, 384315, Mehsana, Gujarat. NameofauthorizedRepresentative(willbeintimatedlater)	[CL.1.1]
2.	The Engineer is Deputy Executive Engineer NameofAuthorizedRepresentative : Assistant Engineer	
3.	The Defects Liability Period is <b>6 months</b> from the date of completion.	[CL.1.1&33]
4.	The Start Date shall be <b>1<sup>st</sup></b> days forthe date of issue of the Notice to proceed with the work.	[CL.1.1]
5.	The Intended Completion Date for the whole of the works is <b>3 Months</b> after start of work with the following milestones: Milestonedates: <u>PhysicalworkstobecompletedPeriodfromthestartdate</u> Milestone 1 i.e. 25% 23days. Milestone2i.e. 50% 45days. Milestone3i.e. 75% 68days. Milestone4i.e. 100% 90days.	[CL.1.1,17&2] [CL.2.2&49.1]
6.	TheSiteislocated atVisnagar Canal Colony, Ta.Visnagar, Dist.B.K.	[CL.1.1]
7.	ThenameandidentificationnumberoftheContractis:	[CL.1.1]
8.	Theworksconsistof" <b>Renovation of Sujlam Suflam Sub Division No. 5 Office at Mahesana</b> "withitemsas per B.O.Q.Theworksshall,interalia,includethefollowing,as Specifiedoras directed:	[CL.1.1]
	<p><b>(A)WRDWorks</b></p> <p>Siteclearance;setting-outandlayout;ConstructionandMaintenance ofalltypesofdamsanditscomponent,earthendam; spillway; installation ofgate;excavation andearthwork,approachroad, InspectionBunglows,checkdams, bandhara, T.R.,weir,barrages,Flood Protection&amp;AntiSeaErosionwork,canallining andstructures,CD Works,structurerepairing,Jungalecutting,Desilting,etc.other WRD works.</p> <p><b>(B)Road Works:</b></p> <p>Siteclearance;settingoutandlayoutwideningof<b>existing</b>carriageway and strengthening including camber corrections; construction of new road/ Parallel service road; bituminouspavements remodeling/constructionof Junctions, intersections, bus bays, lay-bays; supplyingandplacingof drainage Channels, flumes,guardpostsandguard otherrelateditems; construction/extensionof crossdrainageworks, bridge,approachesand otherrelatedstones; protectiveworksfor roads/bridge;allaspectsofqualityassuranceofvarious componentsof theworks; rectificationofThedefects in thecompletedworksduring the Defects LiabilityPeriod;submissionof"As-built"drawingsandanyother relateddocuments;andotheritemofworkasmay be required to be carried out for completing the work inaccordancewith thedrawings and theprovisions of thecontractand to ensure safety.</p>	

### (C) BridgeWorks

provision of foundations, piers, abutments and bearing; prestressed/reinforced concrete superstructure; wearing coat, handrailings, expansion joints, approach slabs, drainage spouts/downtake pipes, arrangements for fixing light posts, water mains, utilities etc; provision of suitably designed protective works; providing wing/return walls; provision of road markings, road signs etc.; all aspects of quality assurance; clearing the site and handing over the works on completion; rectification of the defects during the Defects Liability Period and submission of "As-built" drawings and other related documents; and other items of work as may be required to be carried out for completing the works in accordance with the drawings and the provisions of the contract and to insure safety

### (D) Other Items

Any other items as required to fulfill all contractual obligations as per the Bid documents.

[CL.1.1]

10. The following documents also form part of the Contract:

As per clause 2-3 \_\_\_\_\_

[CL.2.3(9)]

11. The law which applies to the Contract is the law of Union of India

[CL.3.1]

12. The language of the Contract documents is English

[CL.3.1]

13. Limit of subcontracting 25% of the Initial Contract Price

[CL.7.1]

14. The Schedule of Other Contractors

[CL.8]

15. The Schedule of Key Personnel As per Annex-II to Section I [CL.9]

16. The minimum insurance cover for physical property, injury and death is Rs. 5 lakhs per occurrence with the number of occurrences limited to four. After each occurrence, the contractor will pay an additional premium necessary to make insurance valid for four occurrences always.

[CL.13]

17. Site Investigation report

[CL.14]

18. The Site Possession date shall be **from the date of Work order**

[CL.21]

19. The period for submission of programme for approval of the engineer shall be 21 days from the issue of Letter of Acceptance.

[CL.27.1]

20. The period between program updates will be ..... days.

[CL.27.3]

21. The amount to be withheld for late submission of an updated programme shall be Rs 0.50 lakhs

[CL.27.3]

22. The following events shall also be Compensation Events

[CL.44]

Substantially adverse ground conditions encountered during the course of execution of work not provided for in the bidding document.

(i) Removal of underground utilities detected subsequently

(ii) Significant changes in classification of soil requiring additional mobilization by the contractor, e.g. ordinary soil to rock excavation,

(iii) Removal of unsuitable material like marsh, debris dumps, etc. not caused by the contractor.

- (iv) Artesian conditions
  - (v) Seepage, erosion landslide
  - (vi) River training requiring protection of permanent work
  - (vii) Presence of historical, archeological or religious structures, monuments interfering with the works
  - (viii) Restriction of access to ground imposed by civil, judicial, or military authority
23. The currency of the Contract is Indian Rupees [CL.46]
24. **The formula (e) for adjustment of prices are as under:** [CL.47]
- If any of the commodities like Cement, Steel or Bitumen are not found applicable in a work, the weight component of that commodities {i.e. 'Cement' (Pc), 'Steel' (Ps) or 'Bitumen' (Pb) as indicated in SBD for the purpose of Price Adjustment} shall be clubbed with the weight component of 'Other Material' (Pm), such that the gross % weight of the components shall remain as 100% .
- R = value of work as defined in Clause 47.1 of Conditions of Contract

#### **Adjustment for labour component**

- (i) Price adjustment for increase or decrease in the cost due to labour shall be paid in accordance with the following formula:

$$V_L = 0.85 \times (P_1/100) \times R \times (L_i - L_0)/L_0$$

$V_L$  = Increase or decrease in the cost of work during the month under consideration due to changes in rates for local labour

$L_0$  = The consumer price index for industrial workers for the State on 28 days preceding the scheduled date of opening of technical Bids as published by Labour Bureau, Ministry of Labour, Government of India

$L_i$  = The consumer price index for industrial workers for the State for the month under consideration as published by the Labour Bureau, Ministry of Labour, Government of India.

$P_1$  = Percentage of labor component of the work.

#### **Adjustment for cement component.**

- (ii) Price adjustment for increase or decrease in the cost of cement procured by the contractor

$$V_c = 0.85 \times (P_c/100) \times R \times (C_i - C_0)/C_0$$

$V_c$  = Increase or decrease in the cost of work during the month under consideration due to changes in rates for cement.

$C_0$  = The all India wholesale price index for Ordinary Portland Cement on 28 days preceding the scheduled date of opening of technical bid as published by the Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry.

$C_i$  = The all India average wholesale price index for Ordinary Portland Cement for the month under consideration as published by **Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry.**

$P_c$  = Percentage of cement component of the work

### Adjustment for steel component

- (iii) Price adjustment for increase or decrease in the cost of steel procured by the contractor shall be paid in accordance with the following formula

$$V_s = 0.85 \times (P_s / 100) \times R \times (S_i - S_0) / S_0$$

$V_s$  = Increase or decrease in the cost of work during the month under consideration due to changes in the rates for steel

$S_0$  = The all India wholesale price index for steel (**Mild Steel- Long Products Rebars**) on 28 days preceding the date of opening of Bids as published by the **Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry.**

$S_i$  = The all India average wholesale price index for steel (**Mild Steel- Long Products Rebars**) for the month under consideration as published by **Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry.**

$P_s$  = Percentage of steel component of the work

Note: For the application of this clause, the index of **Mild Steel- Long products Rebars** has been chosen to represent the steel group.

### Adjustment of bitumen component

- (iv) Price adjustment for increase in the cost of bitumen shall be paid in accordance with the following formula

$$V_b = 0.85 \times (P_b / 100) \times R \times (B_i - B_0) / B_0$$

$V_b$  = Increase or decrease in the cost of work during the month under consideration due to changes in rates for bitumen.

$B_0$  = The official retail price of bitumen at the IOC depot at the nearest centre on the day 28 days prior to the scheduled date of opening of technical bid.

$B_i$  = The official retail price of bitumen of IOC depot at the nearest centre for the 15<sup>th</sup> day of the month under consideration.

$P_b$  = Percentage of bitumen component of the work

### **Adjustment of POL (fuel and lubricant) component**

- (v) Price adjustment for increase or decrease in cost of POL (fuel and lubricant) shall be paid in accordance with the following formula

$$V_f = 0.85 \times (P_f/100) \times R \times (F_i - F_0)/F_0$$

$V_f$  = Increase or decrease in the cost of work during the month under consideration due to changes in rates for fuel and lubricants.

$F_0$  = The official retail price of High Speed Diesel (HSD) at the existing consumer pump of IO Cat the nearest centre on the day 28 prior to the date of opening of Bids.

$F_i$  = The official retail price of HSD at the existing consumer pump of IO Cat the nearest centre for the 15<sup>th</sup> day of the month of the under consideration.

$P_f$  = Percentage of fuel and lubricants component of the work

Note: For the application of this clause, the price of High-Speed diesel Oil has been chosen to represent the fuel and lubricants group.

### **Adjustment for Construction Machinery**

- (vi) Price adjustment for increase or decrease in the cost of plant and Machinery spare procured by the Contractor shall be paid in accordance with the following formula

$$V_p = 0.85 \times (P_p/100) \times R \times (P_i - P_0)/P_0$$

$V_p$  = Increase or decrease in the cost of work during the month under consideration due to changes in rates for plant and machinery spares

$P_0$  = The all India wholesale price index for **manufacturer of machinery forming, quarrying and Construction** for the month under consideration as published **Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry.**

$P_i$  = The all India average wholesale price index for **manufacturer of machinery forming, quarrying and Construction** for the month under consideration as published **Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry.**

$P_p$  = Percentage of plant and machinery spares component of the work.

Note: For the application of this clause, index of Heavy Machinery and parts has been chosen to represent the Plant and Machinery Spares group

## Adjustment of other materials Component

- (vii) Price adjustment for increase or decrease in cost of local materials other than cement, steel, bitumen and POL procured by the contractor shall be paid in accordance with the following formula

$$V_m = 0.85 \times (P_m / 100) \times R \times (M_i - M_0) / M_0$$

$V_m$  = Increase or decrease in the cost of work during the month under consideration due to change in rates for local materials other than cement, steel, bitumen and POL.

$M_0$  = The All India wholesale price index (all commodities) on 28 days preceding the scheduled date of opening of technical Bids, as published by the **Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry.**

$M_i$  = The All India wholesale price index (all commodities) for the month under consideration as published by the **Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry.**

$P_m$  = Percentage of local material components (other than cement, steel, bitumen and POL) of the work.

The following percentage will govern the price adjustment for the entire contract:

1. Labour- $P_l$ .....	11.50%
2. Cement- $P_c$ .....	0.00%
3. Steel- $P_s$ .....	0.00%
4. Bitumen- $P_b$ .....	0.00%
5. POL - $P_f$ .....	0.00%
6. Plant & Machinery Spares $P_p$ .....	0.00%
7. Other Materials- $P_m$ .....	88.50%
	-----
<b>Total</b>	<b>100%</b>
	-----

25. The proportion of payments retained (retention money) shall be 6% {CL. 48} from each bill subject to a maximum of 5% of final contract price.
26. Amount of Liquidated damages for delay in completion of works
- For Whole of work {CL.49}  
 $(1/2000)^{th}$  of the Initial contract price, rounded off to the nearest Thousand, per day. For sectional Completion (wherever specified in item 6 of Contract data)  $(1/2000)^{th}$  of initial contract price for #5 km Section, rounded off to the nearest thousand per day.

27. Maximum limit of liquidated damages for delay in completion work 10 percent of the Initial {CL.49} Contract Price rounded off to the nearest thousand
28. ~~Amount of Bonus for early completion~~ Amount of bonus for early completion of work shall be given as per CL.50 of Section 3
29. ~~Maximum limit of bonus for early Completion of work~~ **5 percent of the Contract Price** {CL.50}
30. ~~The amount of the advance payment are: {CL. 51&52}~~

#### #Nature of Advances

#### Amount (Rs.) Conditions to Be fulfilled

- i Mobilization 10% of the contract Price On submission of unconditional Bank Guarantee (to be drawn before the end of 20% of the contract period). The contractor may furnish four bank guarantees of 2.5% of each valid for the full period.
- ii Equipment 90% for new and 50% of depreciated value for old equipment. Total amount will be subject to a maximum of 5% of the Contract Price After equipment is brought to site (provided the Engineer is satisfied That the equipment is required for performance of the contract) and on submission of unconditional Bank Guarantee for amount of advance
- iii Secured **Deleted**  
Advance for  
Non-perishable material  
Brought to site

(The advance payment will be paid to the Contractor not later than 28 days after fulfillment of the above conditions).

#### 31. **Repayment of advance payment for mobilization and equipment** {CL.51.3}

The advance loans shall be repaid with percentage deduction from the interim payments certified by the Engineer under the Contract. Deduction shall commence in the next Interim Payment Certificate following that in which the

~~total of all such payments to the Contractor has reached not less than 20 percent of the Contract Price or 6 (six) months from the date of payment of first installment of advance, whichever period concludes earlier, and shall be made at the rate of 20 percent~~ **(collectively for both Mobilization Advance and Equipment Advance)** of the amount of all Interim Payment Certificate until such time as the loan has been repaid, always provided that the loan shall be completely repaid prior to the expiry of the original time for completion pursuant to Clause 17 and 28.

~~32. Deleted~~

33. These securities shall be for the following minimum amount equivalent {CL.52} As a percentage of the Contract Price:

Performance Security for 5 percent of contract price plus Rs. .... (to be decided after evaluation of the bid) as additional security in terms of ITB Clause 29.5

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.

~~34. The Schedule of Operating and maintenance Manuals ..... N/A. {CL.58}~~

~~35. The date by which "as built" drawings (in scale as directed) in 2 sets {CL.58} are required within 28 days of the issue of certificate of completion of the whole or section of the work, as the case may be.~~

~~36. The amount to be withheld for failing to supply "as built" drawings {CL.58} by the Date required is Rs. .... Lakhs.~~

37. The following events shall also be fundamental breach of contract: {CL.59.2}

"The Contractor has contravened Sub-clause 7.1 and Clause 9 of GCC"

38. The percentage to apply the value of the work not completed representing {Cl 60} the Employer's additional cost for completing the Works shall be 20 per cent.



**SECTION-5**  
**TECHNICALSPECIFICATION**

## **PART-I : GENERAL CONDITION**

**NAME OF WORK:**     **Renovation of Sujlam Suflam Sub Division No. 5  
Office at Mahesana**

### **1. Definition of terms:**

In constructing these general conditions and contract documents, the following expressions shall have the meaning herein assigned to them unless there is something in the subject or context inconsistent with such construction.

i) The “Government” shall mean the governor of Gujarat and shall unless excluded by or repugnant to the context, include his successors in offices and accepted assigns.

#### **ii) Contractor / Bidder:-**

Means the particular person, firm or representation with whom the contract has been made for executing the works.

#### **(iii) Engineer -in - Charge:-**

For the normal operational day to day routine work and handling of the contract matters and execution of works as per the terms and conditions, specifications, The Engineer - in - Charge means Executive Engineer of the work under the contract or such other assistant or sub-ordinate to whom the Executive Engineer may have delegated certain duties acting separately within the scope of the particular duties entrusted to them.

While dealing with the financial approval and items like extra items, quantity variations and other such proposals involving the finance where the terms should mean the competent authority under the organization having competency to deal with & approve such cases.

The Engineer where named as final authority for decision shall mean the Superintending Engineer, SujalamSufalam Circle No.2, Mehsana upto whom the contractor will have a right of appeal when the contractor is not satisfied with decisions of the Executive Engineer.

- (iv) Chief Engineer means Chief Engineer to whom the Superintending Engineer reports.
- (v) Owner / department means Narmada Water Resources, Water Supply and Kalpsar Department (NWRWS&KD) of Government of Gujarat.
- vi) The “Contract” shall mean and include the invitation for tenders, work and site conditions general conditions, printed in B-1 form with all its appendices special conditions and detailed specification. The contract drawings and any letters issued modifying the conditions of contract and the contract between the contractor and the Government.
- vii) The “Specifications” shall mean the specification annexed to these general conditions, and the schedules there to (if any) and is laid down or implied in the contract documents.
- viii) “Site” shall mean the land and other places on under, in or through which works are to be executed or carried out or any other lands or places provided by the Government for the purpose of the contract and includes such other areas as approved by the S.E., SujalamSufalam Circle No.2, Mehsana.
- ix) “Construction Plant” shall mean all appliances, machinery, equipment, live stock or things of whatsoever together with necessary supplied or upkeep and maintenance required in or about the proper execution, completion or maintenance or the work of temporary works, but does not include materials or other things intended to form or informing part of the permanent works.
- x) “Temporary Work” shall mean all temporary works of every kind required in or about the proper execution completion or maintenance of the work.
- (xi) Month means period from the beginning of a given date of a calendar month to the end of the preceding date of the next calendar month.
- xii) “Writing” shall include any manuscript, type written or printed statement under or over signature and seal as the case may be.
- xiii) Tendered amount means the total tender amount indicated in the letter of acceptance of the tender.

(xiv) Contract Amount : Means the amount of the work done in accordance with contract duly certified by Engineer-in-Charge in the bill of payment.

(xv) Contract value :

Means the total value of the works as mentioned in the letter of award of the work.

## **2. Contractor's Obligations**

i) The contractor shall be deemed to have carefully examined the work and site conditions, the general conditions, the special conditions, the specifications, schedules and drawings and shall be deemed to have visited the site of works and to have fully informed himself regarding the local conditions.

If he shall have any doubt to meaning of any portion of these general conditions of the special conditions of the scope of work or the specifications or any other matter concerning the contractor, he shall, in good time before submitting his tender set forth the particulars thereof, and submit them to the Engineer in writing in order that such doubt may be removed.

ii) The contractor shall, unless in cases specially provided for, make all payments and at his own expenses under take to do all things and supply all labour, materials. Construction plant, temporary works, transport, supervision and everything whether of a temporary nature or a permanent maintenance of the works, and for performing the obligations of the contract or under the contract, or which the N.W.R.,W.S.& K Department would have to undertake to do or supply had the N.W.R.W.S. & K. department carried out the contract completion and maintenance of work.

## **3. Contract :**

After the contract has been accepted by the Government all orders or instructions to the contractor shall except as herein otherwise provided be given by the Engineer on behalf of the Government.

**4. Government authorized to withheld payment due to the contractor:**

The Government shall have lien on and over all money payable to the contractor under his contract, and also this security deposits withheld or recoveries made under relevant clauses of this contract, in respect of any Government taxes or other moneys which may become payable to Government by the contractor either or jointly with another person under the provision of the Government Acts or any other statutory enactments in force in modification or substitution thereof. Government shall at all times be entitled to deduct the said sum or tax from contractor from the moneys, securities or deposits which may become payable or returnable to the contractor under the contract.

**5. Authority of the Engineer-in-charge**

Contractor shall execute, complete and maintain the works in strict accordance with contract under the direction and to the entire satisfaction of the Engineer-in-charge and shall comply with and adhere strictly to the Engineer-in-charge's instructions and directions on any matter whether mentioned in the contract or not. The Engineer-in-charge shall decide all questions which may arise as for quality and acceptability of material furnished and work executed, manner of execution, rate of progress of the works, interpretation of plans and specifications and acceptable fulfillment of the contract on the part of the contractor. He shall determine the amount and quality of work performed and materials furnished and his decision and measurements shall be final, in all such matters and in any technical questions which may arise touching the contract, his decision shall be binding to the contractor.

The Engineer-in-charge shall have the power to enforce such decisions and orders. If the contractor fails to carry out promptly, and if the contractor fails to execute work ordered by the Engineer-in-charge, the Engineer-in-charge may give notice to the contractor specifying a reasonable period

therein and on expiry of that period process to execute such work as may be deemed necessary and recover the cost there of from the contractor..

**6. Contract drawing and specifications**

- a) Supply of sets of contract drawings and certified copy of accepted tender will be governed by clause SBD Booklet.
- b) The drawings which form part of these specification show the work to be done in as much details as is possible at the present stage. They will be supplemented or superseded by such additional detailed drawings a may be necessary as the work progresses. The contractor shall perform the work on these features and in accordance with these additional or revised drawings, as the case may be and the applicable rates as per the contract. Revised and/or additional drawings will be available for inspection in the office of the Executive Engineer, Sujlam Suflam Division 2, Visnagar and if copies of the same are required by the contractor three sets of such revised and / or additional drawings will be given free of cost on request. Additional copies of the same will be supplied at Rs.50.00 (Rupees fifty only) per each of such additional copies of each drawing.
- c) The contractor shall check all drawings carefully and advise the Engineer immediately of any errors omissions discovered. The contractor shall not take advantage of any kind of any error or omission in the drawings supplied. If the contractor does not point out any mistake, he shall have to face the consequence there of and bear extra cost, if any incurred by him on this account.

**7. Use of site**

- a) The contractor shall be permitted to use, without any charge, the site and all lands required for the permanent occupation of the works. He will also be allowed during the period of his contract the use of any other lands at the rates under clause SBD of tender in the vicinity of the work and when the engineer may consider such use to be necessary for Bonafide purpose of

works. The contractor shall not commence any operation on such lands except with prior approval of the Engineer.

- b) All areas of operation, including these for his staff and labour colonies handed over to the contractor shall be cleared and handed back in good condition to the engineer except areas under works constructed as per this contract or those for which specific approval has been obtained from the Engineer. The contractor shall make good, to the specifications of the engineer, any stage or alterations made to areas which he has to hand back or to other properly or land handed over to him for purpose of this work.
- c) Temporary structures may be constructed at his own expense by the contractor for storage sheds, offices, residences etc. for non-commercial use of the land handed over to him and with the permission of the Engineer-in-charge. These structures shall comply with all regulations that may be in force and/or specified by the Engineer with regards thereto. For such non-commercial use of land the rent shall be charged as mentioned under clause of SBD booklet of Tender.
- d) The contractor shall preserve all existing vegetation such or trees on or adjacent to the site which do not interfere with constructions as determined by the Engineer. The contractor shall take all possible precautions in falling trees authorized for removal to avoid any unnecessary damage to vegetation and trees but to be felled and to structures under construction or to workman and shall be responsible for any damage if it occurs in each operations.

All produce from cutting of trees, grass etc. shall be the property of Government and shall be stacked at the place specified by the Engineer. No claim shall be made for such cutting and stacking of trees or grass etc. by the contractor.

The lands shall be herein before mentioned be handed over back to the Engineer-in-charge within 1 months after the completion of the work under this contract. Also no land shall be hand by the contractor longer than the

Engineer-in-charge shall consider or deem it necessary and the contractor shall on due notice by the Engineer, vacate and return the land which the Engineer-in-charge may certify as no longer required by the contractor for purpose of the work.

## **8. Base lines and grades**

- a) Permanent base lines and cross-lines shall be established at sufficiently close intervals with bench marks at all corner points to serve as “Reference Grid” the contractor shall provide at his expenses all templates pillars, stakes, equipments, materials and labour for establishing the Grid lines and pillars and shall be responsible for their proper maintenance during the whole period of construction. These shall be laid out with prior approval of and checked by the Engineer. No base line or bench or reference mark shall be used as reference line, mark or level for the work without prior approval of the Engineer-in-charge.
- b) The contractor shall lay out the work from these reference base line in consultation with the Engineer-in-charge and shall be responsible for the correctness of all measurements and level in connection therewith, notwithstanding the facts that the same might have been checked by the contractor’s staff.
- c) The contractor shall be responsible for proper execution of the work to such lines, grades as may be specified in the drawings or established or indicated by the Engineer.

## **9. Fencing and lighting**

### **i) Fencing**

- a) The contractor shall unless otherwise specified, be responsible for the proper fencing, lighting, ventilation, quarding and taking of the necessary safety measures for all works comprised in the contract and for the proper provision of temporary roadway, footways, guard fences, caution, notice etc. as far as the same may be rendered necessary by reasons of the work for



the accommodations of workman, foot passengers or other traffic and of owners and occupiers of adjacent, property and of the public and shall remain responsible for any accordance that may occur on account of his failure to take proper and timely precautions.

**b) Lighting :**

All the works, approaches galleries shall be adequately illuminated with electric lights to the satisfaction of the Engineer-in-charge. The power lighting connection wiring equipment shall be subjected to the inspection and passing by the Electrical Inspector to Government authorised under the Indian Electricity Act. Any addition and alteration or omission shall be got approved from the Engineer and got certified from the Electrical Inspector. Work spots such as faces of excavation, concreting, masonry work, grouting etc shall be adequately flood light to the satisfaction of the Engineer-in-charge. All cost involved in drawings low tension or high tension lines, metres, switches, starting and lighting accessories are to be borne by the contractor. Assistance will be given by the department in form of expediting power supply release and connections by Gujarat Vij Company.

Whether more than one agency is working in the same area, the contractor who has already provided lighting arrangements shall extend the facilities to the other contractor who shall pay for such facility at mutually agreed rates. In case of dispute, the matter shall be decided by the Engineer whose decision shall be final.

- c) All the arrangements made for fencing and lighting shall be maintained by the contractor throughout the pendency of the contract till physical taking over of the work by the Department.
- d) If after all the work under this contract is completed and accepted as such and in case the Engineer so directs, the contractor shall maintain the lighting, drainage, communication facilities etc. upto a date determined by the Engineer.

The payment for such services maintained on direction after the completion and acceptance of the work under this contract shall be made at rates as the Engineer may determine. The maintenance of these service during the pendency of the work is however the contractor's responsibility and at his cost.

**10. Liability for accidents to persons :**

Responsibilities and liabilities of the contractor under “Workmen's Compensation Act” are given in clause of the SBD Booklet. In addition following shall also apply:

- a) On the occurrence of an accident which result in death of workmen employed by the contractor or Govt. employed on duty which is so serious as likely to result in death of any such workmen or Govt. Employee, the contractor shall within 24 hours of happening of such accidents intimate in writing to the Engineer the fact of such accident. The contractor shall indemnify Government against all loss or damage sustained by the Government resulting directly or indirectly from his failure to give intimation in the manner aforesaid including the penalties or fines, if any payable by the Government as a consequence of Government's failure to give notices under the “Workmen Compensation Act” or otherwise to conform to the provisions of the said Act in regard to such accident.
- b) In case of an accident in respect of which compensation may become payable under workmen's compensation act whether by the contractor or by the Government principal employer, it shall be lawful for the Engineer to retain out of money due and payable to the contractor. Such sum or sums of money as may in the opinion of the Engineer be sufficient to meet such liability. The opinion of the Engineer shall be final in regard to all matters arising under this clause.
- c) Contractor will be bound to provide in writing with the details of employment, emoluments paid and status of the workman concerned as may be required under the act to the Engineer-in-charge.

**11. ACCESS TO SITE AND WORK ON SITE :-**

The Engineer may if he considers fit from time to time enter upon any lands which may be in possession of the contractor under this contract, for the purpose of executing any works not included in this contract to and may execute such works not included in his opinion and the contractor shall in accordance with the requirements of the Engineer, aforesaid all reasonable facilities for execution of the work including occupation of lands by structure or otherwise for any other contractor employed by the Government and his workmen or for the workmen of the Government who may be employed in the execution on or near the site of the work not included in the contract, or of any contract in connection with or ancillary to the work and in default, the contractor shall be liable to the Government for any delay or expense incurred by reasons of such default. Provided always that

if the exercise of these powers shall cause any damage to the contractor he may within fifteen days of such damage arising make a statement of the same to the Engineer, who shall from time to time assess the value in his judgement of such damage and the Government shall from time to time pay to the contractor the amounts (if any) accepted as justified by the engineer.

**12. Opening out work :**

Should the Engineer consider it necessary in order to satisfy himself as to the quality of the work, the contractor shall at any time during the continuance of the contract pull down or cut into any of the work and make such of things into and in such extent through the same, as the Engineer may direct and contractor shall make good the same at his cost and to the satisfaction of the Engineer.

**13. Contractor to keep inventory of plant etc :**

The contractor shall prepare and maintain an inventory of all materials, temporary rolling stock, plant purchased or hired for use or employment or for any of the purpose of this contract and such inventory or a copy thereof shall at all times be available for inspection by the Engineer. A complete

and upto-date copy of the inventory shall be submitted to the Engineer in the beginning.

**14. Progress Schedule :**

Progress schedule shall be as clause of SBD Booklet. The contractor should plan the work accordingly in consultation with Engineer-in-charge.

- a) The contractor shall furnish a progress schedule at the time of payment security' deposit in quadruplicate indicating the date of start, the day to day progress expected to be achieved, and the stipulated date of completion of each major item of work to be done by him, also indicating dates of procurement and setting up of materials, plant and machinery. The schedule should include a statement of proposed general and, detailed arrangements for carrying out works, and of time. Order and manner in which it is proposed that these shall be executed. The schedule should be framed keeping requirement of clause of SBD Booklet of tender in view and be such as is practicable of achievement towards completion of the work in the time limit and of the particular items on due dates specified in the contract and shall have the approval of the Engineer. Further, the dates for the progress as in this schedule shall be adhered to.
- b) The Engineer shall have, at all times, the right without in any way vitiating this, contract or forming grounds for any claim to alter the order of the work any part thereof and the contractor shall after receiving such direction, proceed in the order directed. The contractor shall also revise the progress schedule accordingly and submit four copies of the revised schedule to the Engineer within seven days of the Engineer's direction to alter the order of works.
- c) The contractor shall furnish sufficient plant, equipment and labour and shall work such hours and shifts as may be necessary to maintain the progress of the work as per approved progress schedule. The working and shift hours shall comply with all government regulations in force, and shall be such as

may be approved by the Engineer. That shall not be varied without the prior approved of the Engineer.

d) The contractor shall from time to time as may be required by the Engineer furnish the Engineer with a statement in writing of the arrangement he proposes to adopt for the execution of this contract and the Engineer may if he consider necessary at any time, advise alteration in the same which the contractor shall adopt on notice thereof.

e) The progress schedule shall be in the forms of progress charts, orms, statement and/or reports as may be approved by the. Engineer.

The contractor shall submit four copies showing the progress of the work in forms and charts etc. at say weekly or periodical intervals as may be specified by the Engineer.

f) The approval of the progress schedule by the Engineer shall not relieve the contractor of any of his duties and responsibilities under me contract, the adoption of any modification in the schedule required by the engineer shall not entitle the contractor to any extra payments.

#### **15. Reports regarding labour :**

The contractor shall submit the following reports to the Engineer-in-charge.

As per clause ofSBD Booklet of tender.

- i) A daily report in a form as may be prescribed of the strength of labour, both skilled and unskilled, employed-by him on the works. The contractor shall increase or decrease the strength both skilled or unskilled if directed by the Engineer-in-charge. The submission of such reports shall not however, relieve the contractor of his responsibilities and duties regarding progress or any other obligations under the contract.
- ii) A classified weekly return in the prescribed /form of the number of persons employed on the works during the preceding week.
- iii) A weekly medical report in the prescribed, form; showing the health of the contractor's camp, the number of persons ill or incapacitated and the nature of their illness.

- iv) A report of any accident which may have occurred to be sent within 12 hours of the occurrence,
- v) Such other reports as may be prescribed.

**16. Other contracts for the work :**

Government has the right to split up the corporate work detailed in the work and site conditions into district items and this contract shall apply on to these times which shall have been specified in this contract.

Should the Government enter into there contract for specified items of the corporate work, each contractor shall co-operate with others to the fullest extent and shall allow to each other every facility and co-ordination for execution of their works simultaneously and satisfactorily, as intended in these designs, satisfactorily, as intended in these designs, specifications and drawings.

Should there be a dispute or disagreement between the contractors for any cause whatever, same shall be referred to the engineer, whose decision regarding the co-ordination co-operation and facilities to be provided by any of the contractors to the other shall be final and binding on all parties and such a decision or decisions shall not vitiate any contract not absolve the contractor of the responsibilities under the contract from the grounds for any claim or compensation.

**17. Interest on money due to the contractor :**

No omission by the Engineer-in-charge to pay the amount due upon measurements or otherwise shall vitiate or make void the contract, nor shall the contractor be entitled for any interest upon any guarantee R.A. bill and Final payments in arrears nor upon any balance which may, on the final settlement of his accounts be due to him.

**18. Contract documents and matters to be treated as confidential :**

All documents, correspondence, decisions and other matters concerning the contract shall be considered as confidential and restrict nature by the

contractor and he shall not dilute or allow access thereto any unauthorized persons of any kind.

**19. Guarantee period :**

Notwithstanding what is mentioned in clause SBD Booklet, during the period of 6 months from the certify date of completion or next monsoon which ever is later. Contractor shall be liable for the replacement of any part of the works found defective from the cause arising from faulty materials, workmanship or other causes for which in the judgement of the Engineer, the contractor is responsible and, for making good and damage arising there from.

**20. Personal of the contractor :**

- a) The contractor shall at all times, maintain on the work, a staff of qualified Engineers and supervisors of sufficient experience of similar other jobs, to ensure that the quality of work turned out shall be as intended in these specifications. The contractor shall also maintain at the work a works manager of sufficient status, experience and office and duly authorized him to deal with all aspects of the day to day work. All communications to and commitments by this works manager shall be considered binding on the contractor.
- b) The contractor shall supply to the Engineer, details of names, qualifications and experience in regard to all supervisory staff employed by the contractors and notify changes when made, and satisfy the Engineer regarding the quality and sufficiency of staff thus employed.
- c) The Engineer in the quality and numbers of the contract's supervisory staff, and to order removal such staffs. The contractor shall comply with such orders and effect replacement to the satisfaction of the engineer.

**21. Co-operation with other construction agencies :**

The contractor shall in accordance with the requirements of the Engineer-in-charge afford all reasonable facilities for any other contractor and piece workers employed by the N.W.R.W.S.& K.Department and their workmen

and for the work men of the N.W.R.W.S.& K.Department and of any other properly authorized authorities or statutory bodies who may be employed on the execution on or near the site of any work not included in the contract or of any contract which the N.W.R.W.S.&K.Department may enter into connection with ancillary to the work.

The contractor shall conduct his work so as not to interfere with or hinder the progress or completion of the work being performed by of an contractors or piece workers or by N.W.R.W.S.& K.Department and shall as far as possible arrange his work and shall place and .disposeoff materials being used or removed so as not to interfere with the operations of the contractors, piece workers or the N.W.R.W.S.& K.Department. He shall join his work with that of others in an acceptable manner and shall perform it in proper sequence to that of others.

The contractor shall assume all liability, financial or otherwise in connection with this contract and shall protect and save Government from any and all damages and claims that may arise; because of inconvenience, delay ©r loss experienced by him, because of the presence and operations, of others working on or near the site. He shall .assume all responsibility for all works not completed or accepted because of the presence and operations of other contractors or piece workers or of the public works department.

When two or more contractor are engaged on work in the same vicinity, they shall work together in part of co-operation and accommodate on the contractor shall not made or cause to be taken any steps or actions that may cause disruptions, discontent or disturbance to the works, labour and arrangement or other contractors in the neighboring and the project locality in case of any difficulties amongst the contractors, the Engineer-in-charge shall direct the manner in which each contractor shall conduct his work so far effects the others.

**22. Notice-how to be given :**



Where any legal or other notice or any other document or any direction is to be given to or served upon the contractor it shall be deemed to be duly given, or served, if it shall have been either delivered to him personally or to, his recognised great (including in the case of company, the Secretary of such Company) or delivered at or sent through R.P.A.D. addressed to the contractor at the contractor's office on the site or sent through the post addressed to the last known place of business or abode of the contractor or in the case of a company, to its registered office and in the case of a firm of contractors a notice or oilier documents, which shall be so given to or served on any one of the partners in such, firm, shall be deemed to have been given to or served on all of them.

**23. Cost of facilities and incidental works :**

The cost of all the facilities, or any other incidental works etc. as described in various clauses that may have to be provided by the contractor for the purpose of this contract shall be borne by the contractor and no payment shall be made for the same unless specifically mentioned or stipulated.

**24. Damage by floods, cyclone, earthquake or accidents :**

The contractor shall take all precautions against damage in the works by floods, cyclone, earthquake or from accidents. No compensation shall be allowed to the contractor for any damage to the work and of his plants or materials lost or damaged by flood unprecedented or otherwise or from other such natural causes, during monsoons or unexpected shall be liable to make good any damage to the plant machinery or materials of department hired by him and loss on damaged flood or from other cause while in his possession for use of works.

**25. Treasure trove:**

In the event of discovery by the contractor or his employees during the progress of work of any gold, silver, oil or other minerals of any description and precious stones, treasures, coins, antiquities, relives, fossils or other articles of value or interest, whether geological, archaeological or any other

such treasure and other things shall be deemed to be the absolute property of the Government and the contractor shall duly preserve the same to the satisfaction of the Engineer-in-charge from time to time deliver the same to same person or persons as the Engineer may appoint. The contractor shall take all reasonable precautions to prevent i.e. workmen or any other persons from removing damaging any other articles or things, shall, immediately allow discovery any carry out his orders for divisional of the same.

**26. Indemnity :**

The contractor shall indemnify the N.W.R.W.S& K Department against all actions, suits, claims and demands brought or made against N.W.R.W.S& K Department in respect of any matter of things done or omitted to be done by the contractor with execution of in connection with the works of this contract and against any loss or damage to the N.W.R.W.S& K Department in consequence of any action or suit being brought against the contractor for any thing done or omitted to be done in execution of the works of this contract.

**27. Progressive measurements of materials and works :**

If, in the opinion of the Engineer, the progress of work achieved by the contractor is not adequate, the period between two successive progressive measurements as in clause of printed SBD Booklet may at the discretion of the Engineer, be extended.

**28. Labourconditions :**

While employing skilled or unskilled labourers, the contractor shall give first preference to the persons certified to him by the Engineer.

**29. Observation of labourlaws :-**

The contractor shall strictly observe all the requirements laid down in the contract labour (Regulation and Abolition) Act- 1970 and Gujarat Labour Rule-1972 and other acts in force from time to time of far as applicable.

**30. Work order book:**

A work order book as prescribed by the Government will be required on the work and the contractor shall sign the orders in token of acceptance as given by the Engineer-in-charge or his representative. He shall carry out in the true spirit and as required for the correct performance. Work order book is the property of the Department and same remain in the custody of the Departmental supervisory staff on duty. The compliances shall be carried out promptly and reported to the Engineer-in-charge in good time by the contractor so that the work can be checked. If the contractor fails to take note of the orders or instructions issued in the work order book or tries to avoid the same, Engineer-in-charge will have the power to take suitable resource. Any such action of the Engineer-in-charge for the noncompliance on the part of the contractor will be binding upon him.

**31. Relations with public authority :**

The contractor shall comply with all proper and legal orders and direction given from time to time by any local ,or public authority and shall pay out of his own money any fees or charges to which, he may be liable.

**32. Insurance of Labourers :**

The contractor shall be responsible to arrange for insurance of all labourers skilled and unskilled workers supervisors etc. employed- by him as per labour regulations of the State and as per clause of SBD Booklet of Tender.

**33. Title of clause**

The titles of the clauses do not form part of the same and shall not effect their legal construction.

**34. Jurisdiction :**

The contract shall be governed by the laws of India for the time being in force and. he to the jurisdiction of Indian courts in case of dispute leading to the contractors or Government of Gujarat approaching a court of law it shall be the court within whose jurisdiction the site or work is situated i.e. District court at Mehsana.

**35, Construction of the contract :**

The contract shall in all respects be constructed and operated as a contract as defined in the Indian Contract Act, 1972 and all payments made thereunder shall be made in rupees unless otherwise specified.

**36. Law governing contract :-**

The contract shall be constructed according to and subject to the laws of India and jurisdiction of courts of India.

**37. Work under police protections :-**

In case of dispute by the land owner and consequent obstructions in execution of works when the land in question is in possession with the department, the contractor shall be bound to execute the demarcated work under police protection, if required and no extra cost for stoppage slow work or obstructions shall be payable to the contractor.

**38. Reference marks and bench marks :-**

The basic centerline, reference points and bench marks will be fixed by the Department. The contractor shall establish at his cost, at suitable points, additional reference lines and bench marks as may be necessary. The contractor shall remain responsible for the sufficiency and accuracy of all his bench marks and reference marks. He should take precautions to see that the reference lines or points and bench marks fixed by the department are not disturbed by his work and shall make good the damage at his cost. immediately.

**Executive Engineer**  
**Sujlam Suflam Division No. 2**  
**Visnagar**

**Signature of Contractor**

## **PART-II : SPECIAL CONDITION**

### **1. Accuracy of Lines, Levels and Grades :**

The various works shall be done true to line, level and grade. The periodical checking of these by the Government staff shall not absolve the contractor of his responsibility regarding their accuracy. In case of any deviation or discrepancy in line, level or grade at the meeting faces the contractor shall make good the discrepancy at his own cost and without any compensation for the additional work if any involved. Whenever each a discrepancy is found to arise at the junction of works of different contractors, the relative liability to set right their respective discrepancy shall be fixed by the Engineer-in-charge whose decision shall be final and binding on the contractors concerned. The Engineer-in-charge, shall, further have the unquestioned right, if need be to rectify the discrepancies and recover the costs from the contractor or contractors according to proportions as he may consider reasonable.

### **2. Testing of materials:**

All methods or procedures for execution of different items of the work and for testing of the materials etc. shall conform to Indian standard specifications or its latest edition unless otherwise specified.

The provision of these I.S. shall be applicable for the materials testing and for the work irrespective of whether the same is specified in specification or else where in the tender documents.

- a) All materials before being incorporated in the work shall be inspected and if necessary tested before using the same for the work.

Any work, on which such materials are used without prior inspection (and when necessary, testing) and without approval or written permission of the Engineer-in-charge is liable to be considered as unauthorised defective, rejected and not acceptable.

- b) The day to day and periodical tests to be carried out on materials, mixes and places concrete, mortar etc. shall be specified by the Engineer from time to time

and the contractor shall allow all facilities and co-operation towards collection of samples etc. Unless otherwise specified, all labour for collecting samples for tests will be supplied contractor free of cost to Government. Testing charges will be born by the contractor unless otherwise specified.

The contractor shall, supply all materials required to be tested and also make good at his cost materials, mixes, and core holes with similar or other materials as may be directed by and at the satisfaction of the Engineer.

An authorised representative of the contractor shall remain present at the time when the samples or cores etc. are taken and shall authenticate the facts, if so required should the contractor's agent fail to be present as aforesaid, the samples on cores etc. taken by the Engineer or his representative shall be considered to be authentic. The contractor will however, be informed of the details of such samples and cores etc. having been taken.

The materials, mixes and cores etc. shall be tested day to day or periodically at the Government Laboratory or any other place directed by Engineer-in-charge & the results given thereby shall be considered correct and authentic by the Contractor. The contractor shall be given access to all operations and tests that may be carried out as aforesaid so that he may satisfy himself regarding the procedure and methods adopted. It shall be the contractor's responsibility to produce on the works, materials and finished items to the standards based on the laboratory designs and tests.

### **3.0 APPLICABILITY OF SPECIFICATIONS**

Considering the common and general items required in execution of irrigation project, general subject wise specifications has been drawn and provided separately with the tender. This provisions suitably provides requirements of execution of each component of work in general. consistent with the present practice of the scope of work and mode of execution and standards to be observed etc. For the work financial limitation as regards to the admissibility of work payment and acceptance of work against the tender requirement etc. is described. To avoid descriptive matter suitable reference for the relevant Indian standards or

otherwise is also specified. The whole idea is to guide the tenderer regarding the execution of work so as to base his rates accordingly. The general subject wise specifications are further supplemented in separate chapter to cover the item wise specification of work as per the schedule-B of the tender. Tenderers are therefore requested to read the tender papers on above. lines and quote their rates.

**4. CLEARING WORK AREA :**

At the end of work the material collected on the site shall be removed by the contractor and disposed off as directed by the Engineer-in-Charge.

**5. Recoveries :**

Deductions from running account bill of the following items shall be made to the extent mentioned against each item.

- 1) Security Deposit at stipulated rates.
- 2) Panalty if any in full.
- 3) Expenditure incurred by Government on behalf of the contractor in full.
- 4) Recoveries on account of secured advance on material in full.
- 5) Hire charge to plant and equipment if full.
- 6) Other recoveries in full.
- 7) Income-tax deductions.
- 8) GST deductions.

**Signature of Contractor**

**Executive Engineer  
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### PART-III : WORK AND SITE CONDITION

**NAME OF WORK:**                    **Renovation of Sujlam Suflam Sub Division No. 5 Office at Mahesana**

**1.      Location    :**

The site of work is located at Dharoi Colony, Visnagar site.

**2.      Details of Sources of Materials are as under**

<b>Sr. No.</b>	<b>Name of Materials</b>	<b>Sources</b>	<b>Approximate distance from the site of work</b>
1.	Cement	Visnagar	5 Km
2.	Sand	Visnagar	5 km
3.	Kapachi	Chitrasani	25 km
4.	Steel	Visnagar	5 km

*The above information is given in good faith and for generalguidancetocontractor. The contractor shall, however, ensure and satisfy himself regarding all viz. the site condition, source of material and their quantum, &available service. etc.*

**3.      Brief Description of the work :**

The workunder this agreement pertains of **Renovation of Sujlam Suflam Sub Division No. 5 Office at Mahesana**. It also includes works of brickwork, plaster, concrete and building works items required.

**4.      Labour :**

Only unskilled labour may available locally at the site. All skilled and semi-skilled labours will have to be brought from outside if required.

**5.      Housing :**

Limited private housing accommodation is available at near site. No godown or storage facilities are available at the site and the department will not be in a position to provide such facilities at the site. The contractor shall have to make such arrangements for the work at his own risk and cost if found necessary.



**6. Cement and other materials :**

In the proposed work of **Renovation of Sujlam Suflam Sub Division No. 5 Office at Mahesana**. There is sand, cement, kapachi, bricks, etc. building material required.

**7. Water supply :**

Potable water will be available from bore wells situated nearby the site. Contractors shall have to make their own arrangement for drinking water supply and also for the construction purpose on the site of work.

**8. Roads :**

The contractor shall construct and maintain suitable inspection path of vehicle road in the work limit. Any required approach roads, if necessary for the contractors work, shall be constructed removed if necessary, at his own cost. There will however; be no charge of any reasonable use of any road constructed by Government.

**9. Electric Power :**

The contractors shall have to make their own arrangements for getting power supply. If any difficulty is experienced in getting the power, the department may help in setting the difficulty to the extent possible without any obligation on the part of the department on this issue. The power supply is available at Local site.

**10. Observation of Forest Rules :**

During the construction period, the laborers and others employed by the contractor agencies shall strictly observe the following requirements:

1. Shall follow all the rules and regulation laid down by the forest department for observation by outsiders.
2. Shall not possess or make use of any sorts or weapons (gun, spears, etc.) explosives etc. and also shall not engage in hunting forest animals either for their flesh or for their bites.
3. Shall not fall or break the trees for use as firewood.

4. Purchase all the requirements of teak wood from authorised firewood depots run by the forest department.

**11. Medical Aid:**

The contractor shall make his own arrangement for normal medical aid to their staff and Labour. For serious cases they have to send them to the hospital nearby. The contractor shall also provide at his own cost first aid arrangement at various work spots in accordance with the labour rules and regulations and as may be directed by the Executive Engineer.

**12. Post and Telegraph:**

There is a postoffice at Visnagar.

**13. Supply of Petrol and Diesel:**

At present there is a facility available for petrol and diesel at Visnagar.

14. The information and data mentioned herein above as well as shown or given in the various drawings accompanying the tender documents are for general information only. The department shall have no responsibility in respect of accuracy of these information. Interpretation and information/ data are concerned. The contractor shall have to make their own investigation to satisfy themselves in regard to information/data given herein above.

15. It shall be deemed that the contractors have satisfied themselves as to the nature and pertaining to transport handling and. availability and storage of materials, availability of site conditions and also consequences thereof.

**Signature of Contractor**

**Executive Engineer  
Sujlam Suflam Division No. 2  
Visnagar**

## **PART-IV : GENERAL TECHNICAL SPECIFICATION**

### **4.1 GENERAL :**

The provisions detailed below are applicable to all items of work and are deemed to be integral part of the detailed specifications of items of work are to be, followed strictly.

4.1.1 It shall be distinctly understood that the contract rate of the item is for the work completed in all respect and shall invariably be inclusive of the cost of; All labour, materials, use of equipment, transportation tools, plants appliances, etc. and scaffolding, forms work, shuttering, centering etc as may be required for satisfactory execution and completion of the item of work.

4.1.2 Fabricating, erecting, handling, conveying placing and keeping in position of materials.

4.1.3 Consolidation, vibrating, curing, finishing etc. Wherever the nature of the item is obviously indicative of the same.

4.1.4 All work tests and tests of materials required to be carried out as per specification and are required to be carried out in the. opinion of the Engineer-in-charge.

4.1.5 Definite particulars covered in 'the items of work, though not mentioned or elucidated in its specification shall be deemed to be included therein.

4.1.6 General reference of India Standard given for the mode of measurement and payment will not be considered to over ride any definite provision made therefore in specifications of item.

4.1.7 For the purpose of payment, the quantity in respect of cement concrete work shall be computed as per the size as ease. (Which shall be in conformity with the structural drawing only and not finished)

4.1.8 In case of standard result of test cubes as specification in I.S. on account of any reason whatsoever, and the structure shows signs of weakness, undue deflection or faulty construction, it shall be removed & reconstructed or strengthened at his risk and cost without any extra expenditure to the Government

for replacement of such detective work. Contractor shall take all precaution and care, during dismantling and re-doing the work to ensure that any other work, so far executed is not damaged or affected.

4.1.9. The work shall be carried out in true line and level and in conformity with the detailed drawings and specified patterns.

4.1.10. All work Shall be carried out in a workman like manner and as per the best techniques for the particular item.

4.1.11. All tools, template, equipments etc., for correct execution of the work, as well as for checking lines, levels, alignments of the work during execution shall be kept in sufficient numbers on the site of work.

4.1.12. Scaffolding shall be provided by the contractor at his own cost for such of the items for the execution of which it is essential.

## GENERAL TECHNICAL SPECIFICATIONS FOR BUILDINGWORKS

### GENERAL:

1. In the specifications, "as directed "/" Approved" shall be taken to mean "as directed" and approved by the Engineer-in-charge.
2. Wherever a reference to any Indian Standard appears in the specifications, it shall be taken to mean as a reference to the latest edition of the same in force on the date of agreement.
3. In "Mode of Measurement" in the specifications wherever a dispute arises in the absence of specific mention of a particular point or aspect, the provisions on these particular points, or aspects in the relevant Indian Standards shall be referred to.
4. All measurements and computations, unless otherwise specified, shall be carried out nearest to the following limits :
  - (i) Length, width and depth (height).....0.01 Metre.
  - (ii) Areas.....0.01 Sq. Mt.
  - (iii) Cubic Contents.....0.01 Cu.Mt.

In recording dimensions of work, the sequence of length, width and height (depth) or thickness shall be followed.
5. The distance which constitutes lead shall be determined along the shortest practical route and not necessarily the route actually taken. The decision of the Engineer-in-charge in this regard shall be taken as final.
6. Where no lead is specified, it shall mean "all leads".
7. Lift shall be measured from plinth level.
8. Up to "floor two level" means actual height of floor (Maxi. 4 M.) upto 3 Mt. above plinth level.
9. Definite particulars covered in the items of work, though not mentioned or elucidated in it, specifications shall be deemed to be included therein.

10. Reference to specifications of materials as made in the detailed specification of the items of work is in the form of a designation containing the number of the specification of the material and prefix 'M' e.g. 'M-5'.
11. Approval to the samples of various materials given by the Engineer-in-charge shall not absolve the contractor from the responsibility of replacing defective material brought on site or materials used in the work found defective at a later date. The contractor shall have no claim to any payment or compensation whatsoever on account of any such materials being rejected by the Engineer-in-charge.
12. The contract rate of the item of work shall be for the work completed in all respects.
13. No collection of materials shall be made before it is got approved from the Engineer-in-charge.
14. 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 damage, deterioration or intrusion of foreign matter and to ensure the preservation of their quality and fitness for the work.
15. Materials, if and when rejected by the Engineer-in-charge, shall be immediately removed from the site of work.
16. No materials shall be stored prior to, during and after execution of a structure in such a way as to cause or lead to damage or overloading of the various components of the structure.
17. All works shall be carried out in a workmanlike manner as per the best techniques for the particular item.
18. All tools, templates, machinery and equipment for correct execution of the work as well as for checking lines, levels, alignment of the works during execution shall be kept in sufficient numbers and in good working condition on the site of the work.
19. The mode, procedure and manner of execution shall be such that it does not cause damage or over loading of the various components of the structure during execution or after completion of the structure.

20. Special modes of construction not adopted in general Engineering practice, if proposed to be adopted by the Contractor, shall be considered only if the contractor provides satisfactory evidence that such special mode of construction is safe, sound and helps in speedy construction and completion of work to the required strength and quality. Acceptance of the same by the Engineer-in-charge shall not, however, absolve the contractor of the responsibility of any adverse effects and consequences of adopting the same in the course of execution of completion of the work.
21. All installations pertaining to water supply and fixtures thereof as well as drainage lines and sanitary fittings shall, be deemed to be completed only after giving satisfactory tests by the Contractor.
22. The contractor shall be responsible for observing the rules and regulations imposed under "Minor Minerals Act", and such other laws and rules prescribed by Government from time to time.
23. All necessary safety measures and precaution (including those laid down in the various relevant Indian Standards) shall be taken to ensure the safety of men, materials and machinery on the works as also of the work itself.
24. The testing charges of all materials shall be borne by the Contractor unless recovery at one percent towards Testing charges is separately made.
25. Approval to any of the executed items for the work does not in any way relieve the contractor of his responsibility for the correctness, soundness and strength of the structure as per the drawings and specification.

**Signature of Contractor**

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## **Part-V Material Specification**

### **M-1 Water**

**1.1** 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 alkalies, salts, organic matter and other deleterious material which will either weaken the mortar or concrete or cause efflorescence or attack the steel in R.C.C. Container for transport, storage and handling of water shall be clean. Water shall conform to the standards specified in I.S. 456-1978.

**1.2.** If required by Engineer-in-charge it shall be tested by comparison with distilled water. Comparison shall be made by means of standard cement tests for soundness, time of setting and mortar strength as specified in I.S. 269-1976. Any indication of unsoundness, change in time of setting by 30 minutes or more or decrease of more than 10 per cent 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.

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

**1.4.** Hard and bitter water shall not be used for curing.

**1.5.** Potable water will be generally found suitable for curing mortar or concrete.

### **M-2. Lime**

**2.1** Lime shall be hydraulic lime as per I.S. 712-1973. Necessary test shall be carried out as per I.S. 6932 (Parts I to X), 1973.

**2.2** The following field tests for limes are to be carried out :

(1) A very rough idea can be formed about the type of lime by its visual examination i.e. fat lime bears pure white colour, lime in form of porous lumps of dirty white colour indicates quick lime, and solid lumps are the unburnt lime stone.



(2) Acid tests for determining the carbonate content in lime. Excessive amount of impurities and rough determination of class of lime.

2.3 Storage shall comply with I.S. 712-1973. The slaked lime, if stored, shall be kept in a weather proof and damp-proof shed with impervious floor and sides to protect it against rain, moisture, weather and extraneous materials mixing with it. All lime that has been damaged in any way shall be rejected and all rejected materials shall be removed from site of work.

2.4 Field testing shall be done according to I.S. 1624- 1974 to show the acceptability of materials.

### **M-3. Cement**

3.1 Cement shall be ordinary portland slag cement as per I.S. 269-1976 or Portland slag cement as pr I.S. 455-1976.

### **M-4. White Cement**

4.1 The white cement shall conform to I.S. 80412-E 1978.

### **M-5. Coloured Cement**

5.1 Coloured cement shall be with white or gray portland cement as specified in the item of the work.

5.2. The pigments used for coloured cement shall be of approved quality and shall not exceed 10% of cement used in the Mix. The mixture of pigment shall be properly grounded to have a uniform colour and shade. The pigments shall have such properties to provide for durability under exposure to sunlight and weather.

5.3. The pigment shall have the property such that it is neither affected by the cement nor detrimental to it.

### **M-6. Sand**

6.1. Sand shall be natural sand, clean, well graded, hard strong durable and gritty particle free from injurious amounts of dust clay, kankar nodules, soft or flaky particles shale, alkali, salts organic matter, loam, mica or other deleterious substance and shall be got approved from the Engineer-in-charge. The sand shall not contain more than 8 percent of fines determined by field test. If necessary the sand shall be washed to make it clean.

## 6.2. Coarse Sand :

The fineness modulus of coarse sand shall not be less than 2.5 and shall not exceed 3.0. The sieve analysis of coarse sand shall be as under :

I.S. Sieve Designation	Percentage by Weight Passing sieve	I.S. Sieve Designation	Percentage by Weight Passing sieve
4.75mm	100	600 Micron	30-100
2.36mm	90 to 100	300 Micron	5-70
1.18mm	70-100	150 Micron	0-50

## 6.3. Fine Sand

The fineness modulus shall not exceed 1.0. The sieve analysis of fine sand shall be as under :

I.S. Sieve Designation	Percentage by weight Passing through	I.S. Sieve Designation	Percentage by weight Passing through
4.75mm	100	600 Micron	40-85
2.36mm	100	300 Micron	5-50
1.18mm	70-100	150 Micron	0-10

## M-7. Stone Dust :

7.1. This shall be obtained from crushing hard black trap or equivalent. It shall not contain more than 8% of silt as determined by field test with measuring cylinder. The method of determining silt contents by field test is given as under:

7.2. A sample of stone dust to be tested shall be placed without drying in 200 mm. measuring cylinder. The quantity of the sample shall be such that it fills the cylinder up to 100 mm. mark. The clean water shall be added up to 150 mm. mark. The mixture shall be stirred vigorously and the content allowed to settle for 3 hours.

7.3. The height of silt visible as settled layer above the stone dust shall be expressed as percentage of the height of the stone dust below. The stone dust containing more than 8% silt shall be washed so as to bring the silt content within the allowable limit.

7.4. The fineness modulus of stone dust shall not be less than 1.80.

## **M-8. Stone Grit**

8.1. Grit shall consist of crushed or broken stone and be hard strong, dense, durable, clean, of proper gradation and free from skin or coating likely to prevent adhesion of mortar. Grit shall generally be cubical in shape and as far as possible flaky elongated pieces shall be avoided. It shall generally comply with the provisions of I.S. 383-1970. Unless special stone of particular quarries is mentioned, grit shall be obtained from the best black trap or equivalent hard stone approved by the Engineer-in-charge. The grit shall have no deleterious reaction with cement.

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

<b>I.S. Sieve Designation</b>	<b>Percentage passing through sieve</b>	<b>I.S. Sieve Designation</b>	<b>Percentage by weight Passing through sieve</b>
12.50 mm	100%	4.75 mm	0-20%
10.00	85-100%	2.36 mm	0-25%

8.3. 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.

8.4. The necessary tests for grit shall be carried out as per the requirements of I.S. 2386 (Parts I to VII) 1963, as per instruction of the Engineer-in-charge. The necessity of test will be decided by the Engineer-in-charge.

## **M-9. Cinder :**

**9.1** Cinder is well burnt furnace residue which has been fused or sintered into lumps of varying sizes.

**9.2.** Cinder aggregates shall be well burnt furnace residue obtained from furnace using coal fuel only. It shall be sound clean free from clay, dirt, ash or other deleterious matter.

**9.3** The average grading for cinder aggregates shall be as mentioned below :

<b>I.S. Sieve Designation</b>	<b>Percentage passing</b>	<b>I.S. Sieve Designation</b>	<b>Percentage Passing</b>
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20mm	100	4.75mm	70
10mm	86	2.36mm	52

#### **M-10. Lime Mortar**

10.1. Lime shall conform to specification M-2. Water shall conform to specification M-1.

Sand shall conform to specification M-6.

#### **10.2. Proportion of Mix :**

10.2.1. Mortar shall consist of such proportions of slaked lime and sand as may be specified in the item. The slaked lime and sand be measured by volume.

#### **10.3. Preparation of mortar :**

10.3.1. Lime mortar shall be prepared by wet process as per LS. 1625-1971. Power driven mill shall be used for preparation of lime mortar. The slaked lime shall be placed in the mill in an even layer and ground for the 180 revolutions with a sufficient water. Water shall be added as required during grinding (care being taken not to add more water) that will bring the mixed material to a consistency of stiff paste. Thoroughly wetted sand shall then be added evenly and the mixture ground for another 180 revolutions.

#### **10.4. Storage :**

10.4.1. Mortar shall always be kept damp, protected from sun and rain till used up, covering it by tarpaulin or open sheds.

#### **10.5. Use :**

10.5.1. All mortar shall be used as soon as possible after grinding. It should be used on the day on which it is prepared. But in no case mortar made earlier than 36 hours shall be permitted for use.

#### **M-11. Cement Mortar :**

11.1. Water shall conform to specification M-1. Cement shall conform to specification M-3. Sand shall conform to M-6.

#### **11.2. Proportion of Mix :**

11.2.1. 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 Cum. The mortar may be hand mixed or machine mixed as directed.

### **11.3. Preparation of mortar :**

11.3.1 In hand mixed mortar cement and sand in the specified proportions shall be thoroughly mixed dry on a clean impervious platform by turning over at least 3 times or more till a homogenous 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 shall be adopted as directed.

11.3.2 The mortar so prepared shall be used within 30 minutes of adding water. Only such quantity of mortar shall be prepared as can be used within 30 minutes.

### **M-12. Stone Coarse Aggregate for Nominal Mix Concrete**

12.1. Coarse aggregate shall be machine crushed stone of black trap or equivalent and be hard, strong, dense, durable, clean and free from skin and coating likely to prevent proper adhesion of mortar.

12.2. The aggregate shall generally be cubical in shape. Unless special stones of particular quarries are mentioned aggregates shall be machine crushed from the best black trap or equivalent hard stone as approved. 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

<b>I.S. Sieve Designation</b>	<b>Percentage passing for single</b>			<b>I.S. Sieve Designation</b>	<b>Percentage passing for single</b>		
	<b>40mm</b>	<b>20mm</b>	<b>16mm</b>		<b>40mm</b>	<b>20mm</b>	<b>16mm</b>
80 mm	--	--	--	12.5 mm	--	--	--

63 mm	100	--	--	10 mm	0.5	0.02	0.30
40 mm	85-100	100	--	4.75 mm	--	0.5	0.5
20 mm	0-20	85-100	100	2.35 mm	--	--	--
16 mm	--	--	85-100				

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

12.3. The grading test shall be taken in the beginning and at the change of source of materials. The necessary test indicated in I.S. 383-1970 and I.S. 456-1978 shall have to be carried out to ensure the acceptability. The aggregates shall be stored separately and handled in such a manner as to prevent the intermixing of different aggregates. If the aggregates are covered with dust, they shall be washed with water to make them clean.

#### **M-13. Black Trap or Equivalent Hard Stone Coares.**

13.1. Aggregate For Design Mix Concrete : Coarse aggregate shall be of machine crushed stone of black trap or equivalent hard stone and be hard strong dense, durable clean and free from skin and coating likely to prevent proper adhesion of mortar.

13.2. 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 or equivalent hard stones as approved. Aggregate shall have no deleterious reaction with cement.

13.3. The necessary tests indicated in I.S. 383-1970 and I.S. 456-1978 shall have to be carried out to ensure the acceptability of the material.

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

#### **M-14. Brick Bats Aggregate**

14.1. Brick bat aggregate shall be broken from well burnt or slightly over burnt and dense brick. It shall be homogeneous in texture roughly cubical in shape, clean and free from dirt of any other foreign material. The brick bats shall be of 40 mm. to 50 mm. size unless otherwise specified in the item. The underburnt or overburnt brick bats shall not be allowed.

**14.2.** The brick bats shall be measured by volume by suitable boxes or as directed.

### **M-15. Brick**

**15.1.** The bricks shall be hand or machine moulded and made from suitable soils and kiln-burnt. They shall be free from crack and nodules 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.

**15.2.** The size of modular bricks shall be 190 mm. x 90 mm. x 90 mm.

15.3. The size of the conventional bricks shall be as under :

$\{ (9 \frac{1}{4}) \times (4 \frac{3}{8}) \times (2 \frac{3}{4}) \}$  i.e. 225 \* 110 \* 75 mm

15.4. Only bricks of one standard size shall be used on one work. The following tolerances shall be permitted in the conventional size adopted in a particular work.

Length  $\pm 1/8"$  (3.0 mm.) Width:  $+ 1/16"$  (1.50 mm.) Height :  $\pm 1/6"$  (1.50mm.)

15.5. 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. Necessary tests for crushing strength and water absorption etc. shall be carried out as per I.S. 3495 (Part I to IV) 1976.

### **M-16 Stone**

16.1. The stone shall be of the specified variety such as Granite/Trap Stone/Quartzite or any other type of good hard stones. The stones shall be obtained only from the approved quarry and shall be hard, sound, durable and free from defects like cavities, cracks, sand holes, flaws, injurious veins, patches of loose or soft materials etc. and weathered portions and other structural defects or imperfections tending to affect their soundness and strength. The stone with round surface shall not be used. The percentage of water absorption shall not be more than 5% of dry weight, when tested in accordance with I.S. 1134- 1974. The minimum crushing strength of the stone shall be 200 Kg./Sq.Cm. unless otherwise specified.

16.2. The samples of the stone to be used shall be got approved before the work is started.

16.3. The Khanki facing stone shall be dressed by chisel as specified in the item for khanki facing in required shape and size. The face of stone shall be so dressed that the bushing on the exposed face shall not project by more than 40 mm. from the general wall surface and on face to be plastered it shall not project by more than 19 mm. nor shall it have depressions more than 10 mm. from the average wall surface.

#### **M-17. Laterite stone**

17.1. Laterite stone shall be obtained from the approved quarry. It shall be compacted in texture, sound, durable and free from soft patches. It shall have a minimum crushing strength of 100 Kg./Sq.Cm. in its dry condition. It shall not absorb water more than 20% of its own weight, when immersed for 24 hours in water. After quarrying the stone shall be allowed to weather for some time before using in work.

17.2. The stone shall be dressed into regular rectangular blocks so that all faces are free from waviness and unevenness, edges true and square.

17.3. Those types of stone in which white clay occurs, should not be used.

17.4. Special corner stones shall be provided where so directed.

#### **M-18. Mild Steel Bars**

18.1. Mild steel bars reinforcement for R.C.C. work shall conform to I.S. 432 (Part-II) 1966 and shall be of tested quality. It shall also comply with relevant part of I.S. 456-1978.

18.2. All the reinforcement shall be clean and free from dirt, paint, grease, mill scale or loose or thick rust at the time of placing.

18.3. For the purpose of payment, the bar shall be measured correct upto 100 mm. length and weight payable worked out at the rate specified below :

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

#### **M-19. High Yield Strength Steel Deformed Bars**



19.1. High yield strength steel deformed bars be either cold twisted or hot rolled, shall conform to I.S. 1739-1966 and I.S. 1139-1966 respectively.

19.2. Other provision and requirements shall conform to specification No.

M-18 for Mild steel bars.

### **M-20 High Tensile Steel Wires**

20.1. The high tensile wires for the use in prestressed concrete work shall conform to I.S. 2090-1962.

20.2. The tensile strength of the high tensile steel bars shall be as specified in the item. In absence of the given strength, the minimum strength shall be taken as per para 6.1 of I.S. 1785-1962. Testing shall be done as per I.S. requirements.

20.3. The high tensile steel shall be free from loose mill scale, rust oil, grease, or any other harmful matter. Cleaning of steel bars may be carried out by immersion in solvent solution, wire brushing or passing through a pressure box containing carborundum.

20.4. The high tensile wire shall be obtained from manufactures in coil having diameter not less than 350 times the diameter of wire itself so that wire springs back straight on being uncoiled.

### **M-21 Mild Steel Binding Wire**

21.1. The mild steel wire shall be of 1.63 mm, or 1.22mm. (16 or 18 gauge) diameter and shall conform to I.S. 280-1972

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

### **M-22. Structural Steel**

22.1. All structural steel shall conform to I.S. 226-1965. The steel shall be free from the defects mentioned in I.S. 226-1975 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 conform to I.S. 1148- 1973.

22.2. When the steel is supplied by the Contractor test certificates of the manufacturers shall<sup>1</sup> be obtained according to I.S. 226-1975 and other relevant Indian Standards.

### **M-23. Galvanized Iron Sheets**

23.1. The galvanized iron sheets shall be plain or corrugated sheets of specified in item. The G.I. Sheets shall conform to I.S. 277-1977. The sheets shall be undamaged in carriage and handling either by rubbing off of zinc coating or otherwise they shall have clean and bright surface and shall be free from dents, holes, rust or white powdery deposit.

23.2. The length and width of G.I. sheet shall be as directed as per site condition.

23.A.1. The G.I. ridges and hips shall be of plaingalvanised sheets class-3 of the thickness as specified in item. These shall be 600 mm. in width and properly bent up to shape without damage to the sheets in process of bending.

23.A.2. Valleys gutters and flashings shall also be galvanised sheet of thickness as specified in item. Valleys shall be 900 mm. wide overall and finishing shall be 380 mm. wide overall. They shall be bent to the required shape without damage to the sheet in the process of bending.

### **M-24. Asbestos Cement Sheets**

24.1. Asbestos cement sheets plain, corrugated or semicorrugated shall conform to I.S. 459-1970. The thickness of the sheets shall be as specified in the item. The shells shall be free from all defects such as cracks, holes deformities, chipped edges or otherwise damaged.

#### **24.2. Ridges & Hips**

24.2.1. Ridges and hips shall be of same thickness at that of A.C. sheets. The types of ridges suitable for the type of sheets and locations.

24.2.2. Other accessories to be used in roof such as flashing pieces, caves filler pieces, valley gutters, north light and ventilator curves, barge boards etc. shall be standard manufacture and shall be suitable for the type of sheets and location.

### **M-25. Mangalore Pattern Roof Tiles**

25.1. The mangalore pattern tiles shall conform to I.S. 654-1972 for Class AA or Class 'A' type as specified in item. Samples of the tiles to be provided shall be got approved from the Engineer-in-charge. Necessary tests shall be carried out as directed.

## **M-26. Shuttering**

26.1. The shuttering shall be either of wooden planking of 30 mm. minimum thickness with or without steel 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 centering rigid. In places of bulbie props, brick pillar of adequate section built in mud mortar may be used.

26.2..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.

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

26.4. The props shall consist of bullies having 100 mm. minimum diameter measured at mix length and 80 mm. at thin end and shall be placed as per design requirement. These shall rest squarely on wooden sole plates 40 mm. thick and minimum bearing area if 0-10 sq. m. laid on sufficiently hard base.

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

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

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

26.8 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

raw linseed oil or oil of approved manufacturer may be applied in place of soap solution. In case of steel shuttering either soap solution or raw linseed oil shall be applied after thoroughly cleaning the surface. Under no circumstances black or burnt oil shall be permitted.

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

#### **M-27. Expansion joints-Premoulded filler:**

27.1 The item provides for expansion joints in R.C.C. frame structures for internal joints, as well as exposed joints, with the use of premoulded bituminous joint filler.

27.2. Premoulded bituminous joint filler, i.e. preformed strip of expansion joint filler shall not get deformed or broken by

twisting, bending or other handling when exposed to atmospheric condition. Pieces of joint filler that have been damaged shall be rejected.

27.3 Thickness of the pre-moulded joint filler shall be 25 mm. unless otherwise specified.

27.4 Remoulded bituminous joint filler shall conform to I.S. 1838-1961/

#### **M-28. Expansion joints-Copper strips & hold fasts**

28.1 The item provide for expansion joints in R.C.C. frame structure for internal joint as well as for exposed joints with the use of necessary copper strip and holdfasts.

28.2 Copper sheet shall be of 1.25 mm. thick and of 125 mm. width with the U shape in the middle. Copper strip shall have holdfast of 3 mm. diameter copper rod fixed to the plate soldered on strip at intervals of about 30 cm. or as shown in the drawing or as directed. The width of each flange (horizontal side) of the copper plate to be embedded in the concrete work shall be 25 mm. Depth of 'U' to be provided in the expansion joint, in the copper plate shall be of 25 mm.

#### **M-29. Teak wood :**

29.1 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.

29.2 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 straightfibres 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 fat 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.

29.3. All scantlings, planks etc. shall be sawn in straight lines and planes in the direction, of grains and of uniform thickness.

29.4. The tolerances in the dimensions shall be allowed al the rate of 1.5 mm. per face to be planed.

29.5. First class teak wood : 29.5.1. 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.

#### **29.6 Second Class Teak Wood :**

29.6.1. 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.

#### **M-29. A. Non-teak wood:**

The non teak-wood shall be chemically treated, seasoned as per IS Specifications and of good quality. The type of wood shall be got approved before collecting the same on site. Fabrication of wooden members shall be started only after approval.

For this purpose wood of Bio, Kalali, Siras, Behda, Jamun, Sisoo will be used for door frames where as only Kalali, Siras, Halda, Kalam etc. will be permitted for shutters after proper seasoning and chemical iroatment.

The non-leak wood shall be free from large, loose, dead of cluster knots, flows, shakes, warps, bends or any other defect. It shall be uniform in substance a- d of straight fibers as far as possible. It shall be fret- from rots, decay harmful fungi and other defects of nature which effect the strength, durability or its usefulness for the purpose for which it is required. The colour of wood shall be uniform as far as possible. The scantlings planks wetc shall be sawn in straight lines and planes in the direction of grain and uniform thickness.

The department will use the Agency to produce certificate from Forest Department in event of Dispute and the decision of the Department shall be final and binding to the contractor.

The tolerance in the dimension shall be allowed as 1.5 mm. per face to be planed.

**M-30. Wooden flush door shutters (solid core):**

30.1. The solid core type flush door shutters shall be decorative or non-decorative type as specified in the drawing. The size and thickness of the shutter shall be as specified in drawings or as directed. The timber species for core shall be used as per I.S. 2202 - (Part-I) 1980. The timber shall be free from decay and insect attack. Knots and knot holes less than half the width of cross-section of the members in which they occur may be permitted. Pitch pockets, pitch streaks and harmless pin holes shall be permissible except in the exposed edges of the core members. The commercial plywood, cross-bands shall conform to I.S. 303-1275.

30.2. The face panel of the shutters shall be formed by gluing by the hot press process on both faces of the core with either plywood or cross-bands and face veneers. The hopping rebating opening of glazing, venetion etc. shall be provided if specified in the drawing.

303. All edges of the door shutters shall be square. The shutters shall be free from twist or warp in its plane. Both faces of the shutters shall be sand papered to smooth even texture.

30.4. The shutters shall be tested for -

(1) End immersion test: The test shall be carried out as per I.S. 2202 (part-I) 1980. There shall be no delamination at end of the test.

(2) Knife Test: The face panel when tested in accordance with I.S. 1659-1979 shall pass the test.

(3) Glue adhesion test :The flush door shall be tested for glue adhesive test in accordance with I.S. 2202 (Part-I) 1980. The shutters shall be considered to have passed the test if no delamination occurs in the glue lines in the plywood and if no single delamination more than 80 mm. in length and more than 3 mm. in depth has occurred in the assembly glue lines between the plywood face and the style and rail. Delamination at the corner shall be measured continuously around the corner. Delamination at the knots, knot holes and other permissible wood defects shall not be considered in assessing the sample.

30.5. The tolerance in size of solid core type flush door shall be as under:

In Normal thickness  $\pm 1.2$  mm.    In Normal height  $\pm 3$  mm.

30.6. The thick of the shutters shall be uniform throughout with a permissible variation of not more than 0.8 mm. when measured at any two points.

**M-31. Aluminium doors, windows, ventilators**

31.1 Aluminium alloy used in the manufacture of extruded window sections shall conform to I.S. designation HEA-WP of I.S.: 733-1975 and also to I.S. Designation WVG-WP of I.S. 1285-1975. The Section shall be as specified in the drawing and design. The fabrication shall be done as directed.

31.2. The hinges shall be cast or extruded aluminium hinge of same type as in window but of large size.

31.3. The hinges shall normally be of 50 mm. projecting type. Non-projecting type of hinges may also be used if directed. The handles of door shall be of specified design. A suitable lock for the door operatable either from outside or inside shall be provided. In double shutter door, the first closing shutter shall have concealed aluminium alloy bolt at top and bottom.

**M-32. Rolling Shutters:\***

32.1. The rolling shutters shall conform to I.S. 6248-1979. Rolling shutters shall be supplied of specified type with accessories. The size of the rolling shutters shall be specified in the drawings. The shutters shall be constructed with interlocking lath sections formed from cold rolled steel strips not less than 0.9 mm. thick and 80 mm. wide for shutters up to 3.5 mm., width not less than 1.25 mm. thick and 80 mm. wide for shutters 3.5 mm in width and above unless otherwise specified.

32.2. Guide channels shall be of mild steel deep channel section and of roiled pressed or built up (fabricated) joint less construction. The thickness of sheet used shall not be less than 3.15 mm.

323. Hood covers shall be made of M.S. Sheets not less than 0.92 mm. thickness. For shutters having width 3.5 Meter and above, thethickness of M.S. Sheet for the hood cover shall be not less than 1.25 mm.

32.4. The spring shall be of best quality and shallbe manufactured from tested high tensile spring steel wire or strip of adequate strength to balance the shutters in all position. The spring pipe shaft etc. shall be supported on strong M.S. or malleable C.I.

brackets. The brackets shall be fixed on or under the lintels specified with raw plugs and screws bolts etc.

32.5. The rollingshutters shall be of self rollingtype up to 8 Sq. m. clear area without ball bearing and up to 12 Sq. m. clear area with ball bearing. If the rolling shutters, are larger, then gear operated type shutters shall be used.

32.6. The locking arrangement shall be provided at the bottom of shutter at both ends. The shutters shall be opened from outside.

32.7. The shutters shall be completed with door suspension shafts, locking arrangements, pulling hooks, handles and other accessories.

**M-33. Collapsible Steel Gate :**

33.1. The collapsiblesteel gate shall be in one or two leaves and size as per approved drawings or as specified. The gate shall be fabricated from best quality mild steel channels, flats etc. Either steel pulleys or ball bearings shall be provided in every double channel. Unless otherwise specified the particulars of collapsible gate shall be as under :

(a) Pickets: These shall be of 20 mm. M.S., channels of heavy sections unless otherwise shown on drawings. The distance centre to centre of pickets shall be 12 cms. with an opening of 10 Cms.

(b) Pivoted M.S. flats shall be 20 mm x 6 mm.

(c) Top and bottom guides shall be from tee or flat iron of approved size.

(d) Tlj^ fittings like stoppers, fixing hold fasts, locking cleats, brass handles and cast iron rollers shall be of approved design and size.

**M-34. Welded Steel Wire Fabric :**

34.1. Welded steel wire fabric for general purpose shall be manufactured from cold drawn steel wire "as drawn" or galvanised steel conforming to I.S. 226-1975 with longitudinal and transverse wire securely connected at every intersection by a process of electrical resistance welding and conforming to I.S. 4948-1974. It shall be fabricated and finished in workmanlike manner and shall be free from injurious defects and shall be rust proof. The type of mesh shall be oblong or square as directed. The mesh sizes and size of wire for square as well as oblong welded steel wire fabric shall be as directed.



The steel wire fabric in panels shall be in one whole piece in each panel as far as stock size permit.

**M-35. Expanded Metal Sheets :**

35.1. The expanded metal sheets shall be free from flaws, joints, broken strands, laminations and other harmful surface. Expanded metal steel sheet shall conform to I.S. 412-1975, except that blank sheets need not be with guaranteed mechanical properties. The size of the diamond mesh of expanded metal and dimensions of strands (width and thickness) shall be as specified. The tolerance in nominal weight of expanded metal sheets shall be of + 10 percent.

35.2. Expanded metal in pannels shall be in one whole piece panel each as far as stock size permit. The expanded metal sheets shall be coated with suitable protective coating to prevent corrosion.

**M-36. Mild Steel Wire (Wire Gauze Jali) :**

36.1 Mild steel wire may be galvanised, as indicated. All finished steel wire shall be well cleanly drawn to the dimensions and size of wire as specified in item. The wire shall be sound, free from splits, surface flaws, rough jagged and Imperfect edges and other harmful surface defects and shall conform to I.S. 280-1978.

**M-37. Plywood:**

37.1. The plywood for general purpose shall conform I.S. 303-1975.

Plywood is made by cementing together thin boards or sheets of wood into panels. There are always an odd number of layers 3, 5, 7, 9 ply etc. The plies are placed so that grain of each layer is right angle to the grain in the adjacent layer.

37.2. The chief advantages of plywood over a signal board of the same thickness is the more uniform strength of the plywood, along the length and width of the plywood and greater resistance to cracking and splitting with change in moisture content.

37.3. Usually synthetic resins are used for gluing, pherolic resins are usually cured in a hot press which compresses and simultaneously heats the plies between hot plates which maintain a temperature of 90 degree. C. to 140 degree C. and a pressure of 11 to 14 Kg/Sq. Cm. on the wood. The times of heating may be anything from 2 to 60 minutes depending upon thickness.

37.4. When water glue are used, the wood absorbs so much water that the finished plywood must be dried carefully. When synthetic resins are used as adhesive finished plywood must be exposed to an atmosphere of controlled humidity until the proper amount of moisture has been absorbed.

37.5. According to I.S. 303-1975 the plywood for general purpose shall be of three grades namely B WR, WWR and CWR, depending upon the adhesives used for bonding and veneers, and it will be further classified into six types namely AA, AB, AC, BB, BC and CC based on the quality of the two faces, each face being of three kinds namely, A, B. and C. After pressing, the finished plywood should be reconditioned to a moisture content not less than 8 percent and not more than 16 percent.

37.6. Thickness of plywood Boards:

**TABLE**

<b>Board</b>	<b>Thickness</b>	<b>Board</b>	<b>Thickness</b>	<b>Board</b>	<b>Thickness</b>	<b>Board</b>	<b>Thickness</b>
3 Ply	3mm	5 ply	5 mm	7 ply	9 mm	9 ply	16 mm
	4 mm		6 mm		13 mm		19 mm
	5 mm		8 mm		16 mm	11 ply	19 mm
	6 mm		9 mm	9 ply	13 mm		22 mm
							25 mm

### **M.38. Glass:**

38.1 All glass shall be of the best quality, free from specks, bubbles, smokes, veins, air holes blisters and other defects. The kind of glass to be used shall be mentioned in the item or specification or in the special provisions or as shown in detailed drawings. Thickness of glass panes shall be uniform. The specifications or different kinds of glass shall be as under:

38.2. Sheet Glass .:

38.2.1. In absence of any specified thickness or weight in the item or detailed specifications of the item of work, sheet glass shall be weighing 7.5 Kg/Sq.m. for panes upto 600 mm x 600 mm.

38.2.2. For panes larger than 600 mm. x 600 mm. and upto 800 mm. x 800 mm. the glass weighing not less than 8.75 Kg/Sq. m. shall be used. For bigger panes upto 900 mm. x 900 mm. glass weighing not less than 11.25 Kg/Sq. m. shall be used.

38.2.3. Sheet glass shall be patent flattened glass of best quality and for glazing and framing purposes shall conform to I.S.: 1761-1960. Sheet glass of the specified colours shall be used, if so shown on detailed drawings or so specified. For important buildings and for panes with any dimension over 900 mm. plate glass of specified thickness shall be used.

38.3. Plate Glass. 38.3.1. When plate glass is specified, it shall be 'Polished patent plate glass' of best quality. It shall have both the surface ground flat and parallel and polished to obtain clear undisturbed vision and reflection. The plate glass shall be of the thickness mentioned in the item or as shown in the detailed drawing or as specified. In absence of any specified thickness, the thickness of plate glass to be supplied shall be 6 mm. and a tolerance of 0.20 mm. shall be admissible.

38.4. Obscured Glass : 38.4.1. This type of glass transmits light so that vision is partially or almost completely obscured. Glass shall be plain rolled, figured, ribbed or fluted or frosted glass as may be specified as required. The thickness and weight of glass shall be as per details on drawings or as specified or as directed.

38.5. Wired Glass : 38.5.1. Glass shall be with wire netting embedded in a sheet of plate glass electrically welded 13 mm. Georgian square mesh may be used. Thickness of glass shall not be less than 6 mm. Wired glass shall be of type and thickness as specified.

### **M-39. Acrylic Sheets:**

39.1. Acrylic sheet shall be of thickness as specified in the item and of an specified shape and size as the case may be. Panels may be flat or curved. It should be light in weight. It shall be colourless or coloured or opaque as specified in the item. Colourless sheet shall be as transparent as the finest optical glass. Its light transmission rate shall be about 95%. Transparency shall not be affected for the sheets of larger thickness. It shall be extremely resistant to sunlight, weather and low temperatures. It shall not show any significant yellowing or change in physical properties or loss of light transmission over a longer period of use. The sheet shall be impact resistant also. Sheets should be

available in complete range of standard transparent, translucent and opaque colours. Sheets shall be of such quality that they can be cut, bent and jointed as desired. Solution for the joints shall be used as per the requirement of manufacturer.

**M-40. Particle board :** 40.1. The particle boards used for face panels shall be of best quality free from any defects. The particle boards shall be made with phenolmaldehyde adhesive. The particle boards shall conform to I.S. : 3087-1965.

"Specification for wood particle board for general purpose". The size and the thickness shall be as indicated.

**M-41. Expanded polystyrene of framed styroper slabs :** 41.1. The expanded polystyrene ceiling boards and tiles shall be of approved make and shall be of size, thickness, finish and colour as indicated. It shall be of high density and suitable for use as insulating material. The insulating material shall be like slab of Thermocole etc.

**M-42. Resin bonded fibreglass :** 42.1 The resin bonded fibre glass dies, or rolls shall be of approved make and shall be of sizes, thickness and finish as indicated.

42.2. For test of Mineral wool thermal insulation Blanket I.S.: 3144/1965 shall be followed.

42.3. Insulation wool blanket shall be with following coverings on one or both sides as indicated.

(1) Bituminised hessian Kraft paper suitable for use in position where moisture has to be excluded.

(2) Hessian cloth or Kraft paper for keeping out dust.

(3) G.I. wire netting, suitable for surfaces to be plastered over.

**M-43. Fixtures and fastenings :**

43.1. General:

43.1.1. The fixtures and fastenings, that is, butt, hinges, tee and strap hinges, sliding door bolts, tower bolts, door latch, bath room latch, handles, door stoppers, casement window fasteners, casement slays and ventilators catch shall be made of the metal as specified in the item or its specifications.

43.1.2. They shall be of iron, brass, aluminium, chromium plated iron, chromium plated brass, copper oxidised iron, copper oxidised brass or anodised aluminium as specified.

43.1.3. The fixtures shall be heavy, medium or light type. The fixtures and fastenings shall be smooth finished and shall be such as will ensure ease of operation.

43.1.4. The samples of fixtures and fastenings shall be got approved as regards quality and shape before providing them in position.

43.1.5. Brass and anodised aluminium fixtures and fastenings shall be bright finished.

43.2. Holdfasts : 43.2.1. Holdfasts shall be made from mild steel flat 30 cm. length and one of the holdfasts shall be bent at right angle and two nos. of 6 mm. diameter holes shall be made in it for fixing it to the frame with screws. At the other end, the holdfast shall be forked and bent at right angles in opposite directions.

43.3. Butt hinges:

43.3.1. Railway standard heavy type butt hinges shall be used when so specified.

43.3.2. Tee and strap hinges shall be manufactured from M.S. Sheet.

43.4. Siding door bolts (Aldrops): 43.4.1. The aldrops as specified in the item shall be used and shall be got approved.

43.5. Tower bolts (Barrel Type): 43.5.1. Tower bolts as specified in the item shall be used and shall be got approved.

43.6. Door latch : 43.6.1. The size of door latch shall be taken as the length of latch.

43.7. Bathroom Latch : 43.7.1. Bathroom latch shall be similar to tower bolt.

43.8. Handle: The size of the handles shall be determined by the inside grip length of the handles. Handles shall have a base plate of length 50 mm. more than the size of the handle.

43.9. Door Stoppers: 43.9.1. Door stoppers shall be either floor door stopper type or door catch type. Floor stopper shall be of overall size as specified and shall have a rubber cushion.

43.10. Door Catch : 43.10.1. Door catch shall be fixed at a height of about 900 mm. from the floor level so that one part of the catch is fitted on the inside of the shutter and the other part is fixed in the wall with necessary wooden plug arrangements for appropriate fixity. The catch shall be fixed 20 mm. inside the face of the door for easy operation of catch.

43.11. Wooden Door Stop with hinges: 43.11.1. Wooden door stop of size 100 mm x 60 mm x 40 mm shall be fixed on the door frame with a hinge of 75 mm size and at a height of 900

mm. from the floor level. The wooden door step shall be provided with 3 coats of approved oil paint.

43.12. Casement window Fastener: Casement window fastener for single leaf window shutter shall be left or right handled as directed.

**43.13. Casement stays (Straight Peg Stay) :**

43.13.1. The stays shall be made from a channel section having three holes at appropriate position so that the window can be opened either fully or partially as directed. Size of the stay shall be 250 mm. to 300 mm. as directed.

**43.14. Ventilator Catch :**

43.14.1. The pattern and shape of the catch shall be as approved.

**43.15. Pivot:**

43.15.1. The base and socket plate shall be made from minimum 3 mm. thick plate and projected pivot shall not be less than 12 mm. diameter and 12 mm. length and shall be firmly riveted to the base plate in case of iron pivot and in single piece base plate in the case of brass pivot.

**M-44. Paints :**

**44.1 (A) Oil paints ;**

44.1.1. Oil paint shall be of the specified colour and shade, and as approved. The ready mixed paints shall only be used, iHowever, if ready mixed paint or specific shade or tint is not available, white ready mixed paint with approved stainer will be allowed. In such a case, the contractor shall ensure that the shade of the paint so allowed shall be uniform.

44.1.2. All the paints shall meet with following general requirements :

(i) Paint shall not show excessive setting in a freshly opened full can and shall easily be redispersed with a paddle to all smooth homogeneous state. The paint shall show no curdling, livering, caking or colour separation and shall be free from lumps and skins.

(ii) The paint as received shall brush easily, possess good levelling properties and show no running or sagging tendencies.

(iii) The paint shall not skin within 48 hours in a three quarters filled closed container.

(iv) The paint shall dry to a smooth uniform finish free from roughness, grit, unevenness and other imperfections.

44.1.3. Ready mixed paint shall be used exactly as received from the manufacturers and generally according to the instructions and without any admixtures whatsoever.

#### **44.2. (B) Enamel Paints :**

44.2.1. The enamel paint shall satisfy in general requirements as mentioned in specification of oil paints. Enamel paint shall conform to I.S. 2933-1975.

#### **M-45 French polish :**

45.1. The French polish of required tint and shade shall be prepared with the below mentioned ingredients and other necessary materials :

(i) Denatured spirit of approved quality (ii) Chandras (iii) Shellac (iv) Pigment. 45.2.

The french polish so prepared shall conform to I.S. : 348- 1968.

#### **M-46 Marble chips for marble mosaic terrazzo :**

46.1. The marble chips shall be of approved quality and shades. It shall be hard, sound, dense and homogeneous ii texture with crystalline and coarse grains. It shall be uniform in colour and free from stains, cracks decay and weathering

46.2. The size of various colours of marble chips ranging from the smallest upto 20 mm. shall be used where the thickness of top wearing layer -is 6 mm. size. The marble chips of approved quality and colours only as per grading as-decided by the Engineer-in-charge shall be used for marble mosaic tiles or works.

46.3 The marble chips shall be machine crushed. They shall be free from foreign matter, dust etc. Except as above, the chips shall conform to I. S. : 2114-1962.

#### **M-47. Flooring Tiles :**

47.1. (A) Plain Cement tiles :

47.1.1. The plain cement tiles shall be general purpose type. These are the tiles in the manufacturer of which no pigment are used. Cement used in the manufacture of tiles shall be as per Indian Standards.

47.1.2. The tiles shall be manufactured from a mixture of cement and natural aggregates by pressure process. During manufacture, the tiles shall be subjected to a

pressure of not less than 140 Kg/Sq. Cm. The proportion of cement to aggregate in the backing of the tiles shall be not less than 1:3 by weight. The wearing face through the tiles are of plain cement, shall be provided with stone chips of 1 to 2 mm. size. The proportions of cement to the marble chips aggregate in the wearing layer of the tiles shall be three parts of cement to one part chips by weight. The minimum thickness of wearing layer shall be 3 mm. The colour and texture of wearing layer shall be uniform throughout its face and thickness. On removal from mould, the tiles shall be kept in moist conditions continuously at least for seven days and subsequently, if necessary, for such long period as would ensure their conformity to requirements of I.S.: 1237-1980 regarding strength resistance to wear and water absorption.

47.1.3. The wearing face of the tiles shall be plain, free from projections, depressions and cracks and shall be reasonably parallel to the back face of the tile. All angles shall be right and all edges shall be sharp and true.

47.1.4. The size of tiles shall generally be square shape 24.85 Cm. x 24.85 Cm. or 25 Cm. x 25 Cm. the thickness of tiles shall be 20 mm.

47.1.5. Tolerance of length and breadth shall be plus or minus one millimetre. Tolerance on thickness shall be plus 5 mm.

47.1.6. The tiles shall satisfy the tests as regards transverse strength, resistance to wear and water absorption as per I.S.:1237-1980.

#### **47.2. (B) Plain Colored Tiles :**

47.2.1. These tiles shall have the same specification as per plain cement tiles as per (A) above except that they shall have a plain wearing surface wherein pigments are used. They shall conform to I.S. 1237-1980.

47.2.2. The pigment used for colouring cement shall not exceed 10 percent by weight of cement used in the mix. The pigments, synthetic or otherwise, used for colouring tiles shall have permanent colour and shall not contain materials detrimental to concrete,

47.2.3. The colour of the tiles shall be specified in the item or as directed.



### **47.3. (C) Marble mosaic tiles :**

47.3.1. These tiles have the same specifications as per plain cement tiles except the requirements as stated below :

47.3.2. The marble mosaic tiles shall conform to I. S. 1237-1980. The wearing face of the tiles shall be mechanically ground and filled. The wearing face of tiles shall be free from projections, depressions and cracks and shall be reasonably parallel to the back face of the tiles. All angles shall be right angles and all edges shall be sharp and true.

47.3.3. Chips used in the tiles be from smallest upto 20 mm. size. The minimum thickness of wearing layer of tiles shall be 6 mm. For pattern of chips to be used on the wearing face, a few samples with or without their full size photographs as directed shall be presented to the Engineer in-charge for approval.

47.3.4. Any particular samples, if found suitable shall be approved by the Engineer-in-charge, or he may ask for a few more samples to be prepared indicating roughly the particular sized chips to be more or less in the samples presented. The samples have to be made by the contractor till a suitable sample is finally approved for use in the work.

The Contractor shall ensure that the tiles supplied for the work shall be in conformity with the approved sample only, in terms of its dimensions, thickness of backing layer and wearing surface, materials, ingredients, colour shade, Chips, distribution etc. required.

47.3.5. The tiles shall be prepared from cement conforming to Indian Standards or coloured portland cement generally depending upon the colour of tiles to be used or as directed.

### **47.4. (D) Chequered Tiles :**

47.4.1. Chequered tiles shall be plain cement tiles or marble mosaic tiles. The former shall have the same specification as per (A) above and the latter as per marble mosaic tiles as per (C) except as mentioned below

47.4.2. The tiles shall be of nominal size of 250 mm. x 250 mm. or as specified. The centre to centre distance of chequers shall not be less than 25 mm. and not more than 50 mm. The overall thickness of the tile shall be 22 mm.

47.4.3. The grooves in the chequers shall be uniform and straight. The depth of the grooves shall not be less than 3 mm. The chequered shall be plain, coloured or mosaic as specified. The thickness of the upper layer measured from the top of the chequers shall not be less than 6 mm. The tiles shall be given the first grinding with machine before delivery to site.

47.4.4. Tiles shall conform to relevant I.S. 1237-1980

#### **47.5 (E) Chequered Tiles for Stair cases :**

47.5.1. The requirements of these tiles shall be the same as chequered as per (D) above except in following respects;

(1) The length of a tile including nose shall be 330 mm. (2) The minimum thickness shall be 28 mm. (3) The nosing shall have also the same wearing layer as at the top. (4) The nosing edge shall be rounded. (5) The front portion of the tile for a minimum length of 75 mm. from and including the nosing shall have grooves running parallel to nosing and at centre not exceeding 25 mm. Beyond that the tiles shall have normal chequer pattern.

#### **M-4S. Rough Kotah Stone :**

48.1. The kotah stones shall be hard, even, sound, and regular in shape and (generally uniform in colour. The colour of the stone shall generally be green. Brown colour stones shall not be allowed for use. They shall be without any soft veins, cracks or flaws.

48.2 The size of the stones to be used for flooring shall be of size 600 mm x 600 mm and/or size 600 mm x 450 mm, as "directed. However smaller sizes will be allowed to be used to the extent of maintaining required pattern. Thickness shall be as specified.

48.3. Tolerance of minus 30 mm. on account of chisel dressing of edges shall be permitted for length as well as breadth. Tolerance in thickness shall be + 3 mm.

48.4. The edges of stones shall be truly chiselled and table rubbed with coarse sand before paving. All angles and edges of the stone shall be true, square and free from chipping and the surface shall be true and plain.

48.5 When machine cut edges are specified, the exposed edges and the edges at joints shall be machine cut. The thickness of the exposed machine cut edges shall be uniform.

#### **M-49. Polished Kotah Stones**

49.1. Polished kotah stone shall have the same specifications as per rough kotah stone except as mentioned below :

49.2. The stones shall have machine polished smooth surface. When brought on site, the stones shall be single polished or double polished depending upon its use. The stones for paving shall generally be single polished. The stones to be used for dado, skirting, platforms, sink, veneering, sills, steps, etc. where machine polishing after the stones are fixed in situ is not possible, shall be double polished.

#### **M-50. Dholpur Stone Slab :**

50.1 Dholpur stone slab shall be of best quality as approved by the Engineer-in-charge. The stone slab shall be even, sound and durable, regular in shape and of uniform colour.

50.2. The size of the stone shall be specified in the item or detailed drawings or as approved by the Engineer-in-charge. The thickness of the stone shall be as specified in the item of work with the permissible tolerance of plus or minus 2 mm. The provisions in respect of polishing as for polished Kotah stone shall apply to polished Dholpur stone also. All angles and edges of the face of the stone slab shall be fine chiselled or polished as specified in the item of work and all the four edges shall be machine cut.

All angle and edges of the stone slab shall be true and plane.

50.3 The sample of stone shall be got approved from the Engineer-in-charge for shade and tint for a particular work. It shall be ensured that the stones to be used in a particular work shall not differ much in shade or tint from the approved sample.

#### **M-51. Marble Slab :**

51.1. Marble slab shall be white or of other colour and of best quality as approved by the Engineer-in-charge.

51.2. Slabs shall be hard, uniform and homogeneous in texture. They shall have even crystalline grain and free from defects and cracks. The surface shall be machine

polished to an even and perfectly plant surface and edges machine cut true and square. The rear face, shall be rough to provide key for the mortar.

51.3. Marble slabs with natural veins, if selected shall have to be laid as per the pattern given, by the Engineer-in-charge. Size of the slab shall be minimum 450 mm x 450 mm. and preferable 600 mm x 600 mm. However, smaller sizes will be allowed to be used to the extent of maintaining required pattern.

51.4. The slab shall not be thinner than the specified thickness at its thinnest part. A few specimen of finished slab to be used shall be deposited by the Contractor in the office for reference.

51.5. Except as above, the marble slabs shall conform to I.S. 1130-1969.

#### **M-52. Granite Stone Slab :**

52.1. Granite shall be of approved colour and quality. The stone shall be hard, even, sound regular in shape and generally uniform in colour. It shall be without any soft veins, cracks or flaws. 52.2. The thickness of the stone; shall be as specified in the items, [52.3, All exposed face shall be double polished to tender truly smooth and the even reflecting surface. The exposed edges and corners shall be rounded off as directed. The exposed edges shall be machine cut and shall have uniform thickness.

#### **M-53 P.V.C Flooring:**

53.1. P.V.C sheets for P.V.C. floor covering shall be of homogeneous flexible type, conforming to I.S. 3452-1966. The P.V.C. covering shall neither develop any toxic effect while put to use nor shall give off any disagreeable odour.

53.2 Thickness of flexible type covering tiles shall be as specified in the description of the item.

53.3. The flexible type shall be backed with hessian or other woven fabric. The following tolerances shall be applicable on the nominal dimension of the sheet rolls or tiles:

(a) Thickness  $\pm 0.15$  mm

(b) Length or Width :

1. 300 mm. square tiles  $\pm 0.20$  mm. 39.00 mm. square tiles  $\pm 0.30$  mm.  
 2. 600mm. " "  $\pm 0.40$ mm. 4. Sheets and rolls  $\pm 0.10$  percent

#### **53.4. Adhesive:**

53.4.1. The adhesive for PVC flooring shall be of the type and make recommended by the manufacturers of PVC sheets/tiles

#### **M-54. Facing tiles:**

54.1. The facing tiles (burnt clay facing bricks) shall be free from cracks, flaws and nodules of free lime. They shall be thoroughly burnt and shall have plane rectangular faces with parallel sides and sharp straight right edged faces. The texture of the finished surface that will be exposed when in place, shall conform to an approved sample consisting not less than four stretcher bricks each representing the texture desired. The facing tiles shall have a pleasing appearance, sufficient resistance to penetration by rain and greater durability than common bricks. The tiles shall conform to I.S. 2691-1972.

54.2. The standard size of facing brick tiles shall be 19 x 9 x 4 cms. The facing brick tiles shall be provided with frog which shall conform, to I.S. 1077-1976.

54.3. The permissible tolerance "in dimensions specified above shall be as follows:

Size Tolerance for		
	1st Class Brick	2nd class Brick
19 cm	$\pm 6$ mm	$\pm 10$ mm
9 cm	$\pm 3$ mm	$\pm 7$ mm
4 cm	$\pm 1.5$ mm	$\pm 3$ mm

54.4. The tolerance for distortion or warpage of face or edges of individual brick from a plane surface and from a straight line respectively shall be as follows :

Facing dimensions Permissible tolerance

Max, below 19 cms. Max. 2.5 mm.

-do- above 19 cm. Max. 3.0 mm.

54.5. The average compressive strength obtained as a sample of five tiles when tested in accordance with the procedure laid as per I.S. 1077-1976 shall be not less than 175

Kg/Sq. Cm. The average compressive strength of any individual bricks shall be not less than 160 Kg/Sq.Cm.

54.6. The average water absorption for five bricks tiles shall not exceed 12 percent of average weight of brick before testing.

The absorption for each individual bricks shall not exceed 25 percent.

54.7. The brick tiles when tested in accordance with I.S. 1077-1976, the rate of efflorescence shall not be more than 'Slightly effloresced.'

**M-55. White glazed tiles:**

55.1. The tiles shall be of best quality as approved by the Engineer-in-charge. They shall be flat and true to shape. They shall be free from cracks, crazing, spots, chipped edges and corners. The glazing shall be of uniform shade.

55.2. The tiles shall be nominal size of 150 mm. x 150 mm. unless otherwise specified. The maximum variation from the stated sizes, other than the thickness of tile, shall be plus or minus 1.5 mm. The thickness of tile shall be 6 mm. Except as above the tiles shall conform to I.S. 777-1970.

**M-56. Galvanised iron pipes and fittings:**

56.1. Galvanised iron pipe shall be of the medium type and of required diameter and shall comply with I.S.1239-1979. The specified diameter of the pipes shall refer to the inside diameter of the bore. Clamps 6screw and all galvanised iron fittings shall be of the standard 'R' or equivalent make.

**M-57. Bib cock and stop cock :**

57.1. A bib cock is a draw off tap with a horizontal inlet and free outlet. A stop cock is a valve with a suitable means of connection for insertion in a pipe line for controlling or stopping the flow

57.2. They shall be of screw down type and of brass chromium plated and of diameter as specified in the description of the item. They shall conform to I.S. 781-1977 and they shall be of best Indian make. They shall be polished bright.

57.3. The minimum finished weight of bib cock and stop cock	Bid cock	Stop cock	Diameter	Bid cock	Stop cock

shall be as given below:Diameter					
8 mm	0.25 kg	0.25 kg	15 mm	0.40 kg	0.40 kg.
10 mm	0.30 kg	0.35 kg	20 mm	0.75 kg	0.75 kg.

**M-58. Gun metal wheel valve :** 58.1. The gun metal wheel valve be of approved quality. These shall be gun metal fitted with wheel and shall be of gale valve opening full way and of the size as specified. These shall conform to I.S. 778-1971.

**M-59.white glazed porcelin wash basin:**

59.1. Wash basin shall be of white porcelain first quality best Indian make and it shall conform to I.S.2556 (Part-IV) 1972 and I.S.771-1979. The size of the wash basin shall be as specified in the item, Wash basin shall be of one piece construction with continued; over-flow arrangements. All internal angles shall be designed so as to facilitate cleaning. Wash basin shall have single tap hole or two holes as specified. Each basin shall have a ciruclar waste hole which is either rabeled or bevelled internally with 65 mm. diameter at top and 10 mm. depth to suit the waste fitting. The necessary stud slot to receive the bracket on the under side of the basin shall be provided. Basin shall have an internal soap holder recess which shall fully drain into the bowl. 59.2 White glazed pedestal of the quality and colour as that of the basin shall be provided where specified in the item. It shall be completely recessed at the back for reception of supply and wash pipe. It shall be capable of supporting the basin rigidly and adequately and shall be so designed as to make the height from floor to lop of the rim of basin 750 mm. to 800 mm. as directed.

**M-60. European type water closet/with low level flushing:**

60.1 The European type water closet shall be white glazed porcelain first quality and shall be 6fwash down type conforming to I.S. 2556-1973 and I.S. 771-1979.

60.2 'S' trap shall be provided as required with water seal not less than 50 mm. The solid plastic scat and cover shall be of the best Indian make conforming to I.S. 2548-1980. They shall be made of moulded synthetic materials which shall be tough and

hard with high resistance to solvents and shall be free from blisters and other surface defects and shall have chromium plated brass hinges and rubber buffer of suitable size.

**M-61. Orissa type water closet:**

61.1. The specification of Orissa type white glazed water closet of first quality shall conform to I.S. 2556 (Part-IH) 1981 and relevant specification of Indian type water closet except that pan will be with the integral squatting pan of size 580 mm. x 440 mm. with raised footrest

**M-62. Indian type water closet**

62.1. The Indian type white glazed water closet of first, quality shall be of size as specified in the item and conforming to I.S. 771-1979 and I.S. 2556 (Part-II) 1981. Each pan shall have integral flushing ring of suitable type with adequate number of holes allround as directed to have satisfactory flushing. It shall also have an inlet at back or front for connecting flush pipe as directed. The inside of the bottom of the pan shall have sufficient slope from the front towards the outlet and surface shall be uniform and smooth.

Pan shall be provided with 100 mm. diameter 'P' or 'S' trap with approximately 50 mm. water seal and 50 mm. diameter vent horn.

**M-62.A Foot Rests :** 62-A-1. A pair of white glazed earthen ware rectangular foot rests of minimum size 250 mm. x 130 mm. 20 mm. shall be provided with water closet.

**M-63. Glazed Earthen Ware Sink :**

63.1. The glazed earthen-ware sink shall be specified size, colour and quality. The sink shall conform to I.S. 771 Part-II-1979. The brackets for sinks shall conform to I.S. 775-1970.

63.2. The pipes shall conform to I.S. 1239-Part-1 1973 and I.S. 404-1962 for steel and lead pipes respectively 32 mm. brass waste coupling of standard pattern with brass chain and rubber plug shall be provided with sink. .

**M-64. Glazed earthen ware Lipped type flat back urinal/corner type urinal:**

64.1 The lipped type urinal shall be flat back or corner type as specified in the item and shall conform to I.S. 771-1979. It shall be of best Indian make and size as specified and approved by the Engineer-in-charge. The flat back or corner type urinal must be of 1st quality free from any defects, cracks, etc.

**M-65. Low level enamel flushing tank :**



65.1. The low level enamel flushing tank shall be of 15 litres capacity. It shall conform to I.S. 774-1971. The flushing cistern shall be of best quality and free from any defects. The flushing tank shall have outlet 32 mm. diameter. The outlet shall be connected with W.C. Pan by lead pipe or P.V.C. pipe as specified. The flushing tank shall be provided with inlet and outlet for fixing G.I. inlet pipes and over-flow pipes. The flushing cistern shall be provided with chromium plated handle for flushing. The flushing tank shall be provided with bracket of cast iron so that it can be fixed on wall at specified height. The brackets shall conform to I.S. 775-1970.

**M-66. Cast iron flushing cistern :** 66.1. The cast iron flushing cistern shall be of 15 litres capacity. It shall conform to I.S.774-1971. The flushing cistern shall be of best quality free from any defects. The flushing cistern shall have outlet of 32 mm. diameter. The outlet shall be connected to lead pipe of 32 mm. diameter. The lead pipe shall conform to I.S. 404 (Part-I) 1962.

For fixing G.I. inlet pipes and overflow pipe 20 mm. dia. inlet and outlet shall be provided. The flushing cistern shall be provided with galvanised iron chain and pull of sufficient length and shall be got approved from the Engineer-in-charge. The cast iron flushing cistern shall be painted with one coat of anticorrosive paint and two coats of paints. The flushing cistern shall be fixed on two C.I. brackets. The C.I. brackets shall conform to I.S. 775-1970.

**M-67. Flush cock:**

67.1. Half turn flush cock (Heavy weight) shall be of gun metal chromium plated of diameter as specified in the description of the item. The flush cock shall conform to relevant Indian Standard.

**M-68. Cast iron pipes and fittings :**

**68.1** All soil, waster, vent and antisiphonage pipes and fittings shall conform to I.S. 1729-1964. The pipe shall have spigot and socket ends with head on spigot end. The pipes and fittings shall be true to shape, smooth, cylindrical, their inner and outlet surfaces being as nearly as practicable concentric. They shall be sound and nicely cast and shall be free from cracks, laps, pinholes or other imperfection and shall be neatly dressed and carefully fettled.

**68.2.** The end of pipes and fittings shall be reasonable square to their axis.

**68.3.** The sand cast iron pipes shall be of the diameter as specified in the description and shall be in lengths of 1.5 M, 1.8 M. and 2 M. including socket ends of the pipe unless shorter lengths are either specified or required at junctions etc. The pipe sand fittings shall be supplied without ears unless specified or directed otherwise.

**Tolerances:**

68.4.1. The Standard weights and thickness of pipes shall be as shown in the following table :

A tolerance upto minus 10 per cent may however be allowed against these standard weights.

Sr. No.	Nominal dia of bore	Thickness	Overall weight of pipe excluding ears		
			1.5 m long	1.8 m long	2 m long
1.	75 mm	5.0 mm	12.83 kg	16.52 kg	18.37 kg
2.	100 mm	5.0 mm	18.14 kg	21.67 kg	24.15 kg

68.4.2. A tolerance upto minus 15 percent in thickness and 20 mm. in length will be allowed. For fittings tolerance in lengths shall be plus 15 mm. and minus 10 mm.

68.4.3. The thickness of fittings and their socket and spigot dimensions shall conform to the thickness and dimensions specified for the corresponding sizes of straight pipes. The tolerances in weights and thickness shall be the same as for straight pipes.

**M-69. Nahni Trap:**

69.1. Nahni trap shall be of cast iron and shall be sound and free from porosity or other defects which affect serviceability. The thickness of the base metal shall not be less than 6.5 mm. The surface shall be smooth and free from craze, ships and other flaws or any other kind of defects which affect serviceability. The size of nahni trap shall be as specified and shall be of self cleansing design.

69.2. The nahni trap shall be-of quality approved by the Engineer-in-charge and shall generally conform to the relevant Indian Standards.

69.3. The Nahni trap provided shall be with deep seal, minimum 50 mm, except at places where trap with deep seal can not be accommodated. The cover shall be cast iron, Perforated cover shall be provided on the trap of appropriate size.

**M-70. Gully Trap :**

70.1 Gully trap shall conform to I.S. 651-1980. It shall be sound, free from defects such as fire cracks. The glaze of the traps shall be free from crazing. They shall give a sharp clear note when struck with light hammer. There shall be no broken blisters.

70.2. The size of the gully trap shall be as specified in the item.

70.3. Each gully trap shall have one C.I. grating of square size corresponding to the dimensions of inlet of gully trap. It will also have a water tight C.I. cover with frame inside dimensions 300 mm. x 300 mm., the cover with frame inside dimension, 300 mm. x 300 mm., the cover weighing not less than 4.53 Kg. and the frame not less than 2.72 Kg. The grating cover and frame shall be of sound and good casting and shall have truly square machined seating faces.

**M-71. Glaze Stone Ware Pipe And Fitting:**

71.1. The pipes and fittings shall be- of best quality as approved by the Engineer-in-charge. The pipe shall be of best quality manufactured from stone-ware 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 surface shall be smooth and perfectly glazed. The pipe shall be capable to withstand pressure of 1.5 m. head without showing sign of leakage. The thickness of the wall shall not be less than 1/12th of the internal dia. The depth of socket shall not be less than 38 mm. The socket shall be sufficiently large to allow a joint of 1 mm. around the pipe.

71.2. The pipes shall generally conform to relevant I.S. 651-1980.

**M-72. Wall Peg Rail:**

72.1. The aluminium wall peg rail shall have three aluminium pegs of approved quality and size. It shall be fixed on teakwood plank of size 450 mm. x 75 mm. x 20 mm. The teakwood shall be french polished or oil painted as specified.

**M-73.G.I. Water Spot:**

73.1. The G.I. pipes of 40 mm. dia shall be of medium quality and specials shall be of 'R' brand or equivalent brand of best approved quality.

73.2. The pipe shall have length as required for the thickness of wall in which it is fixed, and at the outside end tee and bend 3 cut at half the length shall be provided and at other

end coupling shall be provided to have better fixing. The water spout shall be provided as per detailed drawing or as directed.

**M-74. Asbestos Cement Pipe (A.C. Pipe):**

74.1. The asbestos cement pipe of diameter as specified in the description of the item shall conform to I.S. 1626-1980. Specials: like bends, shoes, cowls, etc. shall conform to relevant Indian Standards. The interior of pipe shall have a smooth finish, regular surface and regular, internal diameter. The tolerance in all dimensions shall be as per I.S. 1626-Part-11980.

**M-75. Crydon Ball Valve :** 75.1. Ball valve of screwed type including polythene float and necessary lever etc. shall be of the size as mentioned in the description of item and shall conform to I.S. 1703-1977.

**M-76. Bitumen Felt For Water Proofing And Damp Proofing:** 76.1 Bitumen felt shall be on the fibre bases and shall be type 2, self finished grade-2 and shall conform to I.S. 1372-1970.

**M-77 Selected Earth:**

77.1. The selected earth shall be that obtained from excavated material or shall have to be brought from outside as indicated in the item. If item does not indicate anything, the selected earth shall have to be brought from outside.

77.2 The selected earth shall be good yellow soil and shall be got approved from the Engineer-in-charge. In no case black cotton soil or similar expansive and shrinkable soil shall be used. It shall be clean and free from all rubbish and perishable materials, stones or brick bats. The clods shall be broken to a size of 50. mm or less, Contractor shall make his own arrangement at his own cost for land for borrowing selected earth. The stacking of material shall be done as directed by the Engineer-in-charge in such a way as not to interfere with any constructional activities and in proper stacks.

77.3 When excavated material is to be used, only selected stuff got approved from the Engineer-in-charge shall be used. It shall be stacked separately and shall comply with all the requirements of selected earth mentioned above :

**M-78. Barbed Wire:**

78.1 The barbed wire shall be of galvanised steel and it shall generally conform to I.S. 278-1978. The barbed wire shall be of type-I whose nominal diameter for line wire

shall be 2.5 mm. and point wire 2.24 mm. The nominal distance between two bars shall be 75 mm. unless otherwise specified in the item. The barbed wire shall be formed by twisting together two line wires, one containing the barbs. The size of the line and point wires and barb spacings shall be as specified above. The permissible deviation from the nominal diameter of the line wire and point wire shall not exceed  $\pm 0.08$  mm.

78.2 The barbs shall carry four points shall be formed by twisting two point wires, each two turns, lightly round one line wire, making altogether four complete turns: The barbs shall be so finished that the four points are set and locked at right angles, to each other. The barbs shall have a length of not less than 13 mm. and not more than 18 mm. The point shall be sharp and cut at an angle not greater than 35 degree of the axis of the wire forming the barbs.

78.3 The line and point wire shall be circular section free from scale and other defects and shall be uniformly galvanised. The line wire shall be in continuous length and shall not contain any weld other than those in the rod before it is drawn. The distance between two successive splices shall not be less than 15 meters.

78.4 The lengths per 100 Kg. of barbed wire I.S. type I shall be as under Nominal 1000 metre, Minimum 834 Metre, Maximum 1066 Metre.

**Signature of Contractor**

**Executive Engineer  
Sujlam Suflam Division No. 2  
Visnagar**

## **PART-VI :ITEMWISE TECHNICAL SPECIFICATION**

**Item No.1 Dismantling doors, windows, ventilators etc. (wood or steel) shutters including chowkhats architraves, holdfasts and other attachment etc. complete and stacking them within all lead and lift.(i) Not exceeding 3 Sq.M. in area.**

### **Scope**

This item covers complete dismantling and removal of existing doors, windows, ventilators including shutters, chowkhats (frames), architraves, holdfasts, hinges, fittings, fasteners, and all connected fixtures of timber or steel construction from masonry or RCC openings.

### **Materials**

No new materials required. Salvaged materials shall be handled as per classification (reusable/scrap).

### **Execution**

Dismantling shall be carried out in a systematic manner using appropriate hand tools to prevent damage to adjoining masonry, RCC members, plaster surfaces, and finishes. Holdfasts embedded in masonry shall be exposed by carefully chiseling surrounding mortar and cut using hacksaw or cutting tools. Frames shall be loosened uniformly to avoid cracking of masonry edges. Shutters shall be detached by removing hinges and fittings. All nails, screws, and fixtures shall be extracted. Openings shall be left clean and true. Salvaged materials shall be stacked neatly at designated locations within specified lead and lift, segregated based on usability. Unserviceable debris shall be removed from site and disposed properly. Safety measures such as barricading, PPE, and dust control shall be maintained throughout the operation. **as directed by Engineer-in-charge.**

### **Measurement**

Measurement and payment shall be on Each basis.

**Item No.2 Providing and fixing Polished granite stone 20 to 25mm thick black having half round edge for frame of doors and windows.**

### **Scope**

Providing, fabricating, and fixing black granite stone frame members for door and window openings with finished exposed surfaces.

### **Materials**

Selected quality black granite stone slabs of uniform texture, free from cracks and defects, 20–25 mm thick; cement mortar (1:4); white cement slurry; mechanical fasteners if required.

### **Execution**

Granite shall be machine-cut to required sizes with precise dimensional tolerances. All exposed edges shall be machine polished and shaped with half-round moulding. The surface finish shall be smooth and mirror-polished. The stone members shall be fixed over prepared masonry surfaces using cement mortar bedding with uniform thickness. Vertical and horizontal members shall be aligned true to plumb, level, and line, maintaining proper right angles. Joints shall be kept minimum and finished flush using matching cement slurry. Temporary supports shall be provided till setting. All exposed surfaces shall be cleaned and protected from damage. **as directed by Engineer-in-charge.**

### **Measurement**

Measurement and payment shall be on Sqm basis.

**Item No.3 Providing laying and fixing 16 mm dia.(Round Bar) Grill 10 cms c/c including necessary fitting , oil painting with 1 coat primer and two coats of approved oil paint, embeded in Granite Frame etc. complete.**

- **Scope**

Providing, fabricating, and fixing MS grill for windows/openings including finishing.

- **Materials**

16 mm dia mild steel round bars, MS flats if required for stiffening, welding electrodes, red oxide primer, approved oil paint, anchor fasteners.

- **Execution**

MS bars shall be cut to required lengths and arranged at 100 mm center-to-center spacing both ways or as per design. Bars shall be welded at intersections to form rigid panels. Welding joints shall be continuous, properly fused, and ground smooth. Frames shall be fabricated if required for proper fixing. Grill shall be fixed in granite frame or masonry by embedding ends into drilled holes or using anchor fasteners. Surface shall be cleaned of rust, oil, and scale, followed by application of one coat of primer and two coats of oil paint of approved shade. Alignment, spacing, and verticality shall be ensured. **as directed by Engineer-in-charge.**

- **Measurement**

Measured in square meters of finished grill area.

**Item No.4 Removing lime or cement plaster including racking out joints 20 mm deep etc.comp.**

- **Scope**

Complete removal of existing plaster from walls/ceilings including preparation of surface.

- **Materials**

No new materials required.

- **Execution**

Plaster shall be removed manually using chisels and hammers without damaging the underlying masonry. Joints in brick/stone masonry shall be raked uniformly to a depth of 20 mm. Loose mortar, dust, and foreign materials shall be thoroughly cleaned using brushes and air/water cleaning. Surface shall be left rough and suitable for new plaster application. Debris shall be collected and disposed within specified lead. **as directed by Engineer-in-charge.**

- **Measurement**

Measured in square meters.

**Item No.5 Providing 15mm thick cement plaster in single coat on Rough (Similar)side of single or half brick walls for interior plastering upto floor two level and finished even and smooth in (i) Cement mortar 1:3 (1-cement:3-sand)**

- **Scope**

Providing internal plaster on masonry surfaces with specified thickness and finish.

- **Materials**

Ordinary Portland Cement, clean coarse sand, potable water.

- **Execution**

Surface shall be prepared by cleaning and wetting. Cement mortar (1:3) shall be prepared and applied in a single coat of 15 mm thickness. Screeds shall be formed to maintain uniform thickness and level. Plaster shall be applied evenly and finished with wooden float and steel trowel to obtain smooth and even surface. Corners, edges, and junctions shall be properly finished. Curing shall be carried out to prevent shrinkage cracks. **as directed by Engineer-in-charge.**

- **Measurement**



Measured in square meters.

**Item No.6 Applying two coats of putty & two coats of primer of approved brand and manufacture on new wall surface to give an even shade including thoroughly brushing the surface free from mortar dropping and other foreign matter and sand papered smooth.**

- **Scope**

Surface finishing using putty and primer prior to painting.

- **Materials**

Wall putty, primer, sandpaper.

- **Execution**

Surface shall be thoroughly cleaned and free from dust, grease, and loose particles. First coat of putty shall be applied uniformly and allowed to dry, followed by sanding. Second coat shall be applied to fill minor undulations and achieve smoothness. After drying and sanding, two coats of primer shall be applied uniformly. Surface shall be free from streaks and irregularities. **as directed by Engineer-in-charge.**

- **Measurement**

Measured in square meters.

**Item No.7 Wall painting (two coats) with plastic emulsion paint of approved brand and manufacture on undecorated wall surface to give an even shade including thoroughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth**

- **cope**

Finishing of walls with plastic emulsion paint.

- **Materials**

Plastic emulsion paint, application tools.

- **Execution**

Prepared surface shall receive two coats of plastic emulsion paint applied by brush or roller. Paint shall be applied evenly to achieve uniform shade without streaks, patches, or marks. Proper drying time shall be maintained between coats. Edges, corners, and junctions shall be carefully finished. **as directed by Engineer-in-charge.**

- **Measurement**

Measured in square meters.

**Item No.8 Providing and fixing two track aluminium sliding shutter for Loft/Cupboard with two-track frame made from extruded aluminium track, frame and shutter sections of desire size, including 3–4 mm thick ACP solid panels fixed complete with rollers, aluminium sliding lock, EPDM rubber beading, SS screws, necessary fittings, and installation complete & Removing old deteriorate Shutter as directed.**

- **Scope**

This item covers dismantling of existing deteriorated shutters and providing, fabricating, supplying and fixing new aluminium sliding shutters for loft/cupboard openings including complete two-track system, shutter panels, fittings and finishing in all respects.

- **Materials**

- Extruded aluminium sections of approved profile suitable for two-track sliding system with adequate thickness to prevent deflection
- ACP (Aluminium Composite Panel) solid sheets of 3–4 mm thickness with uniform finish and shade
- Nylon/Delrin rollers with SS bearings suitable for smooth sliding
- Aluminium sliding locks of approved make
- EPDM rubber beading/gaskets for panel fixing
- Stainless steel screws, anchor fasteners, rawl plugs
- Silicone sealant where required

- **Execution**

Existing shutters shall be dismantled carefully without disturbing surrounding finishes. Opening shall be measured precisely and frame shall be fabricated accordingly. Aluminium frame shall be fixed in position using suitable fasteners ensuring perfect verticality, horizontality, and squareness. Tracks shall be aligned to allow free and smooth movement of shutters. ACP panels shall be cut to size, edges finished, and fixed within aluminium shutter sections using EPDM beading ensuring tight fit without rattling. Rollers shall be fixed properly and adjusted for smooth sliding operation. Locking arrangement shall be installed at appropriate height. All joints between frame and wall shall be sealed neatly. Surface shall be cleaned and protected from scratches. **as directed by Engineer-in-charge.**

- **Measurement**

Measured in square meters of shutter area.

**Item No.9 Providing and fixing in position Heavy-Duty Domal 27x65 Series Aluminum Sliding Window three track System containing Glass Shutters, 3-4mm Thick Sunglass (Heat-reflective/Tinted), Mosquito Shutter with SS Mesh etc with necessary fittings, and installation complete as directed.**

**Scope**

Providing, fabricating and fixing heavy-duty aluminium sliding window system with three-track arrangement including glass shutters and mosquito shutters.

**Materials**

- Domal series aluminium extruded sections of required profile and thickness
- 3–4 mm thick heat-reflective/tinted glass
- Stainless steel mosquito mesh
- Nylon rollers, locks, handles, stoppers
- EPDM gaskets and glazing beads
- Fasteners and sealant

**Execution**

Openings shall be checked for dimensions and prepared. Aluminium window frames shall be fabricated and installed using anchor fasteners ensuring alignment in plumb, level, and line. Glass panels shall be fixed in shutters using EPDM gaskets ensuring proper cushioning and tight fit. Mosquito shutters shall be fabricated with SS mesh tightly fixed without sagging. Sliding tracks shall be installed ensuring smooth, noise-free movement. Locking mechanism shall be installed properly. Gaps between frame and masonry shall be sealed using suitable sealant. Protective covering shall be maintained till completion. **as directed by Engineer-in-charge.**

- **Measurement**

Measured in square meters.

**Item No.10 Providing and fixing 35 mm thick shutters for Doors, windows and clerestory windows including Indian teak wood frames 10 cm x 7 cm. size including anodized aluminium fixtures and fastenings including primer coat of approved quality and two**

**coats of oilpainting etc, complete. (iii) Partly panelled and partly glazed.**

### **Scope**

Providing and fixing timber door/window shutters with teak wood frames including glazing and finishing.

### **Materials**

- Indian teak wood for frames (100 × 70 mm) and shutters, properly seasoned
- Glass panels of required thickness
- Anodized aluminium fittings such as hinges, handles, tower bolts
- Wood primer and oil paint
- Screws, nails, holdfasts

### **Execution**

Frames shall be fixed in masonry using holdfasts embedded in cement concrete blocks. Shutters shall be fabricated with panelled and glazed portions ensuring proper joinery. Glass shall be fixed with wooden beads and putty. Shutters shall be hung with suitable hinges ensuring smooth operation without binding. All wooden surfaces shall be finished smooth, knots treated, and coated with primer followed by two coats of oil paint. Alignment, clearance, and uniform gaps shall be maintained. **as directed by Engineer-in-charge.**

#### **• Measurement**

Measured in square meters.

**Item No.11 Providing & Fixing Heavy Duty Door Closer surface mounted type (grade 3) of standard make made of cast aluminium body, rack-and-pinion design, 105°degree openable fixed to the door with all necessary fixtures & fasteners etc. complete of Godrej, Dormo make as approved and directed by the Engineer in Charge.**

#### **• Scope**

Providing and fixing door closer.

#### **• Materials**

Door closer unit, fixing accessories.

- **Execution**

Door closer shall be installed as per manufacturer guidelines ensuring proper alignment and smooth closing action. **as directed by Engineer-in-charge.**

- **Measurement**

Measured per number.

**Item No.12 Providing and fixing 600mm x 450mm bevelled edge mirror of superior glass mounted on 6mm thick A.C. sheet or plywood sheet and fixing to wooden plug with C.P. brass screws and washers.**

- **Scope**

Providing and fixing mirror assembly.

- **Materials**

Glass mirror, backing sheet, CP screws.

- **Execution**

Mirror shall be fixed over backing sheet and mounted on wall using plugs and screws ensuring proper alignment. **as directed by Engineer-in-charge.**

- **Measurement**

Measured per Each.

**Item No.13 Providing and fixing SS Kitchen Sink 610×460 mm (1mm thick, 304 grade) with waste(SS) coupling, PVC pipe and all fittings etc. complete**

- **Scope**

Providing and fixing stainless steel sink.

- **Materials**

SS sink, waste coupling, PVC pipe.

- **Execution**

Sink shall be fixed in counter opening with proper sealing and connected to drainage system. **as directed by Engineer-in-charge.**

- **Measurement**

Measured per number.

**Item No.14 Providing and fixing screw down bib taps of following size.(B)**  
**Brass chromium plated screws down Bib Tap. (i) 15mm dia.**

- **Scope**

Providing and fixing bib tap.

- **Materials**

CP brass bib tap.

- **Execution**

Tap shall be fixed to pipeline ensuring leak-proof joint. **as directed by Engineer-in-charge.**

- **Measurement**

Measured per number.

**Item No.15 Providing and fixing C.P. brass towel rail complete with C.P. brass brackets fixed to wooden plugs with C.P. brass screws.(B) 600mm x 20mm size.**

- **Scope**

Providing and fixing towel rail.

- **Materials**

CP brass rail, screws, plugs.

- **Execution**

Rail shall be fixed level and securely anchored. **as directed by Engineer-in-charge.**

- **Measurement**

Measured per number.

**Item No.16 "Point wiring for FAN with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (Green) both are of .ISI marked 1.1 KV Grade FRLS PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected with 6A Modular type switch and hum free EME step type electronic fan regulator mounted and accessories with earth continuity of following type erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured/metallic/white front plate modules erected on / in wall / ceiling as per pipe erected. with necessary ceiling rose / H.D.Connector as directed.**

**(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling**

**complete**

**Cat. III**

**Scope**

Providing concealed point wiring for ceiling fan including switch, regulator, and accessories.

**Materials**

- FRLS PVC insulated multi-strand copper wires ( $2 \times 1.5$  sq.mm + earth wire 1.5 sq.mm)
- Medium class rigid PVC conduit and accessories
- Modular switch (6A), electronic fan regulator
- Ceiling rose/connector, PVC box, modular plate

**Execution**

Conduits shall be laid concealed in wall/ceiling with proper routing avoiding sharp bends. Junction boxes shall be fixed flush with surface. Wires shall be drawn through conduits ensuring no damage to insulation. Connections shall be made securely with proper terminations. Switch and regulator shall be mounted on modular plate. Earthing continuity shall be ensured throughout. Proper identification of circuit shall be maintained. **as directed by Engineer-in-charge.**

- **Measurement**

Measured per point.

**Item No.17 "Point wiring for Light / Bell with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multi strand copper wires up to 10 mtr length , in below type of pipe erected with 6A Modular type switch / bell push & accessories and earth continuity of following type, erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured/metallic/white front plate modules erected on / in wall / ceiling as per pipe erected, with necessary Lamp holder/ceiling rose / H.D.Connector as directed.**

**(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling**

**complete**

**Cat. III**

- **Scope**

Providing concealed wiring for light/bell points.

- **Materials**

Copper wires, switches, conduit.

- **Execution**

Wiring shall be installed with proper connections and accessories. **as directed by Engineer-in-charge.**

- **Measurement**

Measured per point.

**Item No.18 Providing & erecting Approved make Ceiling Fan with double ball bearing ISI mark with Condenser 230 volt A.C.50 Hz 1200 mm sweep complete having 3 blades aluminium body and blade**



**sets having ornamental design shanks , canopy erected with earthing. [ Make shall be approved by Engineer in Charge]**

- **Scope**

Providing and fixing ceiling fan.

- **Materials**

Fan unit.

- **Execution**

Fan shall be installed with proper mounting and electrical connection. **as directed by Engineer-in-charge.**

- **Measurement**

Measured per Each.

**Item No.19 "Providing following type of Modular Type Accessories mounted with PVC / metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate , modules erected with necessary connections as per site situation directed by Engineer In charge.**

**(1)One No. SP 6 Amp. Cat.III"**

**(2) One No 5 pin plug Cat. III**

**(8) Computer RJ-45 socket**

**(10) 6/16Amp. Universal socket. Cat.III**

**(11) 6 Amps. Bell Push Cat.III**

**(13) 6A/10A/16A/20A/25A/32A Single pole Modular MCB Switch Cat.III**

**(23) USB Charger with output of 5 V DC,2.1 A with inbuilt surge protection. Cat-III**

- **Scope**

Providing modular electrical accessories.

- **Materials**

Switches, sockets, MCBs, RJ45, USB charger.

- **Execution**

Accessories shall be installed in modular boxes with proper wiring connections. **as directed by Engineer-in-charge.**

- **Measurement**

Measured per number of each item.

**Item No.20 "Call bell / Buzzer,250 volts, complete erected.**

- **Scope**

Providing and fixing call bell/buzzer.

- **Materials**

Bell unit.

- **Execution**

Installed with wiring and proper functioning. **as directed by Engineer-in-charge.**

- **Measurement**

Measured per number.

**Item No.21 Supplying and erecting 19 / 20 mm. nominal bore Medium Class  
M.S. Pipe down rod erected duly painted for fan complete with  
proper insulation without leakage and earthing.**

- **Scope**

Providing and fixing fan down rod.

- **Materials**

MS pipe.

- **Execution**

Rod shall be fixed, painted, insulated and earthed. **as directed by Engineer-in-charge.**

- **Measurement**

Measured per Rmt.

**Item No.22 "Providing Fan clamp of 30 x 5 mm flat of required length & 10 mm M.S. Bolt & Nuts erected with necessary hook of 10 mm M.S. Round Bar.**

- **Scope**

Providing and fixing fan clamp.

- **Materials**

MS flat, bolts.

- **Execution**

Clamp shall be embedded securely in slab. **as directed by Engineer-in-charge.**

- **Measurement**

Measured per each item.

**Item No.23 "Supplying and erecting LED indoor fittings with LEDs of wattage 0.2 Watt to 0.5 Watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet Steel conforming to IS: 513/CRCA/ aluminium die cast powder coated and high U.V. & corrosion resistance with diffuser with company mark/name 160V to 270V, Power Factor more than 0.9, THD < 15%,**

**CCT 3000 K to 6500K,**

**Luminaire efficacy > 85 lumens/watt ,LED**

**LED driver efficiency > 85 %**

**( fitting required LM-79 & LM-80 Certificates)(NOTE: Below description have shown ranges of Wattage capacity of LED fittings.The Engineer incharge may select any wattage capacity between the ranges shown.)**

**(A) Tube Light with integral driver**

**(v) 36-40 Watts, Surge-2 KV, IP-20, conventional 4 feet**

**Cat-III**

### **Scope**

Providing and fixing LED lighting fixtures for indoor use.

### **Materials**

- LED fittings with MCPCB mounted LEDs
- CRCA steel/aluminium housing with powder coating
- Polycarbonate/acrylic diffuser
- Integrated LED driver
- Mounting accessories

### **Execution**

Fixtures shall be installed at designated locations on ceiling/wall using appropriate fasteners. Electrical connections shall be made with proper polarity and secure termination. Fittings shall be aligned uniformly and fixed firmly. Diffuser shall be fitted properly to avoid glare and ensure uniform light distribution. Wiring shall be concealed or neatly dressed. **as directed by Engineer-in-charge.**

#### **• Measurement**

Measured per each item.

**Item No.24 "providing and erecting Approved make RCCBs conforming to IS: 12640 and having sensitivity of 30 mA and Short Circuit withstand capacity of 10 KA and suitable for operation on single phase 240 V,50Hz. having characteristic of quick action & tripping with all advance feature & do not incorporate any electronic component. for following Max. rating erected as directed**

**(ii) 40Amps. DP Cat. III**

- **Scope**

Providing RCCB.

- **Materials**

RCCB unit.

- **Execution**

Installed in DB with proper connections. **as directed by Engineer-in-charge.**

- **Measurement**

Measured per each item.

**Item No.25 Providing and fixing aluminium section of desire size including Glass & Supplying & erecting approved make low noise decorative exhaust fan(200mm with 1350RPM) having square frame ABS body with inbuilt lowers & square frame with necessary fittings, and installation complete as directed.**

- **Scope**

Providing aluminium glazing and exhaust fan.

- **Materials**

Aluminium section, glass, exhaust fan.

- **Execution**

Installed and fixed securely. **as directed by Engineer-in-charge.**

- **Measurement**

Measured per each item.

**Item No.26 Providing 100% Blackout Roller Blinds for Windows | Textured Linen Fabric | Thermal Insulated Roll-Up Shades | UV Sun Protection for Office | Heavy Duty | Selected Colour With Fitting on Wall etc. complete**

- **Scope**

Providing roller blinds.

- **Materials**

Fabric blinds.

- **Execution**

Installed with proper mechanism and alignment. **as directed by Engineer-in-charge.**

- **Measurement**

Measured in square meters.

**Item No.27 Providing Indoor Plant incl. pot size 25cm dia. \* 25cm height & Plant Height 60 - 75cm(Above pot Top) & bottom plastic dish with Soil Media contains Coco Peat+Coco Chips+Soil etc. complete.**

- **Scope**

Providing indoor plant setup.

- **Materials**

Plants, pots, soil.

- **Execution**

Plants shall be placed at designated locations. **as directed by Engineer-in-charge.**

- **Measurement**

Measured per number.

**Item No.28 P & L 24" x 24" vitrified 8 mm thick tile flooring over 20 mm (average) base of cement mortar 1:6 ( 1 cement: 6 coarse sand) on new surface or fixing on existing flooring by adhesive material including Item No.28 dismantling of existing flooring and jointed with color cement slurry including finished with flush pointing & cleaning the surface etc. complete for antiskit**

**Scope**

Providing and laying vitrified tile flooring including removal of existing flooring.

**Materials**

- Vitrified tiles 24" × 24", 8 mm thick
- Cement mortar (1:6) or tile adhesive
- Color cement slurry for joints

**Execution**

Existing flooring shall be dismantled and surface cleaned. Base shall be prepared and leveled. Tiles shall be soaked (if required) and laid over mortar bed or adhesive ensuring proper alignment, level, and slope. Spacers shall be used for uniform joints. Joints shall be filled with colored slurry. Surface shall be cleaned and finished smooth. **as directed by Engineer-in-charge.**

- **Measurement**

Measured in square meters.

**Item No.29 P & L 48" x 24" vitrified 8 mm thick wall tile on new surface or fixing on existing wall by adhesive material including dismantling of existing flooring and jointed with color cement slurry including finished with flush pointing & cleaning the surface etc. complete as directed.**

- **Scope**

Providing wall tiles.

- **Materials**

Tiles, adhesive.

- **Execution**

Tiles shall be fixed with proper alignment and finishing. **as directed by Engineer-in-charge.**

- **Measurement**

Measured in square meters.

**Item No.30 Providing men powers for shifting Files, Documents, potka, tijori, old table, chairs & other office goods etc.from old office to other office to other office to new office.**

- **Scope**

Providing manpower for shifting.

- **Materials**

Tools/equipment.

- **Execution**

Items shall be shifted carefully without damage. **as directed by Engineer-in-charge.**

- **Measurement**

Measured per each item.

**Item No.31 Providing and laying broken chine mosaic flooring for terrace using 12 mm to 20 mm broken pieces of glazed tiles to be laid over cement mortar 1:3 to plain or slope and to be tempered to bring mortar creme out upto surface using white cement including rounding off junctions and extending them upto 15 cm along the wall,clearing with water and oxalic acid etc. as directed.**

**Scope**

Providing decorative and protective terrace flooring using broken china mosaic.

**Materials**

- Broken glazed tile pieces (12–20 mm)
- Cement mortar (1:3)
- White cement

**Execution**



Base shall be prepared with slope for drainage. Mortar bed shall be laid and tile pieces placed closely with proper pattern. Surface shall be tamped to bring cement slurry to top. Joints shall be filled with white cement. Edges shall be rounded and extended along wall up to 150 mm. Final surface shall be cleaned and polished. **as directed by Engineer-in-charge.**

- **Measurement**

Measured in square meters.

**Item No.32 Providing and fixing PVC Floor carpet(2 mm Thick) of approved shade and make as directed.**

**Scope**

Providing and fixing PVC floor carpet.

**Materials**

- PVC carpet (2 mm thick)
- Adhesive

**Execution**

Subfloor shall be smooth, clean, and dry. Adhesive shall be applied evenly and carpet laid without wrinkles or air pockets. Edges shall be trimmed neatly and joints finished properly. Surface shall be pressed uniformly for proper bonding. **as directed by Engineer-in-charge.**

- **Measurement**

Measured in square meters.

**\*Note : All items Quality/Brand Should be Done/bring as directed by Engineer-in-Charge.**

Signature of Contractor

Executive Engineer  
Sujlam Suflam Division No. 2  
Visnagar

**SECTION-6**  
**FORMOFBID**

## FORM OF BID

Description of the Works:

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BID

To

:Address :

1. We offer to execute the Works described above and remedy any defects therein in conformity with the conditions of Contract, specification, drawings, Bill of Quantities and Addenda for the sum (s) of

\_\_\_\_\_  
\_\_\_\_\_  
(-----)

2. We undertake, if our Bid is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Engineer's notice to commence, and to complete the whole of the Works in the time stated in the document.
3. We agree to abide by this Bid for the period of 120 Days from the date fixed for receiving the same, and it shall remain binding upon it and may be accepted at any time before the expiration of that period.
4. Unless and until a formal Agreement is prepared and executed this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
5. We understand that you are not bound to accept the lowest or any tender you may receive.

Dated this ----- day of ----- 20

Signature ----- in the capacity of -----

----- duly authorized to sign bids for and on behalf of -----

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\_\_\_\_\_  
(in block capitals or typed)

Address

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Witness

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Address

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Occupation

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**SECTION-7**  
**BILLOFQUANTITIES**

## BILLOFQUANTITIES

### Preamble

1. The bill of Quantities shall be read in conjunction with the Instructions to Bidder, Conditions of Contract, Technical Specifications and Drawings.
2. The quantities given in the Bill of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the rates and prices tendered in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix within the terms of the Contract.
3. The rates and prices tendered in the priced Bill of Quantities shall, except in so far as it is otherwise provided under the Contract, include all constructional plant, layout, supervision, materials, erection, maintenance, insurance, profit, taxes and duties, together with all general risks, liabilities and obligations set out or implied in the Contract.
4. The rates and prices shall be quoted entirely in Indian Currency.
5. A rate or prices shall be entered against each item in the Bill Quantities, whether quantities are stated or not. The cost of items against which Contractor has failed to enter a rate or prices shall be deemed to be covered by other rates and prices entered in the Bill of Quantities (in case of Item rate contract).
6. The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Bill of Quantities, and where no items are provided the cost shall be deemed to be distributed among the rates and prices entered for the related items of Work.
7. General direction and descriptions of work and materials are not necessarily repeated or summarized in the Bill of Quantities. Reference to the relevant sections of the contract documentation shall be made before entering rates or prices against each item in the Bill of Quantities.
8. The method of completed work of payments shall be in accordance with the specification for Road and Bridge works. For building works specifications for building are to be followed.
9. Errors will be corrected by the Employer for any arithmetic errors pursuant to **Clause 29** of the Instructions to Bidder.
10. Rock is defined as all materials which, in the opinion of the Engineer, require blasting, or the use of metal wedges and sledge hammers, or the use of compressed air drilling for its removal, and which cannot be extracted by ripping with a tractor of at least 150 kw with a single rear mounted heavy duty ripper.

## BILLOFQUANTITIES

### (A) Percentage Rate Tender(Upto INR50Cr.)

#### Renovation of Sujlam Suflam Sub Division No. 5 Office at Mahesana

It. No.	Description of Item (with brief specification and reference to book of specifications)	Quantity	Unit	Rate in Rs.	Amount in Rs.
	3	1	2	6	8
1	Dismantling doors, windows, ventilators etc. (wood or steel) shutters including chowkhats architraves, holdfasts and other attachment etc. complete and stacking them within all lead and lift.(i) Not exceeding 3 Sq.M. in area.	9.00	Each	191.85	1726.65
2	Providing and fixing Polished granite stone 20 to 25mm thick black having half round edge for frame of doors and windows.	26.00	Sqm	3425.92	89073.92
3	Providing laying and fixing 16 mm dia.(Round Bar) Grill 10 cms c/c including necessary fitting , oil painting with 1 coat primer and two coats of approved oil paint, embeded in Granite Frame etc. complete.	12.00	Sqm.	1497.83	17973.96
4	Removing lime or cement plaster including racking out joints 20 mm deep etc.comp.	296.00	Smt.	53.20	15747.20
5	Providing 15mm thick cement plaster in single coat on Rough (Similar)side of single or half brick walls for interior plastering upto floor two level and finished even and smooth in (i) Cement mortar 1:3 (1-cement:3-sand)	296.00	Sqm	184.78	54694.88
6	Applying two coats of putty & two coats of primer of approved brand and manufacture on new wall surface to give an even shade including thoroughly brushing the surface free from mortar dropping and other foreign matter and sand papered smooth.	296.00	Smt.	40.59	12014.64

7	Wall painting (two coats) with plastic emulsion paint of approved brand and manufacture on undecorated wall surface to give an even shade including thoroughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth	296.00	Smt.	82.97	24559.12
8	Providing and fixing two track aluminium sliding shutter for Loft/Cupboard with two-track frame made from extruded aluminium track, frame and shutter sections of desire size, including 3–4 mm thick ACP solid panels fixed complete with rollers, aluminium sliding lock, EPDM rubber beading, SS screws, necessary fittings, and installation complete & Removing old deteriorate Shutter as directed.	8.00	Sqm	4519.75	36158.00
9	Providing and fixing in position Heavy-Duty Domal 27x65 Series Aluminum Sliding Window three track System containing Glass Shutters, 3-4mm Thick Sunglass (Heat-reflective/Tinted), Mosquito Shutter with SS Mesh etc with necessary fittings, and installation complete as directed.	12.00	Sqm	7825.48	93905.76
10	Providing and fixing 35 mm thick shutters for Doors, windows and clerestory windows including Indian teak wood frames 10 cm x 7 cm. size including anodized aluminium fixtures and fastenings including primer coat of approved quality and two coats of oilpainting etc, complete. (iii) Partly panelled and partly glazed.	3.00	Smt.	4989.65	14968.95



11	Providing & Fixing Heavy Duty Door Closer surface mounted type (grade 3) of standard make made of cast aluminium body, rack-and-pinion design, 105°degree openable fixed to the door with all necessary fixtures & fasteners etc. complete of Godrej, Dormo make as approved and directed by the Engineer in Charge.	1.00	No.	657.51	657.51
12	Providing and fixing 600mm x 450mm bevelled edge mirror of superior glass mounted on 6mm thick A.C. sheet or plywood sheet and fixing to wooden pluge with C.P. brass screws and washers.	1.00	Each	859.41	859.41
13	Providing and fixing SS Kitchen Sink 610×460 mm (1mm thick, 304 grade) with waste(SS) coupling, PVC pipe and all fittings etc. complete	1.00	Nos	7709.33	7709.33
14	Providing and fixing screw down bib taps of following size.(B) Brass chromium plated screws down Bib Tap. (i) 15mm dia.	1.00	Nos	186.83	186.83
15	Providing and fixing C.P. brass towel rail complete with C.P. brass brackets fixed to wooden plugs with C.P. brass scews.(B) 600mm x 20mm size.	1.00	Nos	616.42	616.42

16	<p>Point wiring for FAN with 2-1.5 sq.mm &amp; earth wire of 1.5 sq.mm (Green) both are of .ISI marked 1.1 KV Grade FRLS PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected with 6A Modular type switch and hum free EME step type electronic fan regulator mounted and accessories with earth continuity of following type erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured/metallic/white front plate modules erected on / in wall / ceiling as per pipe erected. with necessary ceiling rose / H.D.Connector as directed.</p> <p>(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete Cat. III</p>	8.00	Points	674.68	5397.44
17	<p>Point wiring for Light / Bell with 2-1.5 sq.mm &amp; earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multi strand copper wires up to 10 mtr length , in below type of pipe erected with 6A Modular type switch / bell push &amp; accessories and earth continuity of following type, erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured/metallic/white front plate modules erected on / in wall / ceiling as per pipe erected, with necessary Lamp holder/ceiling rose / H.D.Connector as directed.</p> <p>(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete Cat. III</p>	25.00	Points	482.01	12050.25

18	Providing & erecting Approved make Ceiling Fan with double ball bearing ISI mark with Condenser 230 volt A.C.50 Hz 1200 mm sweep complete having 3 blades aluminium body and blade sets having ornamental design shanks , canopy erected with earthing. [ Make shall be approved by Engineer in Charge]	1.00	Each	2311.89	2311.89
19(a)	Providing following type of Modular Type Accessories mounted with PVC / metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate , modules erected with necessary connections as per site situation directed by Engineer In charge.(1)One No. SP 6 Amp. Cat.III	80.00	Each	151.50	12120.00
19(b)	(2) One No 5 pin plug Cat. III	35.00	Each	151.50	5302.50
19(c)	(8) Computer RJ-45 socket	8.00	Each	160.59	1284.72
19(d)	(10) 6/16Amp. Universal socket. Cat.III	14.00	Each	199.98	2799.72
19(e)	(11) 6 Amps. Bell Push Cat.III	3.00	Each	151.50	454.50
19(f)	(13) 6A/10A/16A/20A/25A/32A Single pole Modular MCB Switch Cat.III	14.00	Each	310.07	4340.98
19(g)	(23) USB Charger with output of 5 V DC,2.1 A with inbuilt surge protection. Cat-III	8.00	Each	682.76	5462.08
20	Call bell / Buzzer,250 volts, complete erected.	3.00	Nos	31.31	93.93
21	Supplying and erecting 19 / 20 mm. nominal bore Medium Class M.S. Pipe down rod erected duly painted for fan complete with proper insulation without leakage and earthing.	0.60	Rmt.	108.07	64.84
22	Providing Fan clamp of 30 x 5 mm flat of required length & 10 mm M.S. Bolt & Nuts erected with necessary hook of 10 mm M.S. Round Bar.	1.00	Each	98.98	98.98

23	<p>Supplying and erecting LED indoor fittings with LEDs of wattage 0.2 Watt to 0.5 Watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet Steel conforming to IS: 513/CRCA/ aluminium die cast powder coated and high U.V. &amp; corrosion resistance with diffuser with company mark/name 160V to 270V, Power Factor more than 0.9, THD &lt; 15%, CCT 3000 K to 6500K, Luminaire efficacy&gt; 85 lumens/watt ,LED LED driver efficiency &gt; 85 % ( fitting required LM-79 &amp; LM-80 Certificates)(NOTE: Below description have shown ranges of Wattage capacity of LED fittings.The Engineer incharge may select any wattage capacity between the ranges shown.)</p> <p>(A) Tube Light with integral driver</p> <p>(v) 36-40 Watts, Surge-2 KV, IP-20, conventional 4 feet Cat-III</p>	30.00	Each	535.30	16059.00
24	<p>providing and erecting Approved make RCCBs conforming to IS: 12640 and having sensitivity of 30 mA and Short Circuit withstand capacity of 10 KA and suitable for operation on single phase 240 V,50Hz. having characteristic of quick action &amp; tripping with all advance feature &amp; do not incorporate any electronic component. for following Max. rating erected as directed</p> <p>(ii) 40Amps. DP Cat. III</p>	1.00	Each	2235.13	2235.13
25	<p>Providing and fixing aluminium section of desire size including Glass &amp; Supplying &amp; erecting approved make low noise decorative exhaust fan(200mm with 1350RPM) having square frame ABS body with inbuilt lowers &amp; square frame with necessary fittings, and installation complete as directed.</p>	2.00	Each	3044.14	6088.28

26	Providing 100% Blackout Roller Blinds for Windows   Textured Linen Fabric   Thermal Insulated Roll-Up Shades   UV Sun Protection for Office   Heavy Duty   Selected Colour With Fitting on Wall etc. complete	19.00	Sqm	2203.82	41872.58
27	Providing Indoor Plant incl. pot size 25cm dia. * 25cm height & Plant Height 60 - 75cm(Above pot Top) & bottom plastic dish with Soil Media contains Coco Peat+Coco Chips+Soil etc. complete.	18.00	No.	2901.73	52231.14
28	P & L 24" x 24" vitrified 8 mm thick tile flooring over 20 mm (average) base of cement mortar 1:6 ( 1 cement: 6 coarse sand) on new surface or fixing on existing flooring by adhesive material including dismantling of existing flooring and jointed with color cement slurry including finised with flush pointing & cleaning the surface etc. complete for antiskit	7.00	Sqm	1467.72	10274.04
29	P & L 48" x 24" vitrified 8 mm thick wall tile on new surface or fixing on existing wall by adhesive material including dismantling of existing flooring and jointed with color cement slurry including finised with flush pointing & cleaning the surface etc. complete as directed.	11.00	Sqm	1689.73	18587.03
30	Providing men powers for shifting Files, Documents, potka, tijori, old table, chairs & other office goods etc.from old office to other office to other office to new office.	12.00	Each	623.17	7478.04
31	Providing and laying broken chine mosaic flooring for terrace using 12 mm to 20 mm broken pieces of glazed tiles to be laid over cement mortar 1:3 to plain or slope and to be tempered to bring mortar creme out upto surface using white cement including rounding off junctions and extending them upto 15 cm along the wall,clearing with water and oxalic acid etc. as directed.	98.00	Sqm	779.70	76410.60
32	Providing and fixing PVC Floor carpet(2 mm Thick) of approved shade and make as	76.00	Sqm	1351.38	102704.88

	directed.				
				<b>Total</b>	<b>756575.13</b>

I/We am/are willing to carry out the work at.....% above/below percent  
(Should be written in figures and words) of the estimated rate mentioned above. Amount of my  
/our tender works out as under.

Estimated amount put to tender

Estimated amount put to tender

Deduct.....% below

Add.....% Above

Net

Net

In words

In words

**(B) For Item Rate Tender (For above INR 50 Cr.):**

Item No	Description of Item (with brief specification and reference to book of specifications)	Quantity	Unit	Rate		Amount
				In figures	In Words	

(A) Total Tendered Amount

(B) Rebate on above tendered amount (if any) % (in figure) .....

(in words) .....

(C) Net Tendered Amount (A-B) (in figure) .....

(in words) .....

#

1	The Contractor shall exhibit a board with brief details of work as directed by the Engineer-In-Charge for which no extra payment shall be made.
2	The labour cess will be deducted as per prevailing rules i.e. 1% of the work done.
3	GST and Income tax TDS will be deducted at source while making payments of bills
4	In all R.C.C. items in Rate Analysis Standard Cement Consumption has been taken as per Govt G.R.NO.: MIS102010/17/K1 Dated: 30/07/2018 as stated in S.O.R. therefore in R.C.C. items where there is a change as per actual mix design the cost of difference of cement consumption have been deducted from the rate of original item at the rate of input rate mentioned in all the tender.

**SECTION-8**  
**SECURITIESANDOTHERFORMS**



## **BID SECURITY (BANK GUARANTEE)**

WHEREAS,----- (name of Bidder) (hereinafter called the "The Bidder") has submitted his bid Dated----- (Date) for the construction of ----- (Name of Contractor 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----- (name of Employer) (hereinafter called "The Employer") in the sum of-----\* for which payment well and truly to be made to the said Employer the Bank itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this----- day of----- 20

THE CONDITIONS of these obligations 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 has 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 Instructions to Bidders; or

C. does not accept the correction of the Bid Price pursuant to Clause 27 (Correction of Errors)

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 not state 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 conditions or conditions.

days after the deadline for submission of Bids as such the 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

SIGNATURE-----

SEAL -----

\*The Bidders 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 (Bid Security) of the Instructions to Bidders.

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## PERFORMANCE SECURITY

TO,

----- (Name of Employer)  
----- (Address of Employer)  
-----

WHEREAS ----- (name and address of contractor) (hereafter called "the Contractor") has undertaken, in pursuance of Contracts No. ----- dates ----- 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 obligation in accordance with ----- the Contract.

AND WHEREAS we have agreed to give the Contractor such a bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you on behalf of the Contractor, ----- upto a total of -----  
(amount of guarantee)\* ----- (in words), such sum being payable in 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 limit of ----- (amount of guarantee) as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

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

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

This guarantee shall be valid until 60 days from the date of expiry of the Defect Liabilities period.

Signature and Seal of the guarantor -----

Name of Bank -----

Address -----

Date -----

---

\*An amount shall be inserted by the Guarantor, representing the percentage of the Contract price specified in the Contract denominated in Indian Rupees.

**ADDITIONAL PERFORMANCE SECURITY**

[Clause 34.1.(A)]

TO,

----- (Name of Employer)  
----- (Address of Employer)  
-----

WHEREAS ----- (Name and address of contractor) (hereafter called "The Contractor") has undertaken, in pursuance of Contracts No. ----- dates ----- 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 obligation 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) ----- (in words), such sum being payable in 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 limit of ----- (amount of guarantee) as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

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

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

This guarantee shall be valid until **28 days** from the project completion date.

Signature and Seal of the guarantor -----

Name of Bank -----

Address -----

Date -----

## BANK GUARANTEE FOR ADVANCE PAYMENT

TO,

----- (Name of Employer)

----- (Address of Employer)

----- (Name of Contractor)

Gentlemen:

In accordance with the provisions of the Conditions of Contract, sub-clause 51.1 ("Advance Payment") of the abovementioned Contract, -----  
----- (name and address of Contractor) (hereinafter called "the Contractor") shall deposit with ----- (name of Employer) a bank guarantee for his proper and faithful performance under the said Clause of the Contract in an amount of ----- (amount of Guarantee)\* -  
----- in words).

We, the ----- (bank or financial institution), as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not a Surety merely, the payment to -----  
(name of Employer) on his first demand without whatsoever right of obligation on our part and without his first claim to the Contractor, in the amount not exceeding ---  
----- (amount of guarantee)\* ----- (in words)

We further agree that no change or addition to or other modifications of the terms of the Contractor or Work to be performed thereunder or of any of the Contract documents which may be made between ----- (name of Employer) and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modifications.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until ----- (name of employer) receives full repayment of the same amount from the contractor.

YOUR'S TRULY

Signature and Seal \_\_\_\_\_

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

Address \_\_\_\_\_

Date \_\_\_\_\_

\_\_\_\_\_  
\*An amount shall be inserted by that Bank or Financial Institution representing the amount of the Advance Payment, and denominated in Indian Rupees.

**Letter of Acceptance**  
(Letterhead 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\* is hereby accepted by your agency.

You are requested to furnish performance security, in the form detailed in para 34.1 of ITB for an amount equivalent to Rs. \_\_\_\_\_ within **10 days** of the receipt of this letter of acceptance up to and beyond **60 days** from the date of expiry of defects Liability period i.e. up to \_\_\_\_\_ and the Additional Performance Security for an amount equivalent to Rs. \_\_\_\_\_ shall be valid beyond 28 (twenty-eight) days of Project Completion Date i.e. up to \_\_\_\_\_ and sign the contract, failing which action as stated in Para 34.3 of ITB will be taken.

Yours Faithfully

Authorized Signature  
Name and title of Signatory  
Name of Employer

---

\*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 affected.

**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 in ITB Clause 34.1 and  
signing of the Contract for the construction of \_\_\_\_\_

\_\_\_\_\_

at a bid Price of Rs.

.

You are hereby instructed to proceed with the execution of the said work in  
accordance with the contract documents.

Yours faithfully

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

## AGREEMENT FORM

This agreement, made on the day of between  
(name and address of Employer) (Hereinafter called "the Employer") 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 cost of Rs.

---

### NOW THIS AGREEMENT WITNESSETH AS FOLLOWS

1. In this Agreement, words and expressions 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 construed as part of this Agreement.
2. In consideration of the payment 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 contracts.
3. The employer hereby covenants to pay the Contractor in consideration of the execution and completion of the works and the remedying of the defects wherein 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 ready and construed as part of this Agreement viz
  - i) letter of Acceptance
  - ii) Notice to proceed with the works:
  - iii) Contractor's Bid



- iv) Conditions of contract: General and Special
- v) Contract Data
- vi) Additional conditions
- vii) Drawings
- viii) Bill of Quantities and
- ix) Any other documents listed in the Contract data as forming part of the Contract.

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 \_\_\_\_\_

**UNDERTAKING**  
**(For Investment)**

I, the undersigned do hereby undertake that our firm M/s  
.....wouldinvestaminimumcashup to  
**25%**ofthe value ofthe workduringimplementation of the contract.

\_\_\_\_\_  
(Signedbyan Authorizedofficerofthe firm)

\_\_\_\_\_  
Titleof officer

\_\_\_\_\_  
Nameoffirm

\_\_\_\_\_  
DATE

**UNDERTAKING**  
**(For Validity)**

I, the undersigned do hereby undertake that our firm M/s.....  
.....agree to abide by this bid for a period..... days  
for date fixed for receiving the same and it shall be binding on us and may be accepted at any time  
before the expiration of that period.

\_\_\_\_\_  
(Signed by an Authorized officer of the firm)

\_\_\_\_\_  
Title of officer

\_\_\_\_\_  
Name of firm

\_\_\_\_\_  
DATE

**SECTION-9**  
**DRAWINGS**

## SECTION-10

### **DOCUMENTSTOBEFURNISHEDBYBIDDER**

Sr. No.	Name of Documents for qualification
1.	Registration Certificate E2 and Above
2.	Bank Solvency 20% of Estimated Cost
3.	Pan Card
4.	GST
5.	Tender Fee (DD)
6.	EMD (FDR)