SEEPZ SEZ AUTHORITY

Procurement of Works

(Using E- Procurement mode on Central Public Procurement Portal)

Request for Bids

for

Structural Repair, Civil Repair, Plumbing, Waterproofing and Painting Works of SCB and adjoining Post Office Building at SEEPZ-SEZ, MIDC Central Road, Andheri East, Mumbai 400 096.

Tender Ref. No.: E-OPT-11/179/2022-EO

Date of Issue: 11th January 2023

ISSUING AUTHORITY:

Development Commissioner, SEEPZ- SEZ, Mumbai

Postal Address: SEEPZ SEZ, MIDC Central Road,
Andheri East, Mumbai 400096.

E-Mail: **dcseepz-mah@nic.in**

Helpline No.: 022-28290856

Landline: 022-28294728/29

(From 9:30 A.M. to 6:00 P.M.

KEY INFORMATION AT A GLANCE

SN	Item	Description
1	Tender Ref. No.	E-OPT-E-OPT-11/179/2022-EO
2	Tender Title	Structural Repair, Civil Repair, Plumbing, Waterproofing and Painting Works of SCB and adjoining Post Office Building at SEEPZ-SEZ, MIDC Central Road, Andheri East, Mumbai 400 096
3	Brief Description	Structural Repairs, Civil Repairs, Waterproofing, Plumbing & Painting works including Cleaning & Disposal of debris at MCGM's designated place.
4	Cost of Bidding Documents	Bidding Documents (Request for Bids and other supporting documents, if any) can be downloaded from the following websites free of cost: https://eprocure.gov.in/eprocure/app http://seepz.gov.in/tender.aspx Password:Pre@1
5	Bid Security / EMD Amount	**Rs. 2,44,000/-** in the form of a Fixed Deposit Receipt or a Bank Guarantee from any scheduled bank or a Demand Draft raised in the name of **SEEPZ-SEZ Authority Funds** payable at Mumbai before last date of submission of bids.
6	Date of Tender Publishing	11/01/2023
7	Date and time till which physical visits to SEEPZ SEZ premises are permissible	Date: 11/01/2023 to 22/01/2023 (Working days only) Time: 10:00 AM to 5:00 PM
8	Date and time of the pre-bid meeting	The pre-bid meeting shall be held online on 23/01/2023 at 11:00 PM. Webex link as follow: https://seepz.webex.com/seepz/j.php?MTID=m6e5e1ab3ffcb140c158ba3583c366927 Password: Pre@1
9	Last date and time for Submission of Bids	31/01/2023 up to 1200 hrs
10	Date and time of opening of technical bids	01/02/ 2023 at 1230 hrs
11	Tentative date for publication of technical evaluation results	06/02/2023
12	Tentative date for opening of financial bids	08/02/ 2023
13	Expected date of Award of Contract	09/02/2023
14	Help Desk No. (For eProcurement)	Name: - Smt. Bridget Joe Designation: - EA to DC Email: - dcseepz-mah@nic.in Landline: - 022 – 28294774/274
		Cell No.: - 95978967878 [V.Lakshmanan: Primary Custodian]

		9004226338 [Vallabh Kushte: Secondary Custodian] eProcurement Helpdesk nos. (New Delhi) 0120-4200462, 0120-4001002, 0120-4001005
15	Link for accessing training schedule regarding use of e-procurement portal by consultants may be found at:	https://eprocure.gov.in/cppp/trainingdisp
16	Authority to be contacted in case of any clarification / request for entry permission for physical visit	Name: - Smt. Bridget Joe Designation: - EA to DC Email: - dcseepz-mah@nic.in Landline: - 022 – 28294774/274
KEY CONTRACT TERMS AT A GLANCE		
1	Contract Type	Item Rate Contract (as described in para 3.2.2 of the Manual for Procurement of Works, 2023)
2	Estimated Contract Value	**Rs. 1,22,27,020/-**
3	Date of Commencement	07 Working Days from the date issue of work order issue or the date on which the contractor is instructed to take possession of the site whichever is later.
4	Project Completion Period	03 Calendar Months from Date of commencement.
5	Defect Liability Period	12 Month (Twelve Months) from the date of work completion as certified by the consultants.
6	Performance Security	Successful bidder shall deposit a performance security amounting to 3% of the Contract Price in the form of a Fixed Deposit Receipt or a Bank Guarantee from any scheduled bank or a Demand Draft raised in the name of **SEEPZ-SEZ Authority Funds** payable at Mumbai. In case the bidder has submitted the Bid Security in the form of a demand draft, the amount shall be adjusted in the performance security to be deposited. The performance security shall remain valid till 60 days after the completion of the defect liability period.
7	Water and electricity required for the Works	SEEPZ SEZ Authority shall provide electric power supply at Single Location for entire tenure of the project. Electricity Charges will be @ 0.25% of the project cost. Contractor shall arrange water at their own cost.
8	Labour Stay at Site	Only up to 05 to 10 male labours shall be allowed to stay at site during the execution of work. Contractor shall provide all labour with id-cards bearing all details. Contractor shall be responsible for all arrangements for labour stay, food, medical etc. at their own cost.

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DISCLAIMER

The information contained in this Bidding Documents (hereinafter referred to as "RFB") document provided to the Contractors, by Development Commissioner, SEEPZ SEZ, Mumbai referred to as Employer, or any of their employees or advisors, is provided to the Contractor(s) on the terms and conditions set out in this RFB document and all other terms and conditions subject to which such information is provided.

The purpose of this RFB document is to provide the Contractor(s) with information to assist in the formulation of Bids. This RFB document does not purport to contain all the information each Contractor may require.

This RFB document may not be appropriate for all persons, and it is not possible for SEEPZ, their employees or advisors to consider the business/investment objectives, financial situation and particular needs of each Contractor who reads or uses this RFB document. Each Contractor should conduct its own investigations and analysis and should check the accuracy, reliability and completeness of the information in this RFB document and where necessary obtain independent advice from appropriate sources.

SEEPZ, its employees, other stakeholders or/and advisors make no representation or warranty and shall incur no liability under any law, statute, rules, or regulations as to the accuracy, reliability or completeness of the RFB document.

SEEPZ may, in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information in this RFB document.

The issue of this RFB does not imply that SEEPZ is bound to appoint a Contractor, as the case may be, for the Consultancy and SEEPZ reserves the right to reject all or any of the Applications without assigning any reasons whatsoever.

The Contractor shall bear all its costs associated with or relating to the preparation and submission of its Application including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by SEEPZ, or any other costs incurred in connection with or relating to its Application.

All such costs and expenses will remain with the Contractor and SEEPZ shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by an Applicant in preparation or submission of the Application, regardless of the conduct or outcome of the Evaluation Process.

Section 1 - Notice Inviting Bids

Bid Reference No.: E-OPT-11/179/2022-EO **Date**: 11/01/2023

Tender Title: Structural Repair, Civil Repair, Plumbing, Waterproofing and Painting Works of SCB and adjoining Post Office Building at SEEPZ-SEZ, MIDC Central Road, Andheri East, Mumbai 400 096.

1. The SEEPZ- SEZ Authority invites online Bids from eligible Contractors for the works of Proposed Paver Block Rationalization, Footpath repairs, kerb stone work, Asphalt & Concrete Road Repair, Road Signage, Markings and Painting Work of Main Road in Sector-IV situated at SEEPZ-SEZ, Andheri East, Mumbai 400 096.
2. More details pertaining to the work may be seen under 'Section 5 – Scope of Work and Technical Specifications'.
3. The Bidding process shall be conducted in an online mode on the Central Public Procurement Portal (CPPP) which is publicly accessible using the following web address: https://eprocure.gov.in/eprocure/app. Contractors can download the Bidding Documents free of cost from this portal.
4. In order to be considered for technical evaluation, bids must be accompanied by a bid security (EMD) amounting to **Rs.2,44,000/-.** Permissible bid security instruments, beneficiary details, exemption rules, and submission procedure are provided under 'Section 1 – Instructions to Bidders'.
5. Interested Contractors must register on the e-procurement portal and upload their technical and financial Bids separately within the stipulated date and time i.e. 31/02/2023 up to 1200 Hrs. Bidders are required to upload scanned copy of bid security (EMD) as part of their technical bid. The original copy of the bid security must be submitted physically at the office of the Development Commissioner prior to the deadline for bid submission.
6. Detailed instructions regarding online submission of Bids may be seen under Annexure I. In case of any issues or queries related to the e-procurement portal, kindly send an email request to dcseepz-mah@nic.in or contact on 022-28294731 / 9597896778 (Shri. V.Lakshmanan JE (Civil)).
7. The Contractor is solely responsible for timely uploading of Bids on the e-procurement portal. SEEPZ SEZ Authority shall not be liable for resolving any queries / issues raised on the last day of bid submission.
8. Technical Bids shall be opened online on 01/02/2023 at 15:00 hrs. Contractors can see the tender opening status by logging on to the e-procurement portal using their registered IDs.
9. Financial Bids of only technically qualified Contractors shall be opened at a date which shall be pre-disclosed on the e-procurement portal.
10. SEEPZ SEZ Authority reserves the right to accept any or reject any or all of the Bids at any time during the Bidding process.

11/01/23

Development Commissioner
SEEPZ SEZ Authority

Section 2 – Instructions to Bidders (ITB)

1. Introduction

a) This Section provides the relevant information as well as instructions to assistprospective Bidders in preparation and submission of bids. It also includes the mode and procedure to be adopted by the Procuring Entity, being SEEPZ, SEZ Authority for receipt and opening as well as scrutiny and evaluation of bids and subsequent placement of award of contract.

b) Before preparing the bid and submitting the same to the Procuring Entity, being SEEPZ, SEZ authority, the Bidder should read and examine all the terms & conditions, instructions etc. contained in the Bidding Documents. Failure to provide required information or to comply with the instructions incorporated in this Bidding Documents may result in rejection of bids submitted by Bidders.

c) The successful Bidder will be expected to complete the performance of Services by the Intended Completion Date as provided in the **Bid Data Sheet**.

2. Language of Bids

Bid submitted by the Bidder and all subsequent correspondences and documents relating to the bid exchanged between the Bidder and the Procuring Entity, shall be written in English language. However, the language of any printed literature furnishedby the Bidder in connection with its bid may be written in any other language, provided the same is accompanied by a self-certified English translation and, for purposes of interpretation of the bid, the English translation shall prevail.

3. Code of Integrity

a) The Procuring Entity and all officers or employees of the Procuring Entity being SEEPZ, SEZ authority, whether involved in the procurement process or otherwise, or Bidders and their representatives or Contractor participating in a procurement process or other persons involved, directly or indirectly in any way in a procurement process shall maintain an unimpeachable standard of integrity in accordance with the code of integrity prescribed under GFR 175.

b) In case of breach of the code of integrity by a Bidder or a prospective Bidder, the SEEPZ Authority, after giving a reasonable opportunity of being heard, may take appropriate measures including –

i. exclusion of the Bidder from the procurement process;

ii. calling off of pre-contract negotiations and forfeiture or encashment of bidsecurity;

iii. forfeiture or encashment of any other security or bond relating to procurement;

iv. recovery of payments made by the Procuring Entity along with interestthereon at bank rate;

v. cancellation of the relevant contract and recovery of compensation for lossincurred by the Procuring Entity;

vi. Debarment of the Bidder from participation in any future procurements of anyProcuring Entity for a period of up to three years.

4. Eligibility

a) This invitation to tender is open to all bidders eligible as described in the instructionsto bidders. SEEPZ employees, Committee members, Board members and their relatives (Spouse or Children) are not eligible to participate in the tender. Bidders involved in corrupt and fraudulent practices or debarred from participating in Public Procurement by any state government or any procuring entity of the central government shall not be eligible.

b) The general eligibility conditions applicable to all bidders are as follows:

   i. Bidder shall be a natural person, private entity, government-owned entity or, any combination of these having a formal intent and legal competency to enter into an agreement or contract and are registered under respective Act and Jurisdiction in India;

   ii. Bidder shall have fulfilled his obligation to pay such of the tax payable to the Central Government or the State Government or any local authority;

   iii. Bidder shall not be insolvent, in receivership, bankrupt or being wound up, not have its affairs administered by a court or a judicial officer, not have its business activities suspended and must not be the subject of legal proceedings for any of the foregoing reasons;

   iv. Bidder shall not have, and their directors and officers not have, been convicted of any criminal offence related to their professional conduct or the making of false statements or misrepresentations as to their qualifications to enter into a procurement contract within a period of three years preceding the commencement of the procurement process, or not have been otherwise disqualified pursuant to debarment proceedings;

   v. Bidder shall not be presently debarred by any Procuring Entity under the State Government, the Central Government, Autonomous body, Authority by whatever name called under them.

c) The specific eligibility conditions, if any, shall be as prescribed under the **Bid Data Sheet**.

d) Bidders shall submit a declaration regarding its eligibility vis-à-vis all the criteria mentioned under the instructions to bidders and the bid data sheet.

5. Qualifications

Bidders should substantially meet the qualification criteria as stipulated in the '**Section 4 – Qualification and Evaluation Criteria**'. Bidders should fill and submit the Forms provided in 'Section 6 - Bidding Forms' to provide relevant information and documents in support of fulfilment of Bidder's qualification as part of its technical bid. Only technical qualified bidders shall be processed for valid financial bids (Two Envelope System).

6. e-Tendering Online Bid Submission Process

The e-tender is available on CPPP portal, https://eprocure.gov.in/eprocure/app asmentioned in the tender. The tenders duly filled in should be uploaded and submitted online on or before the end date of submission. More details regarding the online bid submission process may be found under Annexure-II attached to this bidding document.

7. Contents of Bidding Documents

a) The Bidding Documents include the following Sections, which should be read in conjunction with any amendment issued in accordance with ITB.

- Section 1 Notice Inviting Bids (NIB)
- Section 2 Instructions to Bidders (ITB)

- Section 3 Bid Data Sheet (BDS)
- Section 4 Qualification and Evaluation Criteria
- Section 5 Scope of Work and Technical Specifications
- Section 6 Bidding Forms
- Section 7 General Conditions of Contract (GCC)
- Section 8 Special Conditions of Contract (SCC)
- Section 9 Contract Forms
- Financial Bid Template in MS Excel format

a) Unless downloaded directly from the SEEPZ website (http://seepz.gov.in) or the e- procurement portal (https://eprocure.gov.in/eprocure/app) or from any other source as may be specified in the **Bid Data Sheet**, Procuring Entity shall not be responsible for the correctness of the Bidding Documents, responses to requests for clarification, the Minutes of the Pre-bid meeting, if any, or Amendment(s) to the Bidding Documents in accordance with ITB.

b) Bidders are expected to examine all instructions, forms, terms, and specifications in the Bidding Documents and to furnish with its Bid all information or documentation as is required by the Bidding Documents.

8. Clarification of Bidding Documents

a) A Bidder requiring any clarification of the Bidding Documents shall contact the SEEPZ, SEZ authority in writing / email at the Procuring Entity's address specified in the **Bid Data Sheet**.

b) The Procuring Entity will respond in writing / email / through the e-procurement portal to any request for clarification, provided that such request is received prior to the deadline for submission of bids within a period specified in the **Bid Data Sheet**. The Procuring Entity shall also promptly publish brief description of the enquiry but without identifying its source and its response at its website or on the e-procurement portal.

c) Should the clarification result in changes to the essential elements of the Bidding Documents, the Procuring Entity shall amend the Bidding Documents following the procedure given under ITB.

9. Pre-bid Meeting

a) In order to provide response to any doubt regarding Bidding Documents, or to clarify issues, a pre-bid meeting may be scheduled, as specified in the **Bid Data Sheet**.

b) During the pre-bid meeting, the clarification sought by representative of prospective Bidders shall be responded appropriately. However, they shall be asked to submit their written request by close of office next day or by e-mail for electronic record thereof. The Procuring Entity shall publish written response to such requests for clarifications, without identifying its source. In case required, amendment(s), in terms of ITB below shall be issued, which shall be binding on all prospective Bidders.

10. Amendments to Bidding Documents

a) At any time prior to the deadline for submission of bids, the SEEPZ SEZ authority may, for any reason deemed fit by it, amend or modify the Bidding Documents by issuing Amendment(s)/corrigendum.

b) Such Amendment(s)/corrigendum will be published on SEEPZ SEZ authority's website or on the e-procurement portal and the same shall be binding on all prospective Bidders.

c) In order to give reasonable time to prospective Bidders to take necessary action in preparing their bids, the Procuring Entity may, at its discretion, extend the deadline for the submission of bids and other allied time frames which may be linked with that deadline.

d) Any Bidder who has downloaded the Bidding Documents should check the Amendment(s), if any, issued on the SEEPZ SEZ authority website and on the e- procurement portal. The Procuring Entity shall not be responsible in any manner if prospective Bidders miss any Amendment(s) published on Procuring Entity's website or on the e-procurement portal.

11. Documents Comprising Bid

a) Bidder's technical bid shall comprise the following:

- Letter of Bid as per the form provided in Section 6 – Bidding Forms;
- Bid Security;
- Bidder Information Format as per Form provided in Section 6: Bidding Forms;
- Documents establishing Bidders' eligibility and qualification;
- Any other document as required in the ITB or **Bid Data Sheet**;
- An Undertaking duly signed on the letter head from the Bidders to the effect that they agree and abide by the clauses / conditions of Bidding Documents issued by the Procuring Entity and any amendment made thereafter.

b) Bidder's financial bid shall comprise the financial quote submitted in the excel template published along with these bidding documents.

12. Financial Bid

a) The evaluation of financial Proposal shall be excluding GST. Section 16 of the IGST Act categorizes services provided to SEZs as zero-rated. Hence, there shall be no instance of GST.

b) Bidders are expected to quote a percentage above / below the estimated amount. Abnormally low bids shall be treated in accordance with para 5.6.4 of the Manual for Procurement of Works, 2023.

13. Period of Validity of Bids

a) Bids shall remain valid for a period of 180 days from the deadline of submission ofbids unless otherwise specified in the **Bid Data Sheet**.

b) In exceptional circumstances, prior to the expiration of the bid validity period, the Procuring Entity may request Bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its bid.

c) The Bidder who agrees to the extension of the period of validity of bids so requested by the Procuring Entity shall also extend the period of validity of bid securities submitted by them or submit new bid security to cover the extended period of validity of their bids. A Bidder whose bid security is not extended or new bid securities not submitted shall be considered to have refused the request to extend the period of validity of its bids and rejected as non-responsive.

The decision of Procuring Entity will be final and binding in this regard.

14. Bid Security

The Bidder shall furnish as part of its bid, a bid security worth the amount specified in the **Bid Data Sheet** in the form of a bank guarantee or a fixed deposit receipt or a demand draft issued in the name of the beneficiary named in the **Bid Data Sheet**. Scanned copy of the bid security must be uploaded as part of the qualification documents on the e-procurement portal and the hard copy of the bid security must reach the address of the procuring entity as specified in the **Bid Data Sheet** prior to the deadline for bid submission stipulated under ITB 17 a). Bids unaccompanied by a Bid Security in the required format shall be rejected by the Procuring Entity.

15. Format and Signing of Bids

a) The technical bids comprising all documents specified under ITB Clause 11 a) may be compiled into a single PDF document. All pages in the document should be serially numbered and an index specifying contents of the bid should be populated atthe beginning of the document.

b) Authorized signatory of the bidder shall sign, either physically or digitally, on each page of the bid. This signature should be accompanied by bidder's official seal.

c) The financial bid must be submitted in the MS excel template provided with the bidding documents.

16. Sealing, Marking and Submission of Bids

a) Consultants shall digitally sign and upload their technical and financial bids in separate folders provided on the e-procurement portal.

b) The procedure for online submission of bids shall be in accordance with the instructions given under Annexure I.

17. Deadline for Submission of Bids

a) Bids must be received by the Procuring Entity online on the e-procurement portal and the hard copy of the bid security, at the address specified in ITB 14 above, no later than the date and time specified inthe **Bid Data Sheet**.

b) The date of submission and opening of bids shall not be extended except when:

- sufficient number of bids have not been received within the given time and the Procuring Entity is of the opinion that further bids are likely to be submitted if time is extended; or
- the Bidding Documents are required to be substantially modified as a result of discussions in pre-bid meeting or otherwise and the time for preparations of bids by the prospective Bidders appears to be insufficient for which such extension is required.

c) In cases where the time and date of submission of bids is extended, an amendment tothe Bidding Documents shall be issued in accordance with ITB 10.

18. Late Bids

The e-procurement portal does not permit late submission of bids. With regards to the physical submission of bid security, late submission shall not be accepted under any circumstances.

19. Opening of Bids

a) The technical bids shall be opened online on the date and time stipulated in the **Bid Data Sheet**.

b) After due evaluation of the technical bids, the procuring entity shall notify the technically qualified bidders regarding the date of financial bid opening by giving at least 3 days' advance notice on the e-procurement portal.

c) The financial bids of only technically qualified bidders shall be opened.

20. Confidentiality

a) Information relating to the evaluation of bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with the bidding process until the same is published officially on the e- procurement portal for information of all Bidders.

b) Any effort by a Bidder to influence the Procuring Entity in the evaluation or contract award decisions may result in the rejection of its Bid.

21. Preliminary Examination of Bids

a) The Bid Evaluation Committee constituted by the Procuring Entity shall conduct a preliminary scrutiny of the opened bids at the beginning to assess the prima-facie responsiveness and record its findings thereof particularly in respect of the following:

- that the bid is complete and duly signed by authorized signatory;
- that the bid is valid for the period, specified in the Bidding Documents;
- that the bid is accompanied by Bid Security declaration;
- that the bid is unconditional and that the Bidder has agreed to give therequired performance security; and
- any other specific requirements put forth in the bidding documents.

b) Bids failing to meet these preliminary requirements shall be treated as non- responsive and shall not be considered further for evaluation.

22. Immaterial Non-conformities

a) The Bid Evaluation Committee may waive non-conformities in the bid that do not constitute a material deviation, reservation or omission and deem the bid to be responsive;

b) The Bid Evaluation Committee may request the Bidder to submit necessary information or documents which are historical in nature like audited statements of accounts, tax clearance certificate, PAN, etc. within a reasonable period of time. Failure of the Bidder to comply with the request within the given time shall result in the rejection of its bid;

c) The Bid Evaluation Committee may rectify immaterial non-conformities or omissions on the basis of the additional information or documentation received fromthe Bidder.

23. Determination of Responsiveness

a) The Bid Evaluation Committee constituted by the Procuring Entity shall determine the responsiveness of a bid to the Bidding Documents based on the contents of the bid submitted by the Bidder;

b) A bid shall be deemed to be substantially responsive if it meets the requirements of the Bidding Documents without any material deviation, reservation, or omission where: -

i. "deviation" is a departure from the requirements specified in the Bidding Documents;

ii. "reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Documents; and

iii. "omission" is the failure to submit part or all of the information or documentation required in the bidding documents.

b) A "material deviation, reservation, or omission" is one that, if accepted, shall:-

i. Effect in any substantial way the scope, quality, or performance of the subject matter of procurement specified in the Bidding Documents; or

ii. Limit in any substantial way, inconsistent with the Bidding Documents, the rights of the Employer or the obligation of the Bidder under the proposed contract; or

iii. If rectified shall unfairly affect the competitive position of other Bidders presenting responsive bids;

c) The Bid Evaluation Committee shall examine the technical aspects of the bid in particular to confirm that all requirements of Bidding Documents have been met without any material deviation, reservation or omission;

d) The Bid Evaluation Committee shall regard a bid as responsive if it conforms to all requirements set out in the Bidding Documents, or contains minor deviations that do not materially alter or depart from the characteristics, terms, conditions and other requirements set out in the Bidding Documents, that is, there is no material deviation, or if it contains errors or oversights that can be corrected without any change in the substance of the bid;

e) Bids that are not responsive or contain any material deviation shall be rejected. Bids declared as non-responsive shall be excluded from any further evaluation.

24. Non-conformities, Errors and Omissions

a) Provided that a Bid is substantially responsive, the Bid Evaluation Committee may waive any nonconformity in the Bid.

b) Provided that a bid is substantially responsive, the Procuring Entity, being SEEPZ, SEZ authority or authorized representative may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the bid related to documentationrequirements. Such omission shall not be related to any aspect of the price of theBid. Failure of the Bidder to comply with the request may result in the rejection ofits Bid.

c) Provided that a bid is substantially responsive, the Bid Evaluation Committee shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non- conforming item

or component.

25. Evaluation of Bids

a) Technical evaluation of bids shall be carried out based on the criteria stipulated under '**Section 4 – Qualification and Evaluation Criteria**'. The evaluation committee shall not adopt any other criteria other than the ones already stipulated in the bidding documents.

b) The evaluation of financial Proposal shall exclude GST. Section 16 of the IGST Act categorizes services provided to SEZs as zero-rated. Hence, there shall be no instance of GST.

c) The Procuring Entity's evaluation of a bid may require the consideration of other factors, in addition to the bidder's financial offer. These factors may be related to the characteristics, performance, and terms and conditions of purchase of Non- Consultancy Services. The effect of the factors selected, if any, shall be expressed in monetary terms to facilitate comparison of bids, shall be specified in Section 4 - Qualification and Evaluation Criteria.

26. Right to Accept Any Bid and to Reject Any or All Bids

The Procuring Entity reserves the right to accept or reject any bid, and to cancel / annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to the Bidders for which the Procuring Entity shall keep record of clear and logical reasons properly for any such action / recall of bidding process. In case of cancellation / annulment, all bids submitted and specifically, bid securities, shall be promptly returned to the Bidders.

27. Award Criteria

Subject to its bid being technically qualified, unconditional and complete, the bidderoffering the lowest rate shall be considered for award of contract.

28. Notification of Award

a) Prior to the expiration of the period of bid validity, the Procuring Entity shall notify the successful Bidder, in writing, that its Bid has been accepted. The notification letter (hereinafter and in the Conditions of Contract and Contract Forms called the "Letter of Acceptance") shall specify the accepted bid price. The expected date of award of contract is as stipulated under **Bid Data Sheet**.

b) Until a formal Contract is prepared and executed, the Letter of Acceptance shall constitute a binding Contract.

29. Performance Security

a) Within twenty-eight (28) days of the receipt of Letter of Acceptance from theProcuring Entity, the successful Bidder shall furnish the Performance Security in the form of a bank guarantee or a fixed deposit receipt or a demand draft issued in the name and amount stipulated in the **Bid Data Sheet**.

b) Failure of the successful Bidder to submit the above-mentioned Performance Security or to sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Procuring Entity may award the Contract to the next highest evaluated Bidder, whose bid is substantially responsive and is determined bythe Procuring Entity to be qualified to perform the Contract satisfactorily.

c) The validity of the performance security shall remain valid for a period of 60 days after the defect

liability period.

30. Other Statutory Compliances

Successful bidder shall fulfil insurance and other statutory requirements including submission of signed undertakings assuring compliance with the various standards stipulated in the conditions of contract, failing which the course of action stipulated under ITB clause 29 b) shall be applicable.

31. Signing of Contract

Promptly after notification of Award, the Procuring Entity shall send the successful Bidder the Contract Agreement. Within twenty-eight days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Procuring Entity.

Section 3 – Bid Data Sheet (BDS)

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

ITB Para Reference	Amendments / Additions / Deletions
ITB 1 c)	The intended completion date is:
ITB 4 c)	There are no special eligibility conditions.
ITB 7 b)	The official website of SEEPZ SEZ Authority is: http.//seepz.gov.inThe e-procurement portal is: https://eprocure.gov.in/eprocure/app
ITB 8 a)	The Procuring Entity's address for seeking clarifications is: Office of the Development Commissioner, SEEPZ SEZ, MIDC Central Road,Andheri East, Mumbai – 400096 The email address is: dcseepz-mah@nic.in Queries may also be raised by using the 'seek clarifications' option available onthe e-procurement portal.
ITB 8 b)	The bidders may submit their requests for clarification no later than 10 days prior to the deadline for submission of bids.
ITB 9 a)	The pre-bid meeting shall be held electronically at 11:00 Hrs on 23/01/2023 on Webex link follows: https://seepz.webex.com/seepz/j.php?MTID=m6e5e1ab3ffcb140c158ba3583c366927 Password:Pre@1
ITB 11 a)	MSME bidders shall submit relevant documentation pertaining to their MSME status and supporting documents for exemption claims made.
ITB 13 a)	No change. Bids shall remain valid for a period of 180 days.
ITB 14	The amount of bid security is: **Rs. 2,44,000/-** Bid security, if submitted in the form of a demand draft, should be payable at Mumbai, in favour of the following beneficiary: "SEEPZ-SEZ Authority Funds" Address for submission of hard copy of the bid security is: Office of the Zonal Development Commissioner, SEEPZ SEZ, Andheri (E), Mumbai 400096
ITB 17 a)	The deadline for submission of bids is 12:00 Hrs on 31/01/2023.

ITB 19 a)	The technical bids shall be opened online at 15:00 Hrs on 01/02/2023.
ITB 28 a)	The expected date of award of contract is 09/02/2023.
ITB 28 a)	The amount of performance security to be submitted by successful bidder shall be 3% of the accepted price. Performance security, if submitted in the form of a demand draft, should be payable at Mumbai, in favour of the following beneficiary: “SEEPZ-SEZ Authority Funds”

Annexure I - Instructions for Online Bid Submission

Bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

REGISTRATION

1. Bidders are required to enrol on the e-Procurement module of the Central Public Procurement Portal (URL: https://eprocure.gov.in/eprocure/app) by clicking on the link "Online bidder Enrolment" on the CPP Portal which is free of charge.
2. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
3. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
4. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.), with their profile.
5. Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
6. Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

SEARCHING FOR TENDER DOCUMENTS

1. There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
2. Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
3. The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS

1. Bidder should take into account any corrigendum published on the tender document before submitting their bids.

2. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
3. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
4. To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" or ''Other Important Documents'' area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

   Note: My Documents space is only a repository given to the Bidders to ease the uploading process. If Bidder has uploaded his Documents in My Documents space, this does not automatically ensure these Documents being part of Technical Bid.

SUBMISSION OF BIDS

1. Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
2. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
3. Bidder has to select the payment option as "offline" to pay the tender fee / EMD as applicable and enter details of the instrument.
4. Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time.
5. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be

changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.

6. The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
7. All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid opener's public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
8. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
9. Upon the successful and timely submission of bids (i.e. after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
10. The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

ASSISTANCE TO BIDDERS

1. Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
2. Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk.

More information useful for submitting online bids on the CPP Portal may be obtained at: https://eprocure.gov.in/eprocure/app. Bidders are requested to note that CPPP is built and maintained by the National Informatics Centre and that the Procuring Entity is not responsible for any technical issues related to the CPP Portal. All information contained in this annexure is taken directly from the CPP Portal.

Section 4 –Qualification and Evaluation Criteria

This Section contains all the criteria that the SEEPZ SEZ Authority shall use to evaluate bids and qualify the Bidders in accordance with ITB 25. No other factors, methods or criteria shall be used for the purpose of evaluation.

Technical Evaluation Process

1. Preliminary Examination of Bids and Determination of Responsiveness

The evaluation committee shall carry out the preliminary examination of bids and shall determine the responsiveness of bids based as per the procedure stipulated under ITB 22, 23, 24 and 25.

2. Qualification Requirements

The SEEPZ SEZ Authority shall assess qualifications of participating bidders according to the following criteria, based on the corresponding documentary evidence to be submitted by the bidders:

SN	Criteria	Description	Supporting Documents
1	Legal Status	a. Bidder must be a valid legal entity registeredwith appropriate government authority in theform of a firm / company / LLP and must bein existence for at least 5 years (i.e. since FY2016-17) b. Bidder must be registered with GSTN and must possess a valid PAN.	a. Registration / Incorporation certificate; bidder's contact details and details of ownership. b. Copies of GST Registration and PAN
2	Financial Capability	a. Bidder must have an average annual turnover of at least 250.00 lakhs during past 3 financial years (FY 2019-20, 20-21 & 21-22). b. Bidder must have a positive net worth as on 1st April 2022. c. Bidder must have solvency of at least Rs.90.00 Lakh as on the date of publication of this RFB.	a & b. Relevant excerpts of the audited financial statements clearly indicating the turnover and the net worth. c. Solvency certificate from a bank clearly stating the solvency for this project.
3	Experience	Bidder must have successfully completed similar works during last seven financial years a. Three similar completed works amounting to Rs.90.00 Lakh each; or b. Two similar completed works amounting to Rs. 135.00 Lakh each; or c. One similar completed work amounting to Rs. 180.00 Lakh.	Completion certificates issued by the clients clearly indicating the contract value, period and scope of works.
4	Personnel	a. Bidder must have at least **02** qualified engineers on its payroll. b. Bidder must have necessary technical and managerial skillsets inhouse to undertake the works.	a. Profiles of the engineers and recent PF challans. b. Self-certification by the director / HR head of the bidder's entity.
5	Equipment	Bidder must own / have lease arrangements for all tools / machinery required to complete	List of tools / equipment required and available for this project

		the works as mentioned in the scope of work / technical specifications.	along with ownership / lease details.
6	Non-debarment	Bidder must not be presently debarred by any central government entity or a PSU or any other autonomous body; any state government; or any multilateral funding agency such as The World Bank, Asian Development Bank, etc.	Self-certification by the director / proprietor of the company.
7	License	Must registered with the CPWD as Class IV contractor or higher. Equivalent level of registration with Maha PWD / MIDC / CIDCO / MCGM / Railway / MJP may be considered in lieu of CPWD registration.	Details of registration with authentication mark of the issuing agency.

Bidders must ensure that the documentary evidence submitted by them as proof of their qualification must provide the necessary information in adequate details to establish the facts without a scope for doubt. Any scanned documents being submitted must possess adequate resolution to ensure their legibility without confusion. In case any information necessary for establishing bidder's qualifications is not clear from the documents submitted, the evaluation committee's interpretation in that regard shall be final. Incomplete or unclear documents may lead to disqualification of the bidder.

Financial Evaluation Process

1. Financial Bids of only techno-commercially qualified bidders shall be opened.

2. For the purpose of financial evaluation, the evaluation committee shall use the comparison sheet generated on the e-procurement portal after financial bid opening. However, in case of any technical issues in identifying the lowest bidder using the system-generated comparison sheet, the evaluation committee may prepare a comparison sheet manually.

3. The technically qualified bidder offering the lowest financial bid (L1) shall be considered for award of contract. In case of multiple L1s, bidder with higher turnover shall be considered for award of contract.

Section 5 – Scope of Work and Technical Specifications

SCOPE OF WORK

1. ENABLING SYSTEM
   - 1.1. Supplying and Erecting Single/Double Bamboo Scaffolding
   - 1.2. Jute Kantan (Tarat) Screen
   - 1.3. Safety Nylon Net
   - 1.4. Window Covering
   - 1.5. Breaking of Existing Cement Plaster in patch
   - 1.6. Breaking of Existing Waterproofing Layer
   - 1.7. Chipping of R.C.C
   - 1.8. Injection Nipples
   - 1.9. Removal of the Debris
   - 1.10. M.S. steel Props
   - 1.11. Temporary platforms for A.C
   - 1.12. Removing & refixing existing ACP Sheets
   - 1.13. Dismantling Roofing Sheets
2. STRUCTURAL REPAIRS & CIVIL REPAIRS
   - 2.1. Polymer Modified Mortal
   - 2.2. Micro Concreting
   - 2.3. Pro & Fix Steel
   - 2.4. Shear Connectors
   - 2.5. Epoxy Grouting
   - 2.6. External Sand Face Plaster in patch.
   - 2.7. Dash Cost
   - 2.8. M -20 Concreting
   - 2.9. Separation joint filling
   - 2.10. Chicken Mesh
   - 2.11. Glass Cleaning
   - 2.12. Silicon Sealant filling

3. WATERPROOFING
   - 3.1. Terrace, & Balcony Waterproofing.
   - 3.2. Balcony, Water Tank Top & Head Room Top Waterproofing
   - 3.3. Water Tank Inside Waterproofing
   - 3.4. Injection Grouting
   - 3.5. R.C.C. Coping

4. PLUMBING WORK

4.1. Providing & Fixing CPVC Loop line Pipe

- 50 mm Dia CPVC Pipe
- 40 mm Dia CPVC Pipe
- 25 mm Dia CPVC Pipe
- 20 mm Dia CPVC Pipe

4.2. Providing & Fixing Gate Valve 40mm

4.3. Providing & Fixing Gate Valve 25mm

4.4. Providing & Fixing Non-Return Valve 50mm

4.5. Providing & Fixing PVC Pipe

- 160 mm Rain Water Line
- 100 mm Rain Water Line
- 100 mm W/C Line
- 100 mm Vent Line
- 75 mm W/C Line
- 75 mm Rain Water Line
- 75 mm Vent Line

4.6. Providing and Fixing CPVC Pipe Line in Duct Area

- 50 mm Dia CPVC Pipe
- 40 mm Dia CPVC Pipe
- 25 mm Dia CPVC Pipe

4.7. Providing and Fixing New Gate Valve

- Gate Valve 32 mm

4.8. Wall Piece

4.9. G.I. Bracket

4.10. Gutter for Rainwater

4.11. G.I. Corrugated Sheet Roofing

5. PAINTING WORK

5.1. External Surface Preparation

5.2. External Synthetic Texture Paint

5.3. Exterior Weather Shield Paint

5.4. Primer Paint

5.5. Oil Paint on Old/New Steel

TECHNICAL SPECIFICATIONS

A. GENERAL WORK

1. External Scaffolding & Hessian cloth covering:

1.1. Conventional scaffolding shall be of vertical members of steel/bamboos, spaced and filled by suitable horizontal members secured to each other firmly. This scaffolding shall be double, both connected and braced properly, and secured by connecting with the members of permanent structure, at regular intervals. No holes shall be permitted in external brickwork. Necessary platforms, railings and safety nets, safety belts, helmets, etc. shall be provided to ensure the safety of workers. To reduce the height of falling debris intermediate platforms on the scaffolding shall be erected. Access for labour and staff to the platform from the flats at the relevant levels will be given, if possible. Alternatively, adequate and safe lifting tackle for men and materials shall be provided by the tenderer at his own cost.

1.2. Stitched hessian shall be tied to the external face of the scaffolding/platforms in order to avoid lumps of broken concrete flying around and causing accidents. Fencing at ground level shall be erected to dissuade third persons entering the work area.

1.3. Any additional arrangement and/or any alterations/additions to the normal scheme of the scaffolding for overcoming obstructions in the plan and elevations of the building shall be thought of and provided for in the quoted rates.

2. Window Covering:

2.1. Windows/doors/openings shall be covered with plywood or tin sheets and properly secured to protect the shutters and glass panes from falling debris, and to keep the dust out.

2.2. Any equipment, furniture, fixtures, fittings etc., adjacent to the work area, should be either removed or adequately covered (as advised by the consultant) to avoid damage/breakage during the progress of work.

3. Propping & Shoring:

3.1. The guidelines outlined on sketches shall be followed.

3.2. Steel tube adjustable props are preferred. The sections of timber props, if used, shall be adequate to support the structure temporarily as directed by consultant.

3.3. Bracings, base plates and wedging etc. are an integral part of the system. Providing adequate bracings, base plates and wedges is obligatory to have been included in the scheme for propping and shoring.

3.4. The propping and shoring shall be kept and maintained in position till required as directed by the Consultant.

B. STRUCTURAL/CONCRETE REPAIRS

1. Preparatory Work:

Categories of damage to concrete. Generally, there will be four categories of defective concrete. The defects of design or construction are many times aggravated by corrosion of reinforcement and consequent damage to the concrete.

1.1. **Category No. 1**: Core concrete is sound, but the concrete cover is cracked, reinforcement is slightly rusted, but replacement of steel is not required.

1.2. **Category No. 2 :** Damage due to corrosion of reinforcement which itself is in tolerable state but core concrete is unsound due to inherent honeycombing, voids, cavitation, deterioration etc.

1.3. **Category No. 3 :** Damage where corrosion of reinforcement is severe, the core concrete is compact and sound, but the concrete cover is cracked or spalled and corroded reinforcement is required to be restored by additional reinforcement.

1.4. **Category No. 4:** Damage where corrosion of reinforcement is severe and core concrete is also unsound. Reinforcement is to be replenished by additional reinforcement.

2. Defining the damaged area:

2.1. The doubtful area shall be checked. Any loose plaster or cover coating shall be removed to expose the affected concrete surface.

2.2. In case the exposed concrete surface is found to be sound but the plaster having come off due to lack of bond, the area shall be demarcated for re-plastering only.

2.3. In case the exposed concrete is found to be damaged, then the damaged concrete shall be demarcated for repairs as described.

3. Chipping/Demolition/Breaking of RCC/Plaster/Brick OR any others:

3.1. All precautions shall be taken by providing guard rails, barricading and covers in the interest of the safety of passers-by.

3.2. The debris shall be stacked as neatly as possible and carted away as soon as possible to the Municipal approved dumping area.

4. Surface preparation:

4.1. All loose, disintegrated and cracked concrete shall be removed carefully by chipping hammer and/or chisel to expose sound concrete and to expose the rusted reinforcement if any. The removal of concrete shall be extended at least 150 mm. beyond the rusted length of reinforcement. Care shall be taken to leave sound and compact concrete undisturbed and to ensure that any good bond between the embedded reinforcement and parent concrete is not broken.

4.2. All exposed sound concrete shall be chipped to roughen in order to receive the new treatment.

4.3. The peripheral edges of broken concrete shall be cut true and in rectilinear patterns. Re-entrant/angled corners shall be chamfered.

4.4. Plaster or coating, shall be removed to the extent of 100 mm. beyond the cut edges of the damaged concrete.

4.5. Any inherent honeycombing, voids, cavitation etc. shall be noted and marked for grouting.

4.6. All unwanted foreign materials shall be removed by wire brushing and washing with a water jet.

4.7. Any existing reinforcement reduced in size, beyond acceptable limits and certified as such by the consultant, shall be cut and removed.

4.8. The remaining reinforcement shall be cleaned thoroughly of all scales, rust and blemishes by light chipping and scrubbing with wire brush. An approved rust remover shall be used if so, instructed by the consultant.

5. Reinforcement: Providing New Reinforcement {in case of category of damage to concrete Category: 3 & 4}:

5.1. Any dislodged but acceptable reinforcement shall be anchored by means of dowels secured in the parent concrete, locking the reinforcement in position as shown in detailing sketches and/or as directed by the consultant.

5.2. Where the existing reinforcement has rusted and wasted to an extent where it cannot be accepted, new reinforcement in the form of steel bars or welded mesh shall be provided as directed by the consultant.

5.3. The new reinforcement shall be clean and free from loose mill scales, dust, rust, paint, oils etc. which may affect bonding between bars and concrete.

5.4. The reinforcement is represented diagrammatically on drawings and sketches; the same is not necessarily shown in true projection. The reinforcement shall be assembled in accordance to clause no. 11 of IS: 456-1978.

5.5. The new reinforcement shall be fixed to parent concrete by means of dowels secured in parent concrete as shown on the sketches as or directed by the consultant.

5.6. Reinforcement shall not be bent after being embedded in concrete. Laps in reinforcement may be allowed only with the prior approval of the consultant. The lap length shall be as specified.

5.7. Reinforcement may be required to be welded to the existing reinforcement as directed. The welding shall be in accordance with the recommendations of relevant standards for welding of steel bars used in reinforced concrete constructions.

5.8. The gaps and contact between the exposed steel and parent concrete shall be caulked with a specified epoxy putty.

5.9. The reinforcement old and new shall then be coated with a specified protective coat.

6. <u>Making Good the Broken Concrete by Polymer Modified Mortar</u>

All areas so chipped shall be subjected to water cleaning and drying. No deleterious material shall be left on the chipped surfaces. It is essential that the loose and cracked concrete shall be properly removed. It is essential that concrete around the rebar, which shows corrosion shall be removed properly, and sufficiently to ensure proper cleaning of rust from the rebar.

In case the distressed concrete extends into the core of the section it is essential to seek the consultant's approval prior to removal of this concrete. It is essential also to design proper support system and prop the area prior to removal of concrete beyond 5 mm inside the core area.

6.1. BOND COAT:

6.1.1. The specific quality requirements as stipulated in STS 6 above for a common work of bonding needed in restoration shall be followed. All the test facilities are generally not available even in sophisticated laboratories in the country. Few manufactures do have such an in-house facility with them. The difficulty therefore lies in strict stipulations and their subsequent job-site compliance. Therefore, reliability of the product quality is important. The coat of approved material shall be applied to all exposed surfaces of concrete at least 20 minutes prior to polymer modified mortar / treatment. The material to be used shall be non-acidic in nature. List of approved material is given in the document. Only those materials approved shall be allowed to be used unless equivalent permitted by PMC in case of non-availability. All chemicals used for Rust Inhibition, Bond coat, Polymer Modified Mortar shall be of same generic and same manufacturer to maintain homogeneity.

6.1.2. The items to be used shall comply with all requirements as specified in STS 6 and the material purchased shall be given in the consultants' custody in the original manufacturer's sealed manner. It shall always remain in the client's store &custody.

6.2. Execution

6.2.1. Preparation of concrete surface

Concrete surfaces to which bonding chemicals are to be applied shall be exposed; this parent concrete should be free of loose and unsound materials. Surfaces shall be prepared by mechanical abrasion or using sand blasting/ stiff wire brushing as instructed by engineer.

6.2.2. Inspection of concrete surface prior to bond coat application.

6.2.2.1. All concrete surfaces prior to applications of coating shall be thoroughly inspected and approved by the consultant.
6.2.2.2. Surfaces shall be free from any deleterious materials, such as oil, dust, dirt etc.
6.2.2.3. Adhesive mixes permitted for Epoxies only. Polymers come in ready to use packages.
6.2.2.4. Bonding components shall be mixed in a clean container free from harmful residue or foreign particles.
6.2.2.5. Epoxy components shall be thoroughly blended with a mechanical mixer to a uniform and homogeneous mixture. Small batches (up to 1 liter) however shall be allowed by manual mixing such as using spatulas,

palette knives etc.

6.2.3. Coating application on concrete / shot Crete / mortar placement

6.2.3.1. Work of application of bonding coat shall not be allowed to be performed beyond 40C atmospheric temperatures. In case the temperature is above specified then it is essential that cooling of the surface shall be done by water application and then drying the surface of free water.

6.2.3.2. Bonding coat shall be applied to concrete surfaces by spray equipment. However, contractor may apply the coating by brush, subject to the permission of engineer.

6.2.3.3. Fresh plastic concrete as per suggested system of modification shall be applied while coat is still tacky. If Bond coat cures to extent of losing its tacks before plastic modified concrete is placed, the same shall be removed or slightly abraved and second coat of Bond coat applied.

6.2.3.4. Freshly placed plastic concrete shall be thoroughly consolidated to ensure full bonding of new concrete.

6.3. POLYMER MODIFIED MORTAR:

The material used shall be as per the comparison of the infra spectrometer graph of the product the contractor wishes to use with that of the recommended product. The decision of the consultant as regards to the generic and brand shall be final for this contract and the contractor shall use only the material so approved.

6.3.1. Mortar mixes

6.3.1.1. Mix polymer components in clean container free of harmful residue of foreign particles.

6.3.1.2. Temperature from preparation of polymer mortar to application should be between0 to 40 degree centigrade, otherwise as recommended by manufacturer.

6.3.1.3. Thoroughly blend polymer with a mechanical mixer to uniform and homogeneous mixture if the polymer is more than one month old.

6.3.1.4. The proportion of mixing the polymer for modification shall be decided by the use of the modified mortar. For use in cover replacement the percent of polymer can be limited to 15 percent. However, for core replacement or in case of sections where distress is due to over stressing 20% modification is required.

6.3.1.5. Polymer Modified Mortar application. Modified mortar shall be prepared by first mixing all dry components in dry state mix required quantity of polymer with equal volume of water mixture. Mix the dry system and polymer and water mixture. Mix thoroughly by workable mix. For 1 bag of cement 7.5 Kg of polymer shall be used and the mortar shall be used 1: 3 volumetric mix.

6.3.1.5.1. Apply polymer modified mortar to concrete surface by hand packing and then sanding machine. Thickness shall be within the limits recommended by the manufacturer. Additional layers shall be applied to bring the surface to line and level as required.

6.3.1.5.2. Work polymer modified mortar into place and consolidate thoroughly so that all contact surfaces are wet by the mortar and entrained air is reduced to the level recommended by manufacturer.

6.3.1.5.3. Finish surface of polymer modified mortar to texture, Colour, and smoothness required for the specific application. This mortar coat should be finished by application of plain cement mortar in 1: 3 using 53-grade cement. No water curing shall be applied to polymer modified mortar surface. However, over coat of plain cement mortar shall be cured with water as required after 12 Hrs.

6.3.1.5.4. Upon completion of finishing operations, allow mortar to cure in accordance with normal curing practices for polymer modified mortars.

6.3.2. Curing

6.3.2.1. All polymer treated surfaces can either be immediately covered with plain cement mortar, then cured after 12 hours or the surfaces can be left to naturally cure without sprinkling water for two days and then covered with second coat of plaster.

6.3.2.2. All plastered surfaces shall be water cured for seven days with the firsttwo days the curing being done every five to six hours. When the atmospheric temperature of the site exceeds 40 degree Celsius then curing shall be resorted to as many times as required to keep the surface moist or to ensure the mortar temperature does not rise.

C. GROUTING AND SEALING:

1. <u>Grouting for Surface Repair:</u>

1.1.1. PRODUCTS.

1.1.1.1. All components used for grouting repair system are to be from one of the approved makes of polymers. All components are to be of the same make. No components of different makes can be used in

conjunction with each other.

1.1.1.2. The products shall only be from the approved list of companies.

1.1.1.3. Proper care is to be taken when using the material to maintain the required consistency and purity.

1.1.1.4. Only polymer latexes based on styrene butadiene (SBR) or acrylics can be used. The latex should have solid to a maximum of 45% and minimum of 35%. The physical, chemical and structural properties of the material used are to be submitted and specific approval to be seeked for the material/system to be used.

1.1.2. SURFACE INSPECTION AND PREPARATION

1.1.2.1. All surfaces to be treated are to be exposed to the base level with removal of all claddings, plasters, facades, waterproof layers etc. The surface is to be examined for surface cracks, crevices, spalls and honey combing.

1.1.2.1.1. Concrete surface to which treatment is to be applied shall be freshly exposed parent concrete free of loose and unsound materials. Prepare surfaces by mechanical abrasion unless prohibited by environmental limitations in which case acid etching may be used.

1.1.2.1.2. Mechanical abrasion: - Use sandblasting or scarifying or water blasting or other approved means.

1.1.2.1.3. Acid etching: -Etch surface with a commercial grade (22 deg Baume) of hydrochloric acid diluted at a ratio of 10:90 to 20:80. After this application, scrub surface with a stiff bristled broom, brush, or similar implement. Immediately after foaming action of acid has subsided, flush surface with water jets until all residue is removed. Repeat procedure until laitance is completely removed. Wash such areas with water at least three times and allow to air dry prior to further treatment. This method of cleaning is to be used only in exceptional cases and under normal cases permission will not be given for use of this method.

1.1.2.2. Inspection of concrete surfaces prior to mortar application

1.1.2.2.1. Inspect all concrete surfaces prior to application of mortar to ensure that requirements of this Article are met

1.1.2.2.2. Surfaces shall be free of any deleterious materials such as laitance, curing compounds, dust, dirt, and oil. Materials resulting from surface preparation specified shall be removed.

- All concrete surfaces shall be dry unless a water - insensitive coating is used. Surface temperature shall be at least 40F to permit wetting of concrete surface by polymer coating.
- Evaluate moisture content for concrete by determining if moisture will collect at surfaces. This may be accomplished by taping a 4 x 4 ft polyethylene sheet to concrete surface. If moisture collects on underside of polyethylene sheet before polymer would cure, then allow concrete to dry sufficiently. Drying of the surfaces can be accomplished by either heating the surfaces by blowlamps or by use of sawdust, sand or any other means so that the surface is bone-dry.

1.1.3. Identification of method of grouting.

1.1.3.1. Locate the cracks by either surface inspection or by scrubbing the surface. In case the cracks are not visible to naked eye use compressed air to clear the crack marks. Having identified the cracks use light chisel or mechanical/ electrical saws to clear the crack upto the depth of the crack. In case widening of the crack is necessary to reach the depth of the crack it is advisable to do so at this juncture.

1.1.3.2. After clearing/ widening the crack use compressed air/ water jet to clean the opened crack surface. Ensure that the surface is dried in case water jet is used.

1.1.3.3. A method of grouting through three rows of grout nipple is to be adopted for all such cases. Insertion of the grout nipples are as per the specification. The section shall then be subjected to a series grouting as per specification. This grouting shall be adopted with a mix of proper consistency. Once the grouting is completed the top surface shall be cleaned and brought to level. The surface shall be then left for proper setting of the grout for about 48 hours.

1.1.3.4. Proper curing and safety precaution that form the integral part of the specification herein under referred shall be also followed in totality. The surface shall be ponded with water for ten days to test leakage.

2. <u>Grouting For Distressed Concrete:</u>

2.1. PRODUCTS.

2.1.1. All components used for grouting repair system are to be from one of the approved makes of polymers. All components are to be of the same make. No components of different makes can be used in conjunction with each other.

2.1.2. The products shall only be from the approved list of companies.

2.1.3. Proper care is to be taken when using the material to maintain the required consistency and purity.

2.1.4. Only polymer latexes based on styrene butadiene (SBR), acrylics, or epoxies can be used. The latex should

have solid to a maximum of 50% and minimum of 40%. The physical, chemical and structural properties of the material used are to be submitted and specific approval to be seeked for the material/system to be used.

2.2. Surface inspection and preparation

2.2.1. All surfaces to be treated are to be exposed to the base level with removal of all claddings, plasters, facades, waterproof layers etc. The surface is to be examined for surface cracks, crevices, spalls and honey combing.

2.2.1.1. Concrete surface to which treatment is to be applied shall be freshly exposed parent concrete free of loose and unsound materials. Prepare surfaces by mechanical abrasion unless prohibited by environmental limitations in which case acid etching may be used.

2.2.1.2. Mechanical abrasion: - Use sandblasting or scarifying or water blasting or other approved means.

2.2.1.3. Acid etching: - Etch surface with a commercial grade (22 deg Baume) of hydrochloric acid diluted at a ratio of 10:90 to 20:80. After this application, scrub surface with a stiff bristled broom, brush, or similar implement. Immediately after foaming action of acid has subsided, flush surface with water jets until all residue is removed. Repeat procedure until laitance is completely removed. Wash such areas with water at least three times and allow to air dry prior to further treatment. This method of cleaning is to be used only in exceptional cases and under normal cases permission will not be given for use of this method.

2.2.2. INSPECTION OF CONCRETE SURFACES PRIOR TO MORTAR APPLICATION

2.2.2.1. Inspect all concrete surfaces prior to application of mortar to ensure that requirements of this Article are met.

2.2.2.2. Surfaces shall be free of any deleterious materials such as laitance, curing compounds, dust, dirt, and oil. Materials resulting from surface preparation specified shall be removed.

2.2.2.3. All concrete surfaces shall be dry as defined below unless a water - insensitive coating is used. Surface temperature shall be at least 40F to permit wetting of concrete surface by polymer coating.

2.2.2.4. Evaluate moisture content for concrete by determining if moisture will collect at surfaces. This may be accomplished by taping a 4 x 4 ft polyethylene sheet to concrete surface. If moisture collects on underside of polyethylene sheet before polymer would cure, then allow concrete to dry sufficiently. Drying of the surfaces can be accomplished by either heating the surfaces by blowlamps or by use of sawdust, sand or any other means so that the surface is bone-dry.

2.3. Identification of Method of Grouting.

2.3.1. FOR ALL SURFACES HAVING CRACKS/ CREVICES

2.3.1.1. Locate the cracks by either surface inspection or by scrubbing the surface. In case the cracks are not visible to naked eye use compressed air to clear the crack marks. Having identified the cracks use light chisel or mechanical/ electrical saws to clear the crack up to the depth of the crack. In case widening of the crack is necessary to reach the depth of the crack it is advisable to do so at this juncture.

2.3.1.2. After clearing/ widening the crack use compressed air/ water jet to clean the opened crack surface. Ensure that the surface is dried in case water jet is used.

2.3.1.3. A method of grouting through three rows of grout nipple is to be adopted for all such cases

3. <u>GROUTING FOR HONEY COMBED SURFACES:</u>

3.1. For surface which exhibits honeycombed concrete, the surface has to maintain in its dry state and a method of grouting through triangular grout nipples is to be adopted.

3.2. The opposite side to the grouting surface has to be sealed for flowing grout by either impervious cement plaster or by use of proper sealant as specified in the material to be used for grouting.

3.3. SIZE AND SPACING OF NIPPLES.

3.3.1. To determine the size of nipples, use a standard caliper or a metric scale and measure the width of the opened crack. The size of the nipple to be fixed within the crack has got to be minimum half the surface width of the crack measured above but should not exceed 15 mm in dia.

3.3.2. The nipples to be used should be of metal with one end tapered and thickness should be sufficient to withstand 5 m head of water. The spacing for the crack depends inversely to the width of the crack and will not exceed more than 300mm c/c and will not be less than 125mm c/c. The number of nipples along the crack will always be 1 less than two rows of nipples that needs to be fixed parallel to the crack at the same distance as the nipples spacing in the crack so as to form equilateral triangle with the apexes in the crack.

3.4. SEQUENCE OF GROUTING

For all horizontal surface grouting simultaneous grouting through ofmanifold pipe system is recommended. The grout pressure required to be given should be min X' for X" of slab. For grouting vertical surface bottom most row of nipples is to be grouted simultaneously.

3.4.1. When a row or a nipple is grouted and no more grout passes through that nipple/row of nipple then that nipple/ row of nipple is to be cut and sealed.

3.4.2. After the grout in the first nipple/ row of nipple cures then subsequent row is to be treated. This process shall be continued till all the nipples/ row of nipples are grouted.

3.4.3. All the nipple /rows of nipple on that surface has to be treated before any change of direction is to be adopted. In case of change of direction, the same sequence has to be adopted.

3.5. FIXING OF GROUT NIPPLES.

All nipples are to be fixed in oversize drill hole extending to min. half of slab thickness but not exceeding 2/3 of slab thickness. They should be as erect as possible and drilled holes are to be properly sealed using proper sealants (impermeable). All surface cracks are also be sealed similarly. This operation to be completed min. 24 hrs. Prior to grouting operation. While using sealants epoxy-based system or latex based are to be used. However, combination of two will not be permitted. After the grouting operation is over remove all pipes, manifolds installed and cut all the nipples, flush to the slab base and seal them with the same sealant used for sealing the crack. In case of exposed R.C. walls and slab surfaces cover them with appropriate quality of plaster and slurry finish the surface for smoothness. Plastering and cement slurry is to be measured and paid separately under appropriate heads in bill of quantity. (Grouting to be adopted for one surface only.)

3.6. MATERIAL FOR GROUTING

Latex based polymer modified cement slurry is to be used for grouting. The ratio to be used shall be 20 kg of chemical to every bag of cement. The slurry has to be kept in its slurry form by timely stirring by manual or mechanical means at regular intervals during the process of grouting. Once the operation starts grouting should not be stopped unless the grout oozes out of the adjoining nipple or level of grout in the container does not change over a period of not more than 30 minutes.

All materials shall be supplied in sealed containers with labels legible and intact.

Contractor shall arrange to store all materials at temperatures between 5 to 30 deg. Celsius unless otherwise recommended by manufacturer.

All materials shall be handled in a safe manner and in a way to avoid breaking container seals.

Contractor shall comply with manufacturer's recommendations as to environmental conditions under which the material can be used/ applied.

4. POLYMER & GROUT TECHNIQUE OF WATER PROOFING:

The following specifications need to be followed to be able to achieve the desired result of treating a porous slab section and also creating a separate water proofing layer.

4.1. Pre-Treatment.:

4.1.1. Top Surface: All the wearing coats and water proofing layer existing on the present slab should be removed and the surface properly cleaned. The original slab surface shall be properly cleaned with a water jet prior to application of any treatment. In case of the surface having carbonation or corrosion related distress, this has to be treated first without the final coat of cover built-up being done.

4.1.2. Bottom Surface: The plastered surface has to be cleaned and removed. The surface cleaned properly and the surface cracks are to be opened. In case of the surface having carbonation or corrosion related distress, this has to be treated first without the final coat of cover built-up being done. The cracks which are of micro and minor nature (less than 10mm thick) shall be kept open.

4.1.3. Pre grouting: Pre grouting shall be adopted to clean the section of any deleterious material. The mix to be used for this grouting shall be very lean and with maximum viscosity and maximum set time. This grouting is to be adopted to clean the section and once grout starts to flow from the bottom surface. All other specification of nipple placement and depth of fixation shall be as per detailed specification.

4.1.4. Bottom surface Sealing: Once the pre-grouting is completed all cracks and crevices that are visible shall be filled with a proper crack filling sealant of approved make. The surface shall then be properly plastered with a polymer modified mortar as per specification TS 10 and brought to proper shape and size. Any other treatment preceding this step shall be taken after about four days of curing.

4.2. Grouting: The section shall then be subjected to a series grouting as per specification. This grouting shall be adopted with a mix of proper consistency. Once the grouting is completed the top surface shall be cleaned and brought to level. The surface shall be then left for proper setting of the grout for about 48 hours.

4.3. Surface Water proofing treatment. The top surface shall be treated for a two coat chemical water proofing treatment. The treatment shall be preceded by placing proper wearing coat/ layer of a material as may be essential for the usage of the slab. All wearing coat shall be placed on the top of water proofing layer in a proper manner so as not to puncture or pierce the WPL. Proper anti- skid layer shall also be adopted on the wearing coat.

4.4. Curing: Proper curing and safety precaution that form the integral part of the specification shall be also followed in totality.

D. WATERPROOFING:

1. <u>Waterproofing of Terraces</u>:

Waterproofing of terraces is carried out as described below and in the same sequence:

1.1. Break and remove old waterproofing treatment from terrace slab.

1.2. Remove the plaster from the parapet walls etc. upto atleast 300 mm. height from the slab top level.

1.3. Thoroughly chip and roughen exposed concrete. Rake out the joints of brickwork. Clean with wire brushes and wash thoroughly with plenty of water.

1.4. Any loose patches in base concrete shall be first repaired. If any steel is exposed, clean it and apply a protective coating. If any cracks are seen, open and seal them as directed by the consultant.

1.5. Cut in a form of "V" the junctions between walls and floor. Fix small pieces of brickbats along with 20 mm (3/4") metal for coving of Watta (rounding) at the bottom of parapet wall.

1.6. Add one bag of cement in hundred liters of water. Stir the mixture to get consistent cement slurry. Spread this slurry on terrace and allow it to penetrate uniformly over the cleaned surface. Use well burnt brickbats for terrace waterproofing.

1.7. Fix (line dori) in a slope 1:125 starting from the lowest point from rainwater down take and by keeping 65 mm (2.5") minimum thickness below rainwater outlet.

1.8. Fix brickbats in cement mortar layer of 1:6 proportion in a slope of 1:125 with waterproofing compound. Fill the cement mortar 1:4 with waterproofing compound in brickbat joints. Block rainwater outlet with gunny bag to avoid entry of cement slurry into it.

1.9. Cure the brickbat coba coat for atleast seven days.

1.10. Lime mortar made from lime and fine sand in proportion of 1:5 is spread uniformly on the surface of 20 mm to 25 mm uniformly. This bed is left to harden for one day.

1.11. The design pattern if any is to be marked over this bed with the use of cotton line string. A splash of water is sprinkled lightly on this bed and very little dry cement is spread for work area of next 15 minutes. Then pieces of china mosaic are pressed and filled in position. The joints between these two pieces shouldn't exceed more than 3 to 4 mm. These pieces are hammered with wooden mallet to achieve uniform surface. Make the projected edge (kani) between the parapet plaster and the watta on second day.

1.12. The surface is cleaned with saw dust to remove excess cement sticking to the glazed china mosaic surface. If surface is not cleaned thoroughly by this method then the same shall be cleaned with dilute acid after one month, as directed by the consultants.

1.13. Completed work is then cured for 15 days by ponding method.

2. <u>Waterproofing of Chajjas/Balcony/Tank Top:</u>

2.1. Clean the top of the chajja and chisel extra mortar if any.

2.2. Apply thick cement slurry over the top of chajja.

2.3. Apply 1:1½:3 metal screen or brickbat coat.

2.4. Making rounding of 6" radius on the wall (watta) at the junction of chajja and wall of the building.

2.5. Cure this coat for seven days.

2.6. Apply finishing coat with C.M. 1:4 with waterproofing compound.

2.7. Provide drip mould at the bottom edge of chajja alongwith finishing coat.

2.8. Apply cement slurry with water-proofing compound for smooth finish (ghotai). Polish with metal float and make impression by 2mm diameter cotton line dori for avoiding cracking.

2.9. Cure the water-proofing for atleast seven days with soaked gunny bags.

3. <u>Internal Waterproofing Overhead Tank:</u>

3.1. Waterproofing of tank is carried out as described below and in the same sequence.

3.2. Break and remove old waterproofing treatment & plaster if any.

3.3. Thoroughly chip and roughen exposed concrete. Clean with wire brushes and wash thoroughly with plenty of water.

3.4. Any loose patches in base concrete shall be first repaired. If any steel is exposed, clean it and apply a protective coating. If any cracks are seen, open and seal them as directed by the consultant.

3.5. Cut in a form of "V" the junctions between walls and floor. Fix small pieces of brickbats along with 20 mm (3/4") metal for coving of watta (rounding) at the bottom of wall.

3.6. Add one bag of cement in hundred liters of water. Stir the mixture to get consistent cement slurry. Spread this slurry on slab and allow it to penetrate uniformly over the cleaned surface.

3.7. Providing and applying a base coat comprising of 1 Kg Polydee-MC OR Equivalent and 1 Kg fresh cement after wetting the surface followed by drying the surface for 2 days.

3.8. Apply primer coat of TP-40 OR Equivalent chemical.

3.9. After drying, applying two component (mixing ratio 2 A: 1 B)) Antibacterial food grade coating inside drinking water tank in two coats with time interval of minimum 8 hrs.

3.10. Completed work is then cured for atleast 03 days by ponding method.

E. PLASTERING WORK:

1. External Plaster:

1.1. The external plaster shall be applied in two coats and finished sand-faced.

1.2. All the precautions such as covering windows by plywood/tin sheets and tying stitched Hessian to external face of the scaffolding shall be taken. The debris shall be taken down and stacked or carted away as directed.

1.3. If the existing plaster is defective, the loose and damaged plaster shall be broken and removed carefully by chipping or by light chiselling, so as not to disturb the sound concrete/brickwork inside.

1.4. If the plaster is to be applied on unrepaired concrete surface the exposed concrete surface shall be first roughened by close chipping, and then cleaned with brushing and washing. If roughening of concrete is not possible, then a bond coat such as hack aid Plast or equivalent at the interface shall be provided.

1.5. If the plaster is to be applied on repaired concrete surface, the base shall be kept rough to provide a key to the plaster.

1.6. If brickwork is to be plastered, the joints shall be raked out atleast 8 mm. deep and cleaned.

1.7. The surface to be plastered shall be cleaned of loose materials, is thoroughly watered and kept adequately wet during plastering.

1.8. If plaster is done in patches, the bond coat must also be applied on the edges of old plaster in contact with new plaster.

1.9. The external plaster shall be applied in two coats: -

1.9.1. **The first coat is mortar in cement:** sand 1:4 proportions, with a water cement ratio not exceeding 0.45. The surface shall be even and without any undulations so as to have a thin second coat. The first coat is made rough to provide a key to the second coat. The base plaster shall be thoroughly watered and cured for minimum two days before the second coat is applied. If second coat is not to be done immediately, then minimum seven days curing must be done.

1.9.2. **The second coat shall be a thin layer of mortar with cement:** sand 1:5, using, fine washed sand and the approved additive, applied evenly by a trowel and finished to required granular texture by a rubber sponge. The final line, level and plane shall match the existing unbroken plaster. The second coat shall be kept wet by watering and shall not be allowed to dry for at least seven days.

2. Internal Cement Plaster / Ready Mix Plaster With POP/PUTTY Finish

The cement mortar used shall be in proportion 1:4 unless otherwise specified. One part of Portland cement shall be dry mixed with four parts of sand, sufficient water shall then be added to make a homogeneous mixture. Mortar usable within 1/2 hour only should be prepared at a time. Joints in brick and stone masonry shall be raked out to receive the plaster and concert surfaces shall be hacked and washed well before plastering. The brick work shall be kept wet for at least six hours before plastering. A first coat of plaster of requisite thickness shall be applied and shall be finished with a coat of plaster of Paris of OR White Putty not less than 4mm thick. This isused only as a finishing coat. Line and level of the surface shall be done inplaster.

3. Separation Joint Filling with Chicken mesh 22 SWG:

3.1. Materials: Chicken wire mesh shall be 22 gauge of approved manufacturers, unless specified.

3.2. Fixing: The chicken wire mesh shall be provided at the junction of RCC and masonry work 150mm overlap on either side fixed with 'U' nails. 150mm centre to centre before plastering the junction.

3.3. Measurement: Length and breadth shall be measured correct to a centimetre (cm) and its area shall be calculated in Square meters (Sq.Mt.) correct to two places of decimal.

F. PLUMBING AND SANITARY WORK

1. <u>Stone Ware Pipes:</u>

1.1. Drain shall be laid in straight lines and to even gradient as shown on the drawings. Adequate care shall be exercised in setting out and determining the levels of the pipes and the Contractor shall provide substitute instruments, templates and equipment necessary for the purpose.

1.2. The pipes before being laid shall be thoroughly cleaned specially the inside. Cracked or chipped pipes shall not be used on the work.

1.3. The pipe joints shall be caulked with tarred gasket in one length for each joint, and sufficiently long to entirely surround the spigot end of the pipes, the gasket to be driven as far as possible into the joint by means of a suitable instrument. The spigot shall be centered in the socket and after the joint has be thoroughly cleaned and moisturized the socket shall be filled with neat cement paste which shall be sprayed off to form a neat fillet round the pipe. Each pipe shall be properly boned in so that the invert is to a true and even gradient. Whenever practicable all main drains shall be commenced at the point of the outfall, the necessary junctions for the branch drains being inserted as the work proceeds until the mains are completed. The branch drains shall then be commenced at the point of the junction with main drains. The whole of the drain pipes shall be accurately laid and butted closely together at the joints. Any earth, cement or other material entering the pipe line while jointing shall be thoroughly cleaned out of the pipes as the work proceeds.

1.4. Concrete bedding for drains shall, unless otherwise specified be of C.C. 1:2:4, 150mm thick and of width specified benched half way upon both sides to the crown of the pipes.

1.5. After sufficient internal has been allowed for the joints to set and before filling the trench, the joints of the pipes and drains shall be proved watertight by filling the pipes with water to a level 2M above the top of the highest pipes in the length to be tested, closing the ends of the sections and maintaining this water level for

a period of one hour. If the testing is to conform to regulations of the local authorities it shall be done accordingly to the satisfaction of the local Authorities.

1.6. All such testing shall be done wholly at the Contractor's expense inclusive of apparatus, provision of water etc. and the rate covers all the above works including C.C.C. bedding etc.

2. Solid Waste and Anti Syphonage Pipes:

All solid pipe shall be of PVC with spigot and socket joints with head on spigot end. The pipes shall be secured to the masonry as specified. Solid pipes shall not be less than 100mm internal dia.

Waste pipe to be of PVC/UPVC as specified; internal waste pipes should be connected to the inlet of sealed ventilated gully and external gully to the inlet of open gully or as specified. The joint of the gully shall be appropriate to the material. All waste pipes shall be tested to the Engineer's satisfaction with a 1.5M head of water.

Anti - Syphonage Pipes:

The traps on branch soil pipe shall be ventilated at a point not less than 75mm or not more than 30cm. form the highest point, may be of lead PVC or UPVC joints appropriate to those materials of dia., not less than 50 mm for W.C. and urinal. The size of main branch antisyphonage pipes serving a number of fittings shall be determined by the number connected thereto. The antisyphonage pipe may be connected to the main soil pipe above the level of the top most sanitary fitting or run upwards independently.

PVC/UPVC PIPES (SOLID WASTE):

PVC pipes shall conform to IS specification for high-density polyethylene pipes for drainage work. The pipes shall have smooth internal and external surfaces.Slight shallow longitudinal grooves or irregularities in the wall thickness shall be permissible provided that the wall thickness remains within the permissible limits PVC pipes shall be pressure ratings (working pressure) as indicated. The pipes shall carry Colour bands to indicate the class of pipes.

Class of pipes	Working pressure Mpa)	Colour
class 1	0.2	Orange
class 2	0.25	Red
class 3	0.4	Blue
class 4	0.6	Green
class 5	1	Yellow

3. CPVC pipes (POTABLE WATER): -

CPVC pipes shall confirm to IS 4985 - 1981, Specification for CPVC pipes for potable water supply. The pipes shall be reasonably round. Internal and external surfaces of the pipes shall be smooth and clean, CPVC pipes shall be pressure ratings (working pressure) as 2 - 5, 4.5 and 10Kg / sq. cm. as indicated.

CPVC pipes of all sizes are packed in polyethylene packing rolls and both the ends of the packed roll are sealed with air bubble film cap in order to provide protection during handling and transportation. After packing, the whole bunch of pipes is tightened with polypropylene/ HOPE strapping. Each role is then marked with size/type of the pipe, lot number and quantity. The packed pipe rolls are stored in their respective racks in properly covered storage area. Apart from providing protection during handling and transportation, the packing rolls also protect the pipe from ultra violet rays.

INSTALLATION GUIDELINES:

1. Visually inspect pipe ends before making the joint. Use of a chamfering tool will help identify and crakes, as it will catch on to any crack.
2. Pipe may be cut quickly and efficiently by several methods. Wheel type plastic tubing cutters are preferred. Ratchet type cutter or fine-tooth saw are another option. However, when using the ratchet cutter be certain to score the exterior wall by rotating the cutter blade in circular motion around the pipe. Do this before applying significant downward pressure to finalize the cut. This step leads to a square cut. In addition, make sure ratchet cutter blades are sharp. Cutting tubing as squarely as possible provides optimal bonding area within a joint.
3. Burrs and filings can prevent proper contact between the tube and fittings during the assembly, and should be removed from the outside and inside of the tube. A chamfering tool is preferred, but a pocket knife or file is also suitable for this purpose.
4. Use only CPVC cement jointing. Use CPVC cement, which is fully recommended by the

manufacturer.

5. When using adhesive solution/solvent cement be certain of proper ventilation.
6. When making a join, apply a heavy, even coat of cement to the pipe end. Use the same applicator without additional cement to apply a thin coat inside the fitting socket. Too much cement can cause clogged waterways. Do not allow excess cement to puddle in the fitting and pipe assembly. This could result in a weakening of the pipe wall and possible pipe failure when the system is pressurized.
7. Rotate pipe one-quarter to one-half turn while inserting it into the fitting socket and remove the excess adhesive solution/solvent cement from the joint with clean rag.
8. When making a transition connection to metal threads, use a special transition fitting or CPVC male threaded adapter whenever possible. Do not over-torque plastic threaded connections. Hand tight plus one-half turn should be adequate.
9. Hang or strap CPVC systems loosely to allow for thermal expansion. Do not use metal straps with sharp edges that might damage the tubing.
10. CPVC stub outs for lavatories, closets and sinks are appropriate. However, on areas where there is a likelihood that movement or impact abuse will occur, metal pipe nipples may be a more appropriate stub-out material. Showerheads, tub spouts and outside still cocks are examples.
11. When connected to a gas water heater, CPVC tubing should not be located within 50 cm of the flue. For water heaters lacking reliable temperature control, this distance may be increased up to 1 m a metal nipple or flexible appliance connector should be utilized. This measure eliminates the potential for damage to plastic piping that might result from excessive radiant heat from the flue.

Solvent welded joints of PVC pipes:
This technique to be used in all type of PVC Pipes.

4. VENT PIPES:

The solid pipe above highest branch shall be continued upwards of full size above the roof, flat or sloping to such height as directed or as required by local regulations PVC cowl shall be provided at the top all pips so projected above the roof shall be properly secured with stays.

There shall be two vent pipes, on at the sewer trap chamber (and Inlet) and the other at the manhole at the head to the drain. From a point as near to the top of manhole as possible a 100mm or 150mm salt glazed stone ware drain shall be laid on concrete bedding and this shall be carried to the pint indicated on the drawing or as directed. The drain shall be brought to the surface of the ground with a suitable bend and jointed to a 100mm to 75mm pipe of specified Material & height. This pipe shall be provided with cowl at the top.

NOTE: All pipes shall be measured in R.M. of pipes laid and fixed complete and shall be paid for at rates set out in the priced schedule of quantities inclusive of all accessories.

5. GULLY TRAP AND CHAMBERS:

Gully traps shall be 150mm x 150mm glazed stone ware laid on 15cm. bed with cement plaster rubbed smooth. A full size shall be 300mm x 300mm or as specified. Cast iron frame and cover painted two coats hot tar shall be fixed securely on top. The rate includes all these works specified.

Sewer trap of approved make and size of slat glazed earthward shall be built into outfall manhole. The interceptor shall have cascade, clincher stopper with length of galvanized chain secured to a staple built into the wall the wall of the manhole joint below the cover.

6. PAINTS (PLUMBING LINES):

Acrylic Emulsion: All the surface to be painted shall be clean and dry. All dirt, dust, oil, grease etc. shall be removed from the surface to be painted. Loose paint shall be removed by sand paper. Primer shall be applied of approved manufacturer. All coats to be laid evenly and properly with brush, the work should not show any hair marks, drops of paint and shall be allowed to dry thoroughly before the next coat is applied.

Cement Paint: The surface to be painted shall be thoroughly cleaned and soaked in water. Afterwards cement paint shall be applied of approved shade and colour. After each coat the surface shall be wetted before the next coat is applied. The paint surface shall be cured by keeping it moist for seven days.

Bases	:	These shall be of best white lead, red lead, zinc white or oxide of iron of approved make.
Vehicles	:	The solid shall be double boiled linseed oil and shall appear, when filled in a phial, limpid pale and brilliant. It shall taste sweet, with very little door and shall be of approved quality. Solvents shall be spirits or turpentine.
Pigments	:	These shall be of selected tinge and of approved make.
Mode of Measurement	:	The average perimeter for all PVC pipe shall considered as that of 4" PVC pipe. The average perimeter for all UPVC/CPVC pipe shall considered as that of 1"' UPVC/CPVC pipe. Painting area for pipes will be measured in M^2 (Area = Perimeter * Height)

G. PAINTING:

1. WHITE / COLOUR WASHING:

1.1. Materials:

1.1.1. The materials for preparing lime wash shall be freshly burnt fat lime of good quality free from unburnt stone or other foreign matter. Lime shall be of "C" type as mentioned in IS 712.

1.1.2. Lime shall be slaked on the spot, mixed and stirred thoroughly with sufficient quantity of water (about 4.5 liters per Kg. Of lime) to make a thin cream. This shall be allowed to stand for a period of 24 hours and then strained through a clean coarse cloth. Clean gum dissolved in hot water shall then be added in the proportion of 4 gm. of gum Arabic to one liter of lime cream to prevent lime wash coming off easily when rubbed.

1.1.3. Indigo (Neel) up to 3 gm per Kg of lime dissolved in water shall be added and stirred well. Water at 5 liters per Kg. of lime is then added to produce a milky solution.

1.1.4. Alternatively, readymade whiting (ground white chalk) complying with IS 63 can be used. In this case whiting shall be dissolved in sufficient quality of warm water to form thin slurry, which shall then be screened through a clean coarse cloth. 2 gm. Of gum and 0.4 gm. Of copper sulphate dissolved separately in hot water shall be added for every liter of the slurry, which shall then be diluted with water to the consistency of milk for use. Rice size may be allowed instead of gum.

1.1.5. Colour wash shall be lime wash as above to which a solution of water and lime fast pigment, boiled if directed, shall be gradually added and stirred until the required tinge is available.

2. PAINTING

All the water base and oil base paints such as distemper, cement paint, enamel paint, flat oil paint etc. shall be of approved manufacturers and shall conform to the respective IS Codes and Standards. Colour and Shade shall be as approved by the Engineer-In-Charge.

2.1. Supply

All paint materials shall be supplied to the Site in the manufacturer's sealed and branded containers. Any containers reaching site with broken seals are liable for instant rejection by the Engineer-In-Charge.

2.2. Storage

All paint materials shall be stored in cool dry conditions clear of other stores to the satisfaction of the Engineer-In-Charge.

2.3. Usage

The mixing of materials of different brands before or during application shall not be permitted.

Brushes, pails, kettles and other implements and tools used in painting or preparation of the work shall be clean and free from foreign matter.

The instructions of the manufacturer shall be followed regarding preparation of surface and application of priming and finishing coats. In any event the following engineering practices shall always be followed while carrying out work as specified in IS 2395 Part-I & Part-II.

- No exterior or exposed painting shall be carried out under adverse weather conditions such as rains, extreme humidity, dust storms etc.,
- The work shall preferably be carried out in shade to avoid blistering or wrinkling due to direct sunlight.
- All surfaces to be painted shall be free of loose matter, efflorescence, dust etc. before application of each coat.
- No paint shall be applied to works, which are internally or superficially damp.

2.4. Preparation of Surfaces General

All surfaces requiring paint shall be thoroughly cleaned of all dirt, dust, grease or oil before spotting or priming. Oil or grease film shall be washed off with an acid that is non-injurious to the surface or shop primers and rinsed off completely with plain or soapy water. Surfaces shall be dry unless dampening is required for a particular finished material.

Before starting the work, the Contractor shall obtain the approval of the Engineer-In-Charge regarding the soundness and readiness of the surface to be painted on.

2.5. Masonry, Concrete and Plastered Surfaces

Surface shall be free from all efflorescence, mildew, loose paint or other foreign and loose materials. Surface with mildew or efflorescence shall be treated as follows:

- All mildewed surfaces shall be treated with an approved fungicide such as ammoniacal wash consisting of 7 gm. of copper carbonate dissolved in 80 ml. Liquor ammonia and silica fluoride solution and allowed to dry thoroughly before paint is applied.
- All efflorescence shall be removed by scrubbing and affected surfaces shall be treated with a solution of muriatic acid in water (1:6 to 1:8) and washed fully with clean water and allowed to dry thoroughly.

Masonry cracks shall be cleaned out and patch filled with mortar similar to the original surfaces uniformly textured. Where this type of re-surfacing may lead to the finishing paint being different in shade from the original surface, the surfaced area shall be treated with minimum one coat of cement primer, which shall be continued to the surrounding area from a distance of 100mm.

The plastered surface shall be carefully rubbed smooth and thoroughly cleaned with clean fresh water.

1.2. Equipment and Protection

All brushes used for the job shall be clean and in good condition.

Spray painting equipment shall be a type that will produce full, even coatings, shall be equipped with grease and water separators and kept properly clean and well maintained at all times.

Sufficient drop cloths, shields and other protective equipment shall be used to prevent sprays or droppings from fouling surfaces not being painted. Empty containers, saturated rages and waste shall not be allowed to accumulate. Any required ventilating or isolating measures for protecting his workmen and others from toxic or unhealthy conditions due to painting shall be provided by the Contractor.

3. <u>OIL BOUND DISTEMPER</u>

In regards to materials, surface preparation, application, equipment & protection, cleaning etc. shall be as described above.

3.1. Application Priming coat

The priming coat shall be with distemper conforming to IS: 428 in one coat. After the surface defects are treated with Putty/POP which is allowed to set hard and wiped clean, the priming coat is applied with distemper primer (when wall surface has not dried completely).

Newly plastered if required to be distempered before a period of six months shall be given a coat of alkali resistant priming paint conforming to IS: 109 and allowed to dry for at least 48 hours before distempering is commenced.

3.2. Distemper coat

After the primer coat has dried at least for 48 hours, the surface shall be lightly sand papered to make it smooth. Distemper is then applied in dry weather with a broad stiff brush in long paralleled strokes, each coat being allowed to dry before the next coat is applied. The subsequent coats shall be applied in the same way. Two coats of distemper shall be applied over primer coat to obtain an even shade. A time interval of at least 24 hours shall be allowed between successive coats to permit proper drying of preceding coat. For old work the distemper shall be applied over the prepared surface in the same manner as in new work. 15 cm double bristled distemper brushes shall be used. After each day's work, brushes thoroughly washed in hot water with soap solution and hung down to dry. Old brushes which are dirty and caked with distemper shall not be used on the work.

4. PLASTIC EMULSION PAINT:

Materials, surface preparation, Application, Equipment and protection, cleaning etc. shall be as described under-Painting specifications. The plastic emulsion paints is not suitable for application on external, wood, and iron surface, which are liable to heavy condensation. These paints are to be used on internal surfaces except wooden and steel. Plastic emulsion paints as per IS: 5411 of approved brand and manufacture and of the required shade shall be used.

4.1. Application

The paint is mixed thoroughly adding about 50% water and then strained through a cloth. The paint is then applied on wall and allowed to dry thoroughly. A putty is prepared by mixing whiting and paint and is filled wherever necessary in holes depressions etc.

For the second coat only about 15 to 20% water is added.
(The correct quantity of water to be added shall be as per manufacturer's instructions)

The number of coats shall be two unless otherwise specified in the item. The paint will be applied in the usual manner with brush, spray, or roller. The paint dries by evaporation of the water content and as soon as the water has evaporated the film gets hard and the next coat can be applied. The time of drying varies from one hour on absorbent surfaces to 2 to 3 hours on non- absorbent surfaces.

5. OIL PAINT:

Materials, surface preparation, application, equipment & protection, cleaning etc. shall be as described under-Painting specifications.

5.1. Application

Unless otherwise specified, paint shall be applied with brushes. The contents of the drum and tins shall be well stirred before using and occasionally during the use to prevent sedimentation at the bottom.

5.2. Priming coat

The priming coat shall be made up of materials depending on the surfaces to be plastered and specified or recommended by the manufacturer.

The primer shall be ready mixed primer of approved brand and manufacture and shall be compatible with finished painting scheme.

Where primer for wood work is specified it shall be prepared as per manufacturers specifications. The wood work to be painted shall be dry and free from moisture. The surface shall be thoroughly cleaned. All unevenness surface shall be rubbed down smooth with sand paper and shall be well dusted. Appropriate filler material conforming to IS: 345 with same shade as paint shall be applied.

5.3. Finishing coat

Unless otherwise specified, the finishing shall be done in at least two coats of paint. The last coat shall give a flat, semi glossy or glossy finish as directed by the Engineer-In-Charge.

6. SYNTHETIC ENAMEL PAINT:

In regards to materials, surface preparation, application, equipment & protection, cleaning etc. shall be as described above. Synthetic enamel paint conforming to IS: 2932 shall be of approved brand and manufacture and of required shade.

6.1. Application Priming coat

Primary coat shall be of ordinary paint of shade to match with the top coat as recommended by the same manufacture. As top coat shall be used. Under coat shall be allowed to dry overnight. It shall be rubbed next day with the finest grade of wet abrasive paper to ensure smooth and even surface, free from brush marks and all loose particles brushed off.

6.2. Finishing coat

It shall be applied on properly primed surface. Subsequent coat shall not be applied till the previous coat is dry. The previous coat shall be lightly sand prepared for better adhesion of subsequent coats.

Top coats of synthetic enamel paint of desired shade shall be applied after the under coat is thoroughly dry. Additional finishing coats shall be applied if found necessary to ensure properly uniform glossy surface.
Unless otherwise specified, the finishing shall be done in at least two coats of paint. The last coat shall give a flat, semi glossy or glossy finish as directed by the Engineer-In-Charge. If, however, the surface is not satisfactory additional coats as required shall be applied to get correct finish.

7. WATERPROOF CEMENT PAINT:

In regards to materials, surface preparation, application, equipment & protection, cleaning etc. shall be as described above. The cement paint shall be conforming to IS: 5410 of approved brand and manufacture and of required shade.

8.1. Application Priming coat

Cement primer coat is used as a base coat on wall finish. The cement primer is composed of a medium and pigments which are resistant to alkalis present in the cement in wall finish and provides a barrier for the protection of subsequent coats. Primer coat material shall be as per recommendation of finish coat material. Primer coat shall be preferably applied by brushing and not by spraying on the clean dry and smooth surface. The surface shall be finished as uniformly as possible leaving no brush marks. It shall be allowed to dry for at least 48 hours, before subsequent coat.

8.2. Finishing coat

The solution shall be applied on the clean and wetted surface with brushes or spraying machine. The solution shall be kept well stirred during the period of application. Cement paint shall be mixed with water in two stages and strictly as per manufacturer's instructions.

The surfaces shall be given one coat of paint. Care shall be taken so that the paint does not dry out too rapidly. After 4 to 6 hours, the water shall be sprinkled over the surface to assist curing and prevent cracking. After the first coat has dried (24 to 48 hours), the second coat shall be applied in a similar manner. The finished surface shall be kept moist by occasional sprinkling with water for seven days after painting.

Water proof cement paint shall not be applied on surfaces already treated with white wash, colour wash, distemper dry or oil bound, varnishes, paints etc.

8. SYNTHETIC TEXTURE PAINT:

In regards to materials, surface preparation, application, equipment & protection, cleaning etc. shall be as described below. The texture paint shall be conforming to IS: 5410 of approved brand and manufacture.

8.1. Application Priming coat

Primer coat is used before applying the base coat on external wall. Clean all external wall surfaces, removing all fungus / plantation, removing old caulk from the plaster surface, making the surface clean and dry. Pre wetting of wall surfaces. Primer coat shall be preferably applied by brushing and not by spraying on the clean dry and smooth surface. The surface shall be finished as uniformly as possible leaving no brush marks. It shall be allowed to dry for at least 48 hours, before base coat.

8.2. Finishing coat

The solution shall be applied on the clean and wetted surface with required tools, equipment. Mixing the product with clean water thoroughly with an electrical mixer for 3-5 minutes until the desired homogeneous paste is achieved so as to ensure that the mixture is free from lumps before use. Applying average thickness of 1.5 to 2mm of the homogeneous paste thus prepared on the plastered surface with a steel trowel so as to have the desired texture finish.

9. ELASTOMERIC BASED PAINT:

Surface preparation, application, equipment & protection, cleaning etc. shall be as described below of approved brand and manufacture and of required shade.

9.1. Application Priming & Base coat

The basecoat is composed of a medium and pigments which are resistant to alkalis present in the cement in wall finish and provides a barrier for the protection of subsequent coats. Primer coat shall be preferably applied by brushing and not by spraying on the clean dry and smooth surface. The surface shall be finished as uniformly as possible leaving no brush marks. It shall be allowed to dry for at least 48 hours, before subsequent coat.

9.2. Finishing coat

The solution shall be applied on the clean and wetted surface with brushes or spraying machine. The solution shall be kept well stirred during the period of application. Cement paint shall be mixed with water in two stages and strictly as per manufacturer's instructions.

The surfaces shall be given one coat of paint. Care shall be taken so that the paint does not dry out too rapidly. After 4 to 6 hours, the water shall be sprinkled over the surface to assist curing and prevent cracking. After the first coat has dried (24 to 48 hours), the second coat shall be applied in a similar manner. The finished surface shall be kept moist by occasional sprinkling with water for seven days after painting.

Water proof cement paint shall not be applied on surfaces already treated with white wash, colour wash, distemper dry or oil bound, varnishes, paints etc.

SUGGESTED MAKE LIST (MCGM SOR 2018-19)			
Sr. No.	**Category**	**Sub-Category**	**Brand Name**
1.	Cement	OPC 43/53 Grade (ISI marked)	Ambuja Cement, L & T, ACC, Birla, Ultratech, JK, Binani, Dalmia Cement
2.	Cement	White Cement	Ultra tech, ACC, Birla, J.K,
3.	Cement	Chemical Admixtures	BASF, Pidilite, Sunanda Chemicals, Sika, FOSROC, Choksey Chemicals, Perma Construction Aids. PAR specialty Chemical, Krishna Conchem
4.	Cement	Chemicals Structural Repairs	BASF, Pidilite, Sunanda Chemicals, Sika, FOSROC, Choksey Chemicals, Perma Construction Aids. PAR specialty Chemical, Krishna Conchem
5.	Cement	Micro Concrete	BASF, Pidilite, Sunanda Chemicals, Sika, FOSROC, Choksey Chemicals, Perma Construction Aids. PAR specialty Chemical, Krishna Conchem
6.	Steel	Rebars	Vizag Nigam Ltd., TISCO, SAIL
7.	Epoxy Coating	FBE Coating to Reinforcement Bars	Electrotherm India, Hariom Ingots, PSL
8.	Finishing Works	White washing lime	Dehradun (Source)

9.	Finishing Works	Paint/primer/oil bound distemper Acrylic paint / Texture	Asian Paints, ICI, Nerolac, Dulux, Berger, Aero paints, Jotun, PAR Specialty Chemical.
10.	Finishing Works	Water proof cement paint	Asian Paints, ICI, Nerolac, Dulux, Berger, Aero paints, Jotun, PAR Specialty Chemical.
11.	Finishing Works	Anti-Corrosive Bitumastic Paint	Asian/Burger/J&N
12.	Finishing Works	Epoxy Paint	Asian / Berger / J&N
13.	Sanitary ware	Ball Valve	RB, Intervalve, Zoloto, VB, Arco, Sant, Kartar
14.	Sanitary ware	GM Peet Valve	RB, Intervalve, Zoloto, VB
15.	Sanitary ware	GM Wheel Valve	RB, Intervalve, Zoloto, VB
16.	Sanitary ware	Pressure Reducing Valves	Hawa, Kirloskar, Sant, VB, Zoloto, RB
17.	Sanitary ware	Butterfly valves	RB, Intervalve, Zoloto, VB, KSB, Kartar, SKS, Delval, Audco, Intervalve
18.	Sanitary ware	Float valve (C.I)	Leader, Sarkar
19.	Sanitary ware	Gate valve	Zoloto, neta, leader
20.	Sanitary ware	G.M. Non return valve	RB, Intervalve, Zoloto, VB
21.	Sanitary ware	C.I. Non return valve	RB, Intervalve, Zoloto, VB
22.	Sanitary ware	Stoneware pipes/Gully traps	Rajora, Equivalent
23.	Sanitary ware	SWR Pipe & Fittings type B (for internal drainage)	Supreme, Finolex, Prince Pipes, Ashirwad, Kisan, Birla
24.	Sanitary ware	SWR Pipe & Fittings type A (for Rain water upto 160mm dia)	Supreme, Finolex, Prince Pipes, Ashirwad, Kisan, Birla
25.	Sanitary ware	UPVC pipes/fittings	Supreme, Finolex, Prince Pipes, Jain Pipes, Birla
26.	Sanitary ware	UPVC ASTM pipes	Supreme, Surya Roshni, Finolex, Birla
27.	Sanitary ware	CPVC Pipes and Fittings	Astral, Ajay, Ashirwad Pipes, Supreme, Prince Pipes, Birla
28.	Sanitary ware	Foam core/ Multi-layered Pipes	Ashirwad, Prince Pipes, Astral, Ajay
29.	Sanitary ware	G.I. Pipes / M.S. Pipe	Tata, Jindal, Zenith, Surya Roshni
30.	Sanitary ware	G.I. fittings (malleable cast iron)	Unik, R Brand, Zoloto M, Unico, KS
31.	Sanitary ware	PVC KHURRA	SUPREME, Prince, FINOLEX
32.	Sanitary ware	Pressure Gauge	H. Guru / Forbes Marshall / Waaree, wika, fiberg
33.	Water Proofing	Waterproofing compound	BASF, MC-Bauchemie, Sika, Sunanda Specialty Coatings, Pidilite, Perma Construction Aid Pvt. Ltd, PAR Specialty Chemical
34.	Water Proofing	Injection Grouting	BASF, MC-Bauchemie, Sika, Sunanda Specialty Coatings, Pidilite, Perma Construction Aid Pvt. Ltd, PAR Specialty Chemical

35.	Water Proofing	Chemical Waterproofing system	BASF, MC-Bauchemie, Sika, Sunanda Specialty Coatings, Pidilite, Perma Construction Aid Pvt. Ltd, PAR Specialty Chemical
36.	Miscellaneous	Polysulphide sealant	Pidilite, Chemetall-Rai
37.	Miscellaneous	Epoxy	Fosroc/ STP/ CICO/ Ardex
38.	Miscellaneous	Clamp, Rebar, Chemical fastener	Hilti, Fischer, Wurth
39.	Miscellaneous	Anchor Fasteners /bolts	Hilti, Fischer, Halfen
40.	Miscellaneous	Weather Silicon	Dow Corning/ Momentive (GE)
41.	Miscellaneous	Structural Silicon	Dow Corning/ Momentive (GE)
42.	Miscellaneous	Polycarbonate Sheet	Danpalon, Alcox, Polygal, V. A. Corporation, Joy Fab, Yadav Engineering
43.	Miscellaneous	Adhesives & Grouts	Pidilite, BASF, Sika, Sunanda Specialty Coatings, PAR Specialty Chemical

The above-mentioned chemicals shall be used as per manufactures specifications and Approval of consulting Engineer In-charge.

NOTE: Unless otherwise mentioned specifically, any one of approved makes or brands shall be allowed to use. Other makes or brands of the building materials bearing I.S.I. monogram on the material itself will also be allowed to be use only after approval of the employer.

Section 6 – Bidding Forms

SN	Name of the Form	Page No.
1	Letter of Bid	
2	Checklist of documents comprising bid	
3	Bid Security (Bank Guarantee) Format	
4	Bidder Information Format	
5	Financial Bid Format	Uploaded Separately as a .xlsx file

1. Form of Letter of Bid

The Contractor must prepare the Letter of Bid on its letterhead clearly showing the Contractors complete name and address.

Note: All italicized text is for use in preparing these forms and shall be deleted from the final products.

Date:

Bid Ref. No.: E-OPT-11/149/2022-E0

To,

The Development Commissioner

SEEPZ, SEZ Authority

Andheri (East), Mumbai-400 096

1. We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Contractor and the Terms and Conditions of Contract.
2. We meet the eligibility requirements in accordance with ITC 4 and have no Conflict of Interest in accordance with GFR 175.
3. We offer to complete, in conformity with the Bidding Documents, the following works: "MAIN ROAD REPAIRS AND RATIONALIZATION" in Sector -IV at SEEPZ SEZ Premises, Andheri East, Mumbai 400 096. Our final price offer is as submitted in our financial Bid.
4. Our Bid shall remain valid for 60 days from the last date of submission of the Bid and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
5. We are not participating, as a Contractor or as a sub-Contractor, in more than one Bid in this bidding process.
6. We are not debarred by any procuring entity of the Central Government or any State Government or any Public Undertaking, Autonomous body, Authority by whatever name called.
7. We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any activities which are in contravention of the Code of Integrity proscribed in GFR 175.
8. We hereby certify that we neither are associated nor have been associated directly or indirectly with the officials / consultants or any other individual or entity that has prepared the design, specifications and other documents for the subject matter of procurement or is being proposed as Project Manager for the contract from the SEEPZ SEZ Authority.
9. We hereby certify that we have fulfilled our obligations to pay all such taxes as payable to the Central Government or the State Government or any local Authority.
10. We hereby certify that we are not insolvent, in receivership, bankrupt or being wound up, not have its affairs administered by a court or a judicial officer, not have its business activities suspended and must not be the subject of legal proceedings for any of the foregoing reasons.
11. We hereby certify that our directors and officers have not been convicted of any criminal offence related to their professional conduct or the making of false statements or misrepresentations as to their

qualifications to enter into a procurement contract within a period of three years preceding the commencement of the procurement process, or not have been otherwise disqualified pursuant to debarment proceedings.

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

13. We understand that SEEPZ SEZ Authority is not bound to accept the L1 Bid or any other Bid that SEEPZ SEZ Authority may receive and that the decision of the SEEPZ, SEZ Authority shall be final & binding.

Name of the Contractor:

Name of Contractors Authorized Signatory:

Designation of the person signing the Bid:

Signature of the person named above

Date signed

2. Checklist of documents comprising Bid

SN	Document	Included (Y/N)	Page No.
1	Bid Security (EMD)		
2	Letter of Power of Attorney		
3	Letter of Bid		
4	Bidder Information Form		
5	Registration / Incorporation Certificate		
6	Copies of PAN and GST Registration Certificate		
7	Relevant excerpts of audited financial statements		
8	Solvency certificate issued by a scheduled bank		
9	Summary of experience and completion certificates		
10	Engineers' profiles, PF Challans and self-certification by the HR Head		
11	List of equipment and ownership / lease details		
12	Self-certification regarding non-debarment		
13	Financial Bid (to be uploaded in a separate folder)	Uploaded separately	NA

3. Bid Security (Bank Guarantee) Format

[**To be prepared by the issuing bank on its letterhead**]
{*Bank's name, and address of issuing branch or office*}

Beneficiary: Development Commissioner, SEEPZ SEZ, Andheri (E), Mumbai 400096

Date:.....

Bid Security No.: .....

We have been informed that {*name of the bidder*}(hereinafter called "the Bidder") has submitted to you its bid dated . . . . . (hereinafter called "the Bid") for the execution of {name of works} under Notice Inviting Tender No. . . . . (“the NIT”).

Furthermore, we understand that, according to your conditions, bids must be supported by a bid security. At the request of the Bidder, we {*name of the bank*} hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of {*amount in words*} ({*amount in figures*}) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

a) has withdrawn its Bid during the period of bid validity specified by the Bidder in the Letters of Technical and Price Bid; or

b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter “the ITB”); or

c) having been notified of the acceptance of its Bid by the Employer during the period of bid validity, (i) fails or refuses to execute the Contract Agreement, or

(ii) fails or refuses to furnish the performance security, in accordance with the ITB, or

(iii) fails or refuses to furnish a domestic preference security, if required.

This guarantee will expire

(a) if the Bidder is the successful Bidder, upon our receipt of copies of the Contract Agreement signed by the Bidder and the Performance Security issued to you upon the instruction of the Bidder; or

(b) if the Bidder is not the successful Bidder, upon the earlier of

(i) our receipt of a copy of your notification to the Bidder of the name of the successful Bidder, or

(ii) 28 days after the expiration of the Bidder’s bid.

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

Authorized signature(s) and bank’s seal (where appropriate) . . . . . .

4. Bidder Information Format

SN	Item	Details
1	Name of Company/Firm	
2	Nature of the Company/Firm whether Proprietary/Partnership/Limited/Private Limited/LLP (Provide full details)	
3	Names of the partners/full time directors with their bio data	
4	Postal Address	
5	Telephone, Mobile and Fax Numbers	
6	Name, Designation, Telephone, Mobile, email of the contractor:	
7	Year of commencement of Business	
8	Turnover during past three financial years	
9	Description of the work done in the last three years.	
10	Details of manpower availability (managerial and technical)	
11	Details of tools, machinery, and equipment availability	
12	Point of Contact in case of clarifications	
13	Details of litigations (both as a petitioner and as respondent) and debarment.	

Section 7 – General Conditions of Contract (GCC)

Definitions	1.	The **Contract** means the documents forming the tender and acceptance thereof and the formal agreement executed between the competent authority on behalf of the Employer and the Contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in- Charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.
	2.	In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:- i. The expression **works or work** shall, unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional. ii. The **Site** shall mean the land, places on, into or or where work is to be executed under the contract or any adjacent land, path or street or where work is to be executed under the contract or any adjacent land, path or street which may be temporally allotted or used for the purpose of carrying out the contract. iii. The **Contractor**, as **named in the SCC**, shall mean the individual, firm or company, whether incorporated or not, undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the permitted assignees of such individual, firm or company. iv. The **Employer** means competent authority of the SEEPZ SEZ as **stipulated in the SCC**. v. The **Engineer-in-charge** means the Engineer Officer or a Consultant appointed by the Employer who shall supervise and be in charge of the work and who shall sign the contract on behalf of the Employer. vi. **Excepted Risk** are risks due to riots (other than those on account of contractor's employees), war (whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion revolution, insurrection, military or usurped power, any acts of Government, damages from aircraft, acts of God, such as earthquake, lightening and unprecedented floods, and other causes over which the contractor has no control and accepted as such by the Accepting Authority or causes solely due to use or occupation by the Employer of the part of the works in respect of which a certificate of completion has been issued or a cause solely due to Employer's faulty design of works. vii. **Market Rate** shall be the rate as decided by the Engineer-in-Charge on the basis of the cost of materials and labour at the site where the work is to be executed plus the **percentage specified in the SCC** to cover, all overheads and profits. Provided that no extra overheads and profits shall be payable on the part(s) of work assigned to other agency(s) by the contractor as per terms of contract. viii. **District Specifications** means the specifications followed by the State Government in the area where the work is to be executed. ix. **Tendered value**, alternatively referred to as Contract Price or Contract Value means the value of the entire work as stipulated in the letter of award and **the SCC**. x. **Date of commencement of work**: The date of commencement of work shall be the date of start **as specified in the SCC** or the first date of handing over of the site, whichever is later, in accordance with the phasing if any, as indicated in the tender document.
	3.	Where the context so requires, words imparting the singular only also include the plural and vice versa. Any reference to masculine gender shall whenever required

		include feminine gender and vice versa.
Works to be carried out	4.	The work to be carried out under the Contract shall, except as otherwise provided in these conditions, include all labourers, materials, tools, plants, equipment and transport which may be required in preparation of and for and in the full and entire execution and completion of the works. The descriptions given in the Section 5 – Scope of Work and Technical Specifications and the Bill of Quantities (BoQ) shall, unless otherwise stated, be held to include wastage on materials, carriage and cartage, carrying and return of empties, hoisting, setting, fitting and fixing in position and all other labours necessary in and for the full and entire execution and completion of the work as aforesaid in accordance with good practice and recognized principles
Sufficiency of Tender	5.	The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted in the Schedule of Quantities, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the works.
Discrepancies and Adjustment of Errors	6.	The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale and special conditions in preference to General Conditions.
	7.	In the case of discrepancy between the schedule of Quantities, the Specifications and/ or the Drawings, the following order of preference shall be observed:- i. Scope of Work and Technical Specifications. ii. Particular Specifications and Special Condition, if any. iii. Drawings. iv. CPWD Specifications. v. Indian Standard Specifications of B.I.S.
	8.	If there are varying or conflicting provisions made in any one document forming part of the contract, the Employer shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the contractor.
	9.	Any error in description, quantity or rate in Schedule of Quantities or any omission therefrom shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the contract.
Performance Guarantee	10.	The contractor shall submit an irrevocable Performance Guarantee of 3% (Three percent) of the contract value in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period **specified in the SCC** from the date of issue of letter of acceptance. This period can be further extended by the Engineer-in-Charge up to a maximum period as **specified in the SCC** on written request of the contractor stating the reason for delays in procuring the Performance Guarantee, to the satisfaction of the Engineer-in-Charge.
	11.	The Performance Guarantee shall be initially valid up to the stipulated date of completion, including the defect liability period, plus minimum 60 days beyond that. In case the time for completion of work gets enlarged, the contractor shall get the validity of Performance Guarantee extended to cover such enlarged time for completion of work. After recording of the completion certificate for the work by the competent authority, the performance guarantee shall be returned to the contractor, without any interest.
	12.	The Engineer-in-Charge shall make a claim under the performance guarantee in the event of: i. Failure by the contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer-in-Charge may claim the full amount of the Performance Guarantee. ii. Failure by the contractor to pay the Employer any amount due, either as agreed by the contractor or determined under any of the Clauses/Conditions of the agreement, within 30 days of the service of notice to this effect by Engineer in-charge.

	13.	In the event of the contract being determined or rescinded under provision of any of the Clause/Condition of the agreement, the performance guarantee shall stand forfeited in full and shall be absolutely at the disposal of the Employer.
	14.	On substantial Completion of any work which has been completed to such an extent that the intended purpose of the work is met and ready to use, then a provisional Completion certificate shall be recorded by the Engineer-in-Charge. The provisional certificate shall have appended with a list of outstanding balance item of work that need to be completed in accordance with the provisions of the contract. This provisional completion certificate shall be recorded by the concerned Engineer in-charge with the approval of Superintending Engineer /Project Manager / Chief Engineer/Chief Project Manager, if required. After recording of the provisional Completion Certificate for the work by the competent authority, the 80 % of performance guarantee shall be returned to the contractor, without any interest.
Compensation for Delay	15.	If the contractor fails to maintain the required progress in terms of the contractual conditions or to complete the work and clear the site on or before the contract or justified extended date of completion as well as any extension granted under various clauses of the contract, he shall, without prejudice to any other right or remedy available under the law to the Employer on account of such breach, pay as compensation the amount calculated at the rates **stipulated in the SCC** as the authority **specified in SCC** may decide on the amount of accepted Tendered Value of the work for every completed day/ month (as determined) that the progress remains below that specified in the contract or that the work remains incomplete. Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10 % (ten percent) of the accepted Tendered Value of work. In case, the work cannot be started due to reasons not within the control of the contractor within 1/8th of the stipulated time for completion of work or one month whichever is higher, either party may close the contract by giving notice to the other party stating the reasons.
Time and Extension for Delay	16.	The time allowed for execution of the Works as **specified in the SCC** or the extended time in accordance with these conditions shall be the essence of the Contract. The execution of the work shall commence from such time period as **mentioned in the SCC** or from the date of handing over of the site, notified by the Engineer-in-Charge, whichever is later. If the Contractor commits default in commencing the execution of the work as aforesaid, the performance guarantee shall be forfeited by the Engineer in Charge and shall be absolutely at the disposal of the Employer without prejudice to any other right or remedy available in law
	17.	As soon as possible but within 7 (seven) working days of award of work the Contractor shall submit a Time and Progress Chart for each mile stone. The Engineer-in-Charge may within 7 (seven) working days thereafter, if required modify, and communicate the program approved to the contractor failing which the program submitted by the contractor shall be deemed to be approved by the Engineer-in-Charge. The work programme shall include all details of balance drawings and decisions required to complete the contract with specific dates by which these details are required by contractor without causing any delay in execution of the work. The approval by the Engineer-in-Charge of such programme shall not relieve the contractor of any of the obligations under the contract. In case of non-submission of construction programme by the contractor, the program approved by the Engineer-in-Charge shall be deemed to be final.
	18.	If the work(s) be delayed by:- i. force majeure, or ii. abnormally bad weather, or iii. serious loss or damage by fire, or iv. civil commotion, local commotion of workmen, strike or lockout,

		affecting any of the trades employed on the work, or v. delay on the part of other contractors or tradesmen engaged by Engineer-in-Charge in executing work not forming part of the Contract, or vi. any other cause like above which, in the reasoned opinion of the Engineer-in-Charge is beyond the Contractor's control. then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer-in-Charge but shall nevertheless use constantly his best endeavours to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the works. The contractor shall have no claim of damages for extension of time granted or rescheduling of milestone/s for events listed above.
	19.	In case the work is hindered by the Employer or for any reason / event, for which the Employer is responsible, the authority as **indicated in the SCC** shall, if justified, give a fair and reasonable extension of time and reschedule the mile stones for completion of work. In such case, the contractor shall be entitled to only extension of time and no damages.
Termination of Contract	20.	Subject to other provisions contained in this clause, the Engineer-in-Charge may, without prejudice to any other rights or remedy against the contractor in respect of any delay, not following safety norms, inferior workmanship, any claims for damages and/or any other provisions of this contract or otherwise, and whether the date of completion has or has not elapsed, by notice in writing absolutely terminate the contract in any of the following cases: i. If the contractor having been given by the Engineer-in-Charge a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or un-workman like manner shall omit to comply with the requirement of such notice for a period of seven days thereafter. ii. If the contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence and continues to do so after a notice in writing of seven days from the Engineer-in-Charge. iii. If the contractor fails to complete the work or section of work with individual date of completion on or before the stipulated or justified extended date, on or before such date of completion; and the Engineer in Charge without any prejudice to any other right or remedy under any other provision in the contract has given further reasonable time in a notice given in writing in that behalf as either mutually agreed or in absence of such mutual agreement by his own assessment making such time essence of contract and in the opinion of Engineer-in-Charge the contractor will be unable to complete the same or does not complete the same within the period specified. iv. If the contractor persistently neglects to carry out his obligations under the contract and/ or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge. v. If the contractor shall offer or give or agree to give to any person in Government service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract for the Employer. vi. If the contractor shall enter into a contract with the Employer in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Engineer-in-Charge. vii. If the contractor had secured the contract with the Employer as a

		result of wrong tendering or other non-bonafide methods of competitive tendering or commits breach of Integrity Agreement. viii. If the contractor being an individual, or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of his estate made against him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport so to do, or if any application be made under any Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors. ix. If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager or which entitle the court to make a winding up order. x. If the contractor shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days. xi. If the contractor assigns (excluding part(s) of work assigned to other agency(s) by the contractor as per terms of contract), transfers, sublets (engagement of labour on a piece-work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Engineer -in-Charge. When the contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in-Charge on behalf of the employer shall have powers: i. To terminate the contract as aforesaid so far as performance of work by the Contractor is concerned (of which termination notice in writing to the contractor under the hand of the Engineer-in-Charge shall be conclusive evidence). Upon such termination, Security Deposit already recovered, Security deposit payable and Performance Guarantee under the contract shall be liable to be forfeited and shall be absolutely at the disposal of the Employer ii. After giving notice to the contractor to measure up the work of the contractor and to take such whole, or the balance or part thereof, as shall be un-executed out of his hands and to give it to another contractor to complete the work. The contractor, whose contract is terminated as above, shall not be allowed to participate in the tendering process for the balance work including any new items needed to complete the work. In the event of above courses being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provision aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.
Measurement Book	21.	Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement the value of work done in accordance with the contract. All measurements of all items having financial value shall be entered by the contractor and compiled in the shape of the Computerized Measurement Book

		having pages of A-4 size as per the format of the department so that a complete record is obtained of all the items of works performed under the contract. All such measurements and levels recorded by the contractor or his authorized representative from time to time, during the progress of the work, shall be got checked by the contractor from the Engineer-in-Charge or his authorized representative as per interval or program fixed in consultation with Engineer-in-Charge or his authorized representative. After the necessary corrections made by the Engineer-in-Charge, the measurement sheets shall be returned to the contractor for incorporating the corrections and for resubmission to the Engineer-in- Charge for the dated signatures by the Engineer-in- Charge and the contractor or their representatives in token of their acceptance. Whenever bill is due for payment, the contractor would initially submit draft computerized measurement sheets and these measurements would be got checked/test checked from the Engineer-in Charge and/or his authorized representative. The contractor will, thereafter, incorporate such changes as may be done during these checks/test checks in his draft computerized measurements, and submit to the department a computerized measurement book, duly bound, and with its pages machine numbered. The Engineer-in- Charge and/or his authorized representative would thereafter check this MB, and record the necessary certificates for their checks/test checks. The final, fair, computerized measurement book given by the contractor, duly bound, with its pages machine numbered, should be 100% correct, and no cutting or over-writing in the measurements would thereafter be allowed. If at all any error is noticed, the contractor shall have to submit a fresh computerized MB with its pages duly machine numbered and bound, after getting the earlier MB cancelled by the department. Thereafter, the MB shall be taken in the Divisional Office records, and allotted a number as per the Register of Computerized MBs. This should be done before the corresponding bill is submitted to the Division Office for payment. The contractor shall submit two spare copies of such computerized MB's for the purpose of reference and record by the various officers of the department.
Payment on intermediate certificate to be regarded as Advances	22.	Interim or running account bills shall be submitted by the contractor for the work executed on the basis of such recorded measurements on the format of the Employer in triplicate on or before the date of every month fixed for the same by the Engineer-in-Charge. The contractor shall not be entitled to be paid any such interim payment if the gross work done together with net payment/ adjustment of advances for material collected, if any, since the last such payment is less than the amount **specified in the SCC**, in which case the interim bill shall be prepared on the appointed date of the month after the requisite progress is achieved. Engineer-in-Charge shall arrange to have the bill verified by taking or causing to be taken, where necessary, the requisite measurements of the work. In the event of the failure of the contractor to submit the bills, no claims whatsoever due to delays on payment including that of interest shall be payable to the contractor.
	23.	In case of delay in payment of intermediate bills after 45 days of submission of bill by the contractor provided the bill submitted by the contractor found to be in order, a simple interest @ 5% (five percent) per annum shall be paid to the contractor from the date of expiry of prescribed time limit which will be compounded on yearly basis.
	24.	All such interim payments shall be regarded as payment by way of advances against final payment only and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected. Any certificate given by the Engineer-in-Charge relating to the work done or materials delivered forming part of such payment, may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates is/are in accordance with the contract and specifications. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer-in-Charge under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract.
Completion	25.	Within ten days of the completion of the work, the contractor shall give notice of

Certificate and Completion Plans		such completion to the Engineer-in-Charge and within thirty days of the receipt of such notice, the Engineer-in-Charge shall inspect the work and if there is no defect in the work, shall furnish the contractor with a final certificate of completion, otherwise a provisional certificate of physical completion indicating defects (a) to be rectified by the contractor and/or (b) for which payment will be made at reduced rates, shall be issued. No final certificate of completion shall be issued, nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work shall be executed all scaffolding, surplus materials, rubbish and all huts and sanitary arrangements required for his/their work people on the site in connection with the execution of the works as shall have been erected or constructed by the contractor(s) and cleaned off the dirt from all wood work, doors, windows, walls, floor or other parts of the building, in, upon, or about which the work is to be executed or of which he may have had possession for the purpose of the execution; thereof, and not until the work shall have been measured by the Engineer-in-Charge. If the contractor shall fail to comply with the requirements of this Clause as to removal of scaffolding, surplus materials and rubbish and all huts and sanitary arrangements as aforesaid and cleaning off dirt on or before the date fixed for the completion of work, the Engineer-in-Charge may at the expense of the contractor remove such scaffolding, surplus materials and rubbish etc., and dispose of the same as he thinks fit and clean off such dirt as aforesaid, and the contractor shall have no claim in respect of scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.
Payment of Final Bill	26.	The final bill shall be submitted by the contractor in the same manner as specified in interim bills within three months of physical completion of the work or within one month of the date of the final certificate of completion furnished by the Engineer-in-Charge whichever is earlier. No further claims shall be made by the contractor after submission of the final bill and these shall be deemed to have been waived and extinguished. Payments of those items of the bill in respect of which there is no dispute and of items in dispute, for quantities and rates as approved by Engineer-in-Charge, will, as far as possible be made within 2 months, the period being reckoned from the date of receipt of the bill by the Engineer in-charge complete with account of materials issued by the Employer and dismantled materials.
	27.	If the final bill is submitted by the contractor within the period specified above and payment of final bills is made by the Employer after prescribed time limit , a simple interest @ 5 % per annum shall be paid to the contractor from the date of expiry of prescribed time limit which will be compounded on yearly basis, provided the final bill submitted by the contractor is found to be in order.
Materials to be provided by the Contractor	28.	The contractor shall, at his own expense, provide all materials, required for the works other than those which are stipulated to be supplied by the Employer. The contractor shall, at his own expense and without delay; supply to the Engineer-in-charge samples of materials to be used on the work and shall get these approved in advance. All such materials to be provided by the Contractor shall be in conformity with the specifications laid down or referred to in the contract. The contractor shall, if requested by the Engineer-in-charge furnish proof, to the satisfaction of the Engineer-in-charge that the materials so comply. The Engineer-in-Charge shall within thirty days of supply of samples or within such further period as he may require intimate to the Contractor in writing whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the Engineer-in-Charge for his approval, fresh samples complying with the specifications laid down in the contract. When materials are required to be tested in accordance with specifications, approval of the Engineer-in-Charge shall be issued after the test results are received. The Contractor shall at his risk and cost submit the samples of materials to be tested or analyzed and shall not make use of or incorporate in the work any materials represented by the samples until the required tests or analysis have been made and materials finally accepted by the Engineer-in-Charge. The Contractor shall not be eligible for any claim or compensation either arising out of any delay in the work or due to any corrective measures required to be taken on account of and as a

		result of testing of materials. The contractor shall, at his risk and cost, make all arrangements and shall provide all facilities as the Engineer-in-charge may require for collecting, and preparing the required number of samples for such tests at such time and to such place or places as may be directed by the Engineer-in-charge and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications. The Engineer -in- Charge or his authorized representative shall at all times have access to the works and to all workshops and places where work is being prepared or from where materials, manufactured articles or machinery are being obtained for the works and the contractor shall afford every facility and every assistance in obtaining the right to such access.
Mobilization advance	29.	Mobilization advance not exceeding 10% of the tendered value may be given, if requested by the contractor in writing within one month of the order to commence the work. Such advance shall be in two or more instalments to be determined by the Engineer-in-charge at his sole discretion. The first instalment of such advance shall be released by the Engineer-in-charge to the contractor on a request made by the contractor to the Engineer-in-charge in this behalf. The second and subsequent instalments shall be released by the Engineer-in- Charge only after the contractor furnishes a proof of the satisfactory utilization of the earlier instalment to the entire satisfaction of the Engineer-in-Charge. Before any instalment of advance is released, the contractor shall execute a Bank Guarantee Bonds not more than 2 in number from Scheduled Bank for the amount equal to 110% of the amount of advance and valid for the period till recovery of advance. This (Bank Guarantee from Scheduled Bank for the amount equal to 110% of the balance amount of advance) shall be kept renewed from time to time to cover the balance amount and likely period of complete recovery.
	30.	The mobilization advance shall bear simple interest at the rate of 10 percent per annum and shall be calculated from the date of payment to the date of recovery, both days inclusive, on the outstanding amount of advance. Recovery of such sums advanced shall be made by the deduction from the contractor's bills commencing after first ten percent of the gross value of the work is executed and paid, on pro-rata percentage basis to the gross value of the work billed beyond 10% in such a way that the entire advance is recovered by the time eighty percent of the gross value of the contract is executed and paid, together with interest due on the entire outstanding amount up to the date of recovery of the instalment.
	31.	If the circumstances are considered reasonable by the Engineer-in-Charge, the period for request by the contractor in writing for grant of mobilization advance may be extended at the discretion of the Engineer-in-Charge.
Dismantled Material Govt. Property	32.	The contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work, etc. as Employer's property and such materials shall be disposed off to the best advantage of Employer according to the instructions in writing issued by the Engineer-in-Charge.
Work to be Executed in Accordance with Specifications, Drawings, Orders etc.	33.	The contractor shall execute the whole and every part of the work in the most substantial and workmanlike manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect of the work signed by the Engineer-in-Charge. The contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The Contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction.
Deviations/ Variations Extent and Pricing	34.	The Engineer-in-Charge shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him

		in writing signed by the Engineer-in-Charge and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided.
	35.	The time for completion of the works shall, in the event of any deviations resulting in additional cost over the tendered value sum being ordered, be extended, if requested by the contractor, as follows: i. In the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value plus ii. 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer-in-Charge.
Deviation, Extra Items and Pricing	36.	In the case of extra item(s) (items that are completely new, and are in addition to the items contained in the contract), the contractor may within fifteen days of receipt of order or occurrence of the item(s) submit market rate claim rates, supported by proper analysis which shall include invoices, vouchers etc. and manufacturer's specification for the work failing which the rate approved later by the Engineer-in-charge shall be binding and the Engineer-in-Charge shall within prescribed time limit of the receipt of the claims supported by analysis , after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined, failing which it will be deemed to have been approved.
Carrying out part work at risk & cost of Contractor	37.	If contractor: i. At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do so even after a notice in writing of 7 working days in this respect from the Engineer-in-Charge; or ii. Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it within 7 working days even after a notice in writing is given in that behalf by the Engineer-in-Charge; or iii. Fails to complete the work(s) or items of work with individual dates of completion, on or before the date(s) so determined, and does not complete them within the period specified in the notice given in writing in that behalf by the Engineer-in-Charge. The Engineer- in-Charge without invoking action under clauses 15 and 20 may, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to Employer, by a notice in writing to take the part work / part incomplete work of any item(s) out of his hands and shall have powers to : i. Take possession of the site and any materials, constructional plant, implements, stores, etc., thereon; and/or ii. Carry out the part work / part incomplete work of any item(s) by any means at the risk and cost of the contractor. The Engineer-in-Charge shall determine the amount, if any, is recoverable from the contractor for completion of the part work/ part incomplete work of any item(s) taken out of his hands and execute at the risk and cost of the contractor. The liability of contractor on account of loss or damage suffered by Employer because of action under this clause shall not exceed 10% of the tendered value of the work.
Suspension of Work	38.	The contractor shall, on receipt of the order in writing of the Engineer-in-Charge, (whose decision shall be final and binding on the contractor) suspend the progress of the works or any part thereof for such time and in such manner as the Engineer-in-Charge may consider necessary so as not to cause any damage or injury to the work already done or endanger the safety thereof for any of the following reasons: i. on account of any default on the part of the contractor or;

		ii. for proper execution of the works or part thereof for reasons other than the default of the contractor; or iii. for safety of the works or part thereof. The contractor shall, during such suspension, properly protect and secure the works to the extent necessary and carry out the instructions given in that behalf by the Engineer in-Charge. If the suspension is ordered for reasons ii. and iii. in sub-para above, the contractor shall be entitled to an extension of time equal to the period of every such suspension PLUS 25%, for completion of the item or group of items of work for which a separate period of completion is specified in the contract and of which the suspended work forms a part, and; If the total period of all such suspensions in respect of an item or group of items or work for which a separate period of completion is specified in the contract exceeds thirty days, the contractor shall, in addition, be entitled to such compensation as the Engineer-in- Charge may consider reasonable in respect of salaries and/or wages paid by the contractor to his employees and labour at site, remaining idle during the period of suspension, adding thereto 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in- Charge within fifteen days of the expiry of the period of 30 days.
Action in case Work not done as per Specifications	39.	All works under or in course of execution or executed in pursuance of the contract, shall at all times be open and accessible to the inspection and supervision of the Engineer-in - charge, his authorized subordinates in charge of the work and all the superior officers or any organization engaged by the Employer for Quality Assurance and of the Chief Technical Examiner's Office, and the contractor shall, at all times, during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose.
	40.	Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the contractor himself. If it shall appear to the Engineer-in-charge or his authorized subordinates in charge of the work or to the officers of the organization engaged by the Employer for Quality Assurance or to the Chief Technical Examiner or his subordinate officers, that any work has been executed with unsound, imperfect, or unskilful workmanship, or with materials or articles provided by him for the execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract, the contractor shall, on demand in writing which shall be made within twelve months of the completion of the work from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost.
	41.	In the event of the Contractor failing to do so within a period specified by the Engineer-in- Charge in his demand aforesaid, the contractor shall be liable to pay compensation at the same rate as under clause 15 of the contract (for non-completion of the work in time) for this default.
Contractor Liable for Damages, defects during defect liability Period	42.	If the contractor or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road kerb, fence, enclosure, water pipe, cables, drains, electric or telephone post or wires, trees, grass or grassland, or cultivated ground contiguous to the premises on which the work or any part is being executed, or if any damage shall happen to the work while in progress, from any cause whatever or if any defect, shrinkage or other faults appear in the work within twelve months after a certificate final or otherwise of its completion shall have been given by the Engineer in- Charge as aforesaid arising out of defect or improper materials or workmanship the contractor shall upon receipt of a notice in writing on that behalf make the same good at his own expense or in default the Engineer-in-Charge cause the same to be made good by other workmen and deduct the expense from any sums that may

		be due or at any time thereafter may become due to the contractor, or from his security deposit or the proceeds of sale thereof or of a sufficient portion thereof. The security deposit of the contractor shall not be refunded before the expiry of twelve months after the issue of the certificate final or otherwise, of completion of work, or till the final bill has been prepared and passed whichever is later.
Contractor to Supply Tools & Plants etc.	43.	The contractor shall provide at his own cost all materials machinery, tools & plants as specified in the Section 5 – Scope of Work and Technical Specifications. In addition to this, appliances, implements, other plants, ladders, cordage, tackle, scaffolding and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specifications or other documents forming part of the contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage therefore to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials, necessary for the purpose of setting out works, and counting, weighing and assisting the measurement for examination at any time and from time to time of the work or materials. Failing his so doing, the same may be provided by the Engineer-in-Charge at the expense of the contractor and the expenses may be deducted, from any money due to the contractor, under this contract or otherwise and/or from his security deposit or the proceeds of sale thereof, or of a sufficient portion thereof.
Recovery of Compensation paid to Workmen	44.	In every case in which by virtue of the provisions sub- section (1) of section 12 of the Workmen's Compensation Act. 1923, Employer is obliged to pay compensation to a workman employed by the contractor, in execution of the works, Employer will recover from the contractor , the amount of the compensation so paid: and without prejudice to the rights of the Employer under sub- section(2) of section 12 , of the said Act, Employer shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by Employer to the contractor whether under this contract or otherwise. Employer shall not be bound to contest any claim made against it under sub- section (1) of section 12, of the said Act, except on the written request of the contractor and upon his giving to Employer full security for all costs for which Employer might become liable in consequence of contesting such claim.
Ensuring Payment and Amenities to Workers if Contractor fails	45.	In every case in which by virtue of the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and of the Contract Labour (Regulation and Abolition) Central Rules, 1971, Employer is obliged to pay any amounts of wages to a workman employed by the contractor in execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act and the rules under Clause 19H or under the C.P.W.D. Contractor's Labour Regulations, or under the Rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by C.P.W.D. Contractors, Employer will recover from the contractor, the amount of wages so paid or the amount of expenditure so incurred; and without prejudice to the rights of the Employer under sub-section(2) of Section 20, and sub-section (4) of Section 21, of the Contract Labour (Regulation and Abolition) Act, 1970, Employer shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by Employer to the contractor whether under this contract or otherwise Employer shall not be bound to contest any claim made against it under subsection (1) of Section 20, sub-section (4) of Section 21, of the said Act, except on the written request of the contractor and upon his giving to the Employer full security for all costs for which Employer might become liable in contesting such claim.
Labour Laws to be complied by the Contractor	46.	The contractor shall obtain a valid license under the Contract Labour (R&A) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, before the commencement of the work, and continue to have a valid license until the completion of the work. The contractor shall also comply with provisions of the Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979.

		The contractor shall also abide by the provisions of the Child Labour (Prohibition and Regulation) Act, 1986. The contractor shall also comply with the provisions of the building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996. Any failure to fulfil these requirements shall attract the penal provisions of this contract arising out of the resultant non-execution of the work. No labour below the age of fourteen years shall be employed on the work.
Contribution of EPF and ESI	47.	The ESI and EPF contributions on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-charge to the contractor on actual basis. The verification of deployment of labour will be done through biometric attendance system or any other suitable method by the Engineer in Charge. The applicable and eligible amount of EPF & ESI shall be reimbursed preferably within 7 days but not later than 30 days of submission of documentary proof of payment provided same are in order.
Minimum Wages Act to be Complied With	48.	The contractor shall comply with all the provisions of the Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act, 1970, amended from time to time and rules framed there under and other labour laws affecting contract labour that may be brought into force from time to time.
Work not to be sublet. Action in case of insolvency.	49.	The contract shall not be assigned or sublet without the written approval of the Engineer-in-Charge. And if the contractor shall assign or sublet his contract, or attempt to do so, or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempt to do so, or if any bribe, gratuity, gift, loan, perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the contractor, or any of his servants or agent to any public officer or person in the employ of Employer in any way relating to his office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract, the Engineer-in-Charge on behalf of the Employer shall have power to adopt the course specified in Clause 20 hereof in the interest of Employer and in the event of such course being adopted, the consequences specified in the said Clause 20 shall ensue.
Changes in firm's Constitution to be Intimated	50.	Where the contractor is a partnership firm, the previous approval in writing of the Engineer-in Charge shall be obtained before any change is made in the constitution of the firm. Where the contractor is an individual or a Hindu undivided family business concern, such approval as aforesaid shall likewise be obtained before the contractor enters into any partnership agreement where under the partnership firm would have the right to carry out the works hereby undertaken by the contractor. If previous approval as aforesaid is not obtained, the contract shall be deemed to have been assigned in contravention of Clause 48 hereof and the same action may be taken, and the same consequences shall ensue as provided in the said Clause 48.
Defect Liability and lifecycle cost	51.	The contractor shall be responsible for safety, quality and soundness of the buildings including structural elements beyond maintenance period. The contractor shall have obligation to rectify such defects for such period as **stipulated in the SCC** from the date of completion of work. The defects have to be rectified within a reasonable time not exceeding forty five days after issue of notice by Engineer- in- Charge. If contractor does not take corrective action within 45 days, then action for debarring of the agency shall be taken by the appropriate authority.
Action where no Specifications are Specified	52.	In the case of any class of work for which there is no such specifications, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case there are no such specifications in Bureau of Indian Standards, the work shall be carried out as per manufacturers' specifications, if not available then as per state/ district specifications. In case there are no such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge.

Water for Works	53.	The contractor(s) shall make his/their own arrangements for water required for the work and nothing extra will be paid for the same. This will be subject to the following conditions. i. That the water used by the contractor(s) shall be fit for construction purposes to the satisfaction of the Engineer-in-Charge. ii. The Engineer-in-Charge shall make alternative arrangements for supply of water at the risk and cost of contractor(s) if the arrangements made by the contractor(s) for procurement of water are in the opinion of the Engineer-in- Charge, unsatisfactory.
Security Deposit	54.	The contractor whose tender is accepted will be required to furnish by way of Security Deposit for the fulfilment of his contract, an amount equal to 2.5% of the tendered value of the work. The Security deposit will be collected by deductions from the running bills as well as final bill of the contractor at the rates mentioned above. The Security amount will also be accepted in cash or Fixed Deposit Receipt of a Scheduled Bank.
Recovery of Security Deposit	55.	The Contractor shall permit the Employer at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 2.5% of the gross amount of each running and final bill till the sum deducted will amount to security deposit of 2.5% of the tendered value of the work. Such deductions will be made and held by Employer by way of Security Deposit unless he/they has/have deposited the amount of Security at the rate mentioned above in cash or in the form of fixed deposit receipts. In case a fixed deposit receipt of any Bank is furnished by the contractor to the Employer as part of the security deposit and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the Employer to make good the deficit. All compensations or the other sums of money payable by the contractor under the terms of this contract may be deducted from a sufficient part of his security deposit or from the interest arising there from, or from any sums which may be due to or may become due to the contractor by Employer on any account whatsoever and in the event of his Security Deposit being reduced by reason of any such deductions or sale as aforesaid, the contractor shall within 10 days make good in cash or fixed deposit receipt tendered by the State Bank of India or by Scheduled Banks endorsed in favour of the Engineer-in-Charge, any sum or sums which may have been deducted from or any part thereof.
Release of Security deposit after labour clearance	56.	Release of Security Deposit of the work shall not be refunded till the contractor produces a clearance certificate from the Labour Officer or appropriate authority as stipulated by the Employer **in the SCC**. As soon as the work is virtually complete the contractor shall apply for the clearance certificate to the Labour Officer under intimation to the Engineer-in-Charge. The Engineer-in-Charge, on receipt of the said communication, shall write to the Labour Officer to intimate if any complaint is pending against the contractor in respect of the work. If no complaint is pending, on record till after 3 months after completion of the work and/or no communication is received from the Labour Officer to this effect till six months after the date of completion, it will be deemed to have received the clearance certificate and the Security Deposit will be released if otherwise due.
Termination of Contract on death of contractor	57.	Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the Engineer-in-Charge on behalf of the Employer shall have the option of terminating the contract without levy of compensation to the contractor.
Settlement of Disputes & Arbitration	58.	The Parties shall use their best efforts to settle amicably all disputes arising out of or in connection with this Contract or its interpretation. Any dispute between the Parties arising under or related to this Contract that cannot be settled amicably may be referred to by either Party to the adjudication / arbitration in accordance with the provisions specified in Clause 25 of the General Conditions of Contract 2020 for Construction Works issued by the Central Public Works Department.
Other terms and conditions	59.	Insofar as they are not contradictory to the conditions specified hereinabove, the Employer may include additional terms and conditions pertaining to execution of

specific to the contract		works specific to the contract by way of attaching annexures / appendices to the Contract which shall also be invariably included as part of the bidding documents.

Section 8 – Special Conditions of Contract (SCC)

Reference	Amendments / Additions / Deletions
GCC 2 iii.	The name of the Contractor is _____
GCC 2 iv.	The competent authority is Development Commissioner, SEEPZ SEZ
GCC 2 vii.	The percentage is _____
GCC 2 ix.	The Contract Price is Rs._____ (Rupees _____)
GCC 2 x.	The date of commencement of work is _____
GCC 10	The period for submission of performance security shall be 14 days after issuance of the Letter of Acceptance. The period may be further extended up to a maximum of 14 days.
GCC 15	The compensation rate shall be 0.2% every week or part thereof. The authority shall be Development Commissioner, SEEPZ SEZ.
GCC 16	The time allowed for execution of Works is _____ weeks. The execution of work shall commence within 7 days of issuance of LoA or immediately upon submission of the performance security, whichever is later.
GCC 19	The authority shall be Development Commissioner, SEEPZ SEZ
GCC 22	The amount is Rs. 5 lakh

Section 9 – Contract Forms

SN	Name of the Form	Page No.
1	Letter of Acceptance Format	
2	Performance Security (Bank Guarantee) Format	
3	Form of Contract	

1. Letter of Acceptance Format

[**Name of the procuring entity**]

Letter of Acceptance

Confidential

Contract No:
[Insert date]
Contract Title:

To, M/ s. [Insert name & address]

Sub: Award of contract for contract no: [insert contract number] and contract title: [insert contract title]
Reference: Your offer no. [insert offer number] against our tender no. [insert tender no] opened on [insert date of opening of tender]

Dear Sir/ Madam,

I am directed to inform you that after evaluating the bid documents submitted by you on [enter date] SEEPZ SEZ Authority is pleased to inform you that you have been selected as the successful bidder for the works titled [insert name of works].

The total Tendered Value, alternatively known as the Contract Price or the Contract Value, shall be [enter amount] as indicated in your financial bid submitted on [enter date], in accordance with the procedures intimated in the relevant bid documents.

You/ your authorised representative(s) are requested to be personally present at [insert address] for the signing of the contract by [enter date].

In this respect, we also request you to submit the performance security of [insert amount of Rupees in words] by [insert date] and the security deposit amounting to [insert amount in figures followed by words].

Please apply for return of bid security if deposited in the form of bank guarantee.

You are requested to execute necessary agreement within seven days from the date of issue of this letter in the enclosed agreement form. Special adhesive stamp of Rs.10 (ten) and revenue stamp of Re. one shall be affixed on the enclosed agreement form.

This notification concludes the legally binding contract between you and the SEEPZ SEZ Auhtority, till issue of a formal contract.

Yours truly, [Authorised Officer]

Enclosure: Agreement Form along with the schedule of delivery

2. Performance Security (Bank Guarantee) Format

[To be printed on the bank's letterhead]

In consideration of the Development Commissioner, SEEPZ SEZ Authority (hereinafter called "The Employer") having offered to accept the terms and conditions of the proposed agreement between SEEPZ SEZ and …….....…… (hereinafter called "the said Contractor") for the work…… (hereinafter called "the said agreement") having agreed to production of an irrevocable Bank Guarantee for Rs. ……. (Rupees …… only) as a security/guarantee from the contractor for compliance of his obligations in accordance with the terms and conditions in the said agreement.

1. We, ……. (hereinafter referred to as "the Bank") hereby undertake to pay to the Employer an amount not exceeding Rs. …….. (Rupees……. Only) on demand by the Employer.

2. We, ……..(indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demure, merely on a demand from the Employer stating that the amount claimed as required to meet the recoveries due or likely to be due from the said contractor. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. …….. (Rupees …….only)

3. We, the said bank further undertake to pay the Employer any money so demanded notwithstanding any dispute or disputes raised by the contractor in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the Contractor shall have no claim against us for making such payment.

4. We, ……. (indicate the name of the Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Engineer-in- Charge on behalf of the Employer certified that the terms and conditions of the said agreement have been fully and properly carried out by the said Contractor and accordingly discharges this guarantee.

5. We, ……. (indicate the name of the Bank) further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligation hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said contractor and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor or for any forbearance, act of omission on the part of

the Employer or any indulgence by the Employer to the said Contractor or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.

7. We, ……. (indicate the name of the Bank) lastly undertake not to revoke this guarantee except with the previous consent of the Employer in writing.

8. This guarantee shall be valid up to ……unless extended on demand by the Employer.

Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. …… (Rupees ……..) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

Dated the ……..day of ……

for…….(indicate the name of the Bank)

3. Form of Contract

This CONTRACT (hereinafter called the "Contract") is made the [day] day of the month of [month], [year], between, on the one hand, SEEPZ SEZ Authority (hereinafter called the "Employer") and, on the other hand, [name of Contractor] (hereinafter called the "Contractor").

WHEREAS

a. the Employer has requested the Contractor to execute certain Works as defined in the Conditions of Contract attached to this Contract (hereinafter called the "Works");
b. the Contractor, having represented to the Employer that they have the required professional skills, and personnel and technical and financial resources, have agreed to execute the Works on the terms and conditions set forth in this Contract at the contract price of Rs. [insert Contract Price];

NOW THEREFORE the parties hereto hereby agree as follows:

1. The following documents shall be deemed to form and be read and construed as part ofthis Agreement, and the priority of the documents shall be as follows:
   a. the Special Conditions of Contract;
   b. the General Conditions of Contract;
   c. The following Appendices:

      Appendix A: Scope of Work and Technical Specifications
      Appendix B: Additional Terms and Conditions
      Appendix C: Breakdown of Contract Price
      Appendix D: Design and Drawings

2. The mutual rights and obligations of the Employer and the Contractor shall be as setforth in the Contract, in particular:
   a) the Contractor shall execute the Works in accordance with the provisions ofthe Contract; and

b) the Employer shall make payments to the Contractor in accordance with the provisions of the Contract.

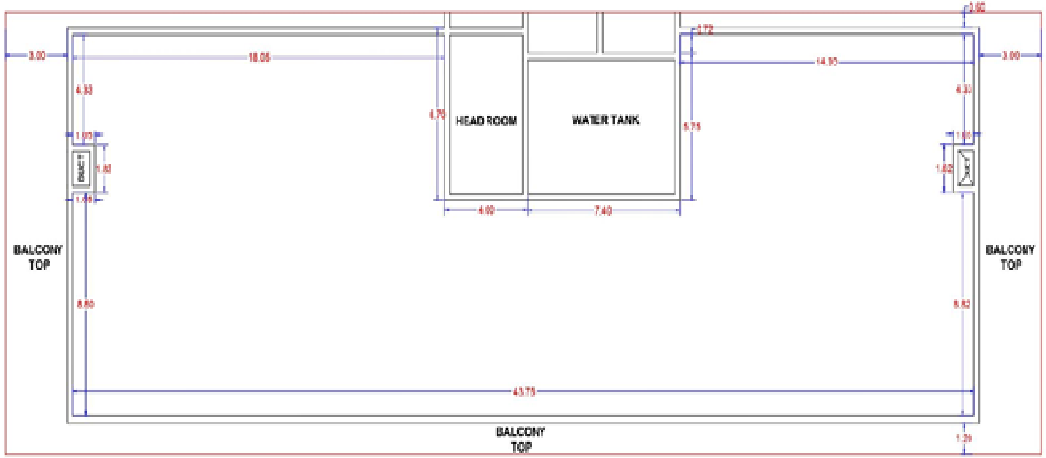
IN WITNESS WHEREOF, the Parties hereto have caused this Contract to be signed in theirrespective names as of the day and year first above written.

For and on behalf of SEEPZ SEZ Authority

Shri Shyam Jagannathan, IAS
Development Commissioner, SEEPZ SEZ

For and on behalf of [name of Contractor]

[Authorized Representative]



SERVICE CENTER BUILDING

TERRACE LAYOUT

TOTAL TERRACE AREA :- 604.85 SQMT
PARAPET WALL PERIMETER :- 138.00 RMT
BALCONY TOP AREA:- 176.31 SQ.MT
BALCONY WALL PERIMETER:- 238.92 SQ.MT
HEAD ROOM TOP AREA :- 26.80 SQ.MT
WATER TANK TOP AREA :- 43.97 SQ.MT

CREATIVECONSULTANTS
335,KUBER COMPLEX,
OPP.LAXMI INDUSTRIAL ESTATE,
NEW LINK ROAD,ANDHERI (WEST),
MUMBAI- 400053.
Tel: 022-49647088 / Mob:9136665543

RAKESH OJHA
(GENERAL MANAGER)

SHALAKA NAWLE
(1356/SE/2021)
(STRUCTURAL ENGINEER)

CLIENT	SEEPZ - SEZ AUTHORITY		
DOCUMENT TITLE	TERRACE LAYOUT		
PROJECT ID		PREPARED BY	AK
DATE	28.10.2022.	CHECKED BY	RD
SCALE	N.T.S.	APPROVED BY	VS

Drawing