



केंद्रीय भंडारण निगम

(भारत सरकार का एक उपक्रम)

CENTRAL WAREHOUSING CORPORATION

(A Govt. of India Undertaking)

Corporate Office	4/1, Siri Institutional Area, August Kranti Marg, Hauz Khas, New Delhi-110016, Ph. No. & Fax No. (011) 49857894 Email Id: engg.cwhc@cewacor.nic.in
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E- Tender

Tender Reference Number:(E NIT_CWC/CO/Engg./NIT/24-25/06)

Procurement of Works:

Name of Work:

Design, supply, installation, testing and commissioning of Fire Fighting System for Godown No. 1 & 2 at CW Kolathur, Kerala.

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CENTRAL WAREHOUSING CORPORATION

(A Govt. of India Undertaking)

Corporate Office, 4/1, Siri Institutional Area, August Kranti Marg, Hauz Khas, New Delhi

Engineering Division:PH-011-49857894, E-mail; hod.engg@cewacor.nic.in

E-TENDER NOTICE

CWC invites on-line, open, E-tender from the contractors for the following works:

SL	Name of Work	EstimatedCost (Rs. Lakh)	Last date of on-line bid submission
1.	Design, supply, installation, testing and commissioning of Fire Fighting System for Godown No. 1 & 2 at CW Kolathur, Kerala.	Rs. 128.95 Lakhs	11-12-2024 Up to 15.00 hrs.

Detailed Tender Notice along with Conditions of Contract and Notice Inviting E-Tender may be seen and downloaded from the CWC's website www.cewacor.nic.in or e-tender website www.cwceprocure.com or CPP Portal <http://eprocure.gov.in/e-publish/app>.

Further Corrigendum/Addendum to this Tender, if any, will be published on above websites only and any Press advertisement in Newspapers shall not be issued for the same.

CHIEF ENGINEER

NOTICE INVITING TENDER

(E NIT_CWC/CO/Engg./NIT/24-25/06)

(E-tendering Mode)

The Central Warehousing Corporation, through the Chief Engineer of the Central Warehousing Corporation, (CWC), at Corporate Office, New Delhi (hereinafter referred to as the Procuring Entity, 'Engineer In charge', respectively), invites online e tenders (hereinafter referred as the 'bid(s)') for entering into a contract for **Design, supply, installation, testing and commissioning of Fire Fighting System for Godown No. 1 & 2 at CW Kolathur, Kerala** (hereinafter referred to as 'the Works'). This Request for Proposal for procurement having reference number, E NIT_CWC/CO/Engg./NIT/24-25/06 (hereinafter referred to as 'the Tender Document'), gives further details.

1. The Tender Document

1.1. Bidders must read the complete 'Tender Document'.

This NIT is an integral part of the Tender Document and serves a limited purpose of invitation and does not purport to contain all relevant details for submission of bids. 'Tender Information Summary' (TIS) appended to this notice gives a salient summary of the tender information. Any generic reference to NIT shall also imply a reference to TIS as well. However, Bidders must go through the complete Tender Document for details before submission of their Bids.

1.2. Availability of the Tender Document

The Tender Document shall be published on the the CWC's website www.cewacor.nic.in or e-tender website www.cwceprocure.com or CPP Portal <http://eprocure.gov.in/epublish/app>. It shall be available for download after the date and time of the start of availability till the deadline for availability as mentioned in TIS. Unless otherwise stipulated in TIS, the Tender Document can be downloaded from CWC website www.cewacor.nic.in or from CPP portal free of cost. If the Procuring Entity happens to be closed on the deadline for submitting the bids as specified above, this deadline shall *not* be extended. Any query/clarification regarding downloading Tender Documents and uploading Bids on the e-Procurement portal may be addressed to the Help Desk (contact details given in TIS).

1.3. Clarifications

A Bidder requiring any clarification regarding the Tender Document may ask questions in writing/electronically from Office/ Contact Person as mentioned in TIS, provided the questions are raised before the clarification end date mentioned in TIS (or if not mentioned, before 7 days of the deadline for the bid submission). This deadline shall not be extended in case of any intervening holidays.

2. Eligibility Criteria for Participation in this Tender

The participation in this Tender Process is open to all bidders who fulfil the 'Eligibility' and 'Qualification criteria. Bidder should meet the following eligibility criteria on the date of his bid submission and should continue to meet these till the award of the contract. Bidder shall be required to declare fulfilment of Eligibility Criteria in along with PQ Form enclosed in the ITB Section IIIA

Bidder unless otherwise stipulated in TIS/ ITB:

1) must be:

(a) a natural person or private entity or public entity (State-owned enterprise or institution),

- (b) not be (or proposes to be, a Joint Venture/ Consortium (an association of several persons, firms, or companies - hereinafter referred to as JV/C).
- (c) a contractor having technical experience and Financial Soundness to the extent minimum required for eligibility of this tender as mentioned in Annexure A
- (d) having valid registration regarding GSTIN, PAN.

2) must:

- (a) 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 aforesaid reasons.
- (b) (Including their affiliates or subsidiaries or Contractors/ subcontractors for any part of the contract):
 - i. Not stand declared ineligible/ blacklisted/ banned/ debarred by the Procuring Organization or its Ministry/ Department from participation in its Tender Processes; and/ or
 - ii. Not be convicted (within three years preceding the last date of bid submission) or stand declared ineligible/ suspended/ blacklisted/ banned/ debarred by appropriate agencies of Government of India from participation in Tender Processes of all of its entities, for:
 - offences involving moral turpitude in business dealings under the Prevention of Corruption Act, 1988 or any other law; and/or
 - offences under the Indian Penal Code or any other law for causing any loss of life/ limbs/ property or endangering Public Health during the execution of a public procurement contract and/ or
 - suspected to be or of doubtful loyalty to the Country or a National Security risk as determined by appropriate agencies of the Government of India.
 - iii. Not have changed its name or created a new “Allied Firm”, consequent to having declared ineligible/ suspended/ blacklisted/ banned/ debarred as above.
 - iv. Not have an association (as a bidder/ partner/ director/ employee in any capacity) of: any retired Manager (of Gazetted Rank) or any retired Gazetted Officer of CWC or of the Central or State Government or its Public Sector Undertakings if such a retired person has not completed the cooling-off period of one year after his retirement. However, this shall not apply if such managers/ officers have obtained a waiver of the cooling-off period from their erstwhile organization.
 - v. And of the near relations of executives of Procuring Entity involved in this Tender Process including Head of Engineering / Finance/ Purchase/Business Section, Executive Engineer, Assistant Engineer of Regional Office and Corporate Office.
- (c) Not have a conflict of interest, which substantially affects fair competition. The prices quoted should be competitive and without adopting any unfair/ unethical/ anti-competitive means. No attempt should be made to induce any other bidder to submit or not to submit an offer for restricting competition.

3) **must fulfil other additional eligibility conditions, viz Qualification norms, bid compliance, Bid security etc. as prescribed, in “Annexure-A” (Section III) of Tender Document.**

4) must provide such evidence of their continued eligibility to the Procuring Entity if so requested.

5) from specified countries having land borders with India (but not in development partnership with India) shall be eligible subject to certain conditions as detailed in the ITB-clause3.3.

3. **Purchase Preference.**

No price preference or purchase preference shall be given to any bidder except valid L1 bidder quoting reasonable rates. Due to Nature of Scope, all works shall be awarded to valid L1 bidder (who has quoted reasonable rates) only without splitting it among others.

4. **Pre-bid Conference:**

If so indicated in TIS, Bidders are requested to attend a Pre-bid conference for clarification on the Tenders' technical specifications and commercial conditions, on the time, date, and place mentioned therein. Participation in such a Pre-bid Conference is not mandatory. If a bidder does not participate or submit any query, then no subsequent representations from them regarding the Technical/ commercial specifications/ conditions shall be entertained.

5. **Submission of Bids:**

- 1) **Bids must be uploaded only on CWC E procurement portal i.e. www.cwceprocure.com** till the deadline for submission mentioned in TIS. If the office happens to be closed on the deadline to submit the bids as specified above, this deadline shall not be extended.
- 2) No manual Bids shall be made available or accepted for submission. Bidder must comply with the conditions of the eProcurement portal, including registration, compatible Digital Signature Certificate (DSC) etc. In the case of downloaded documents, Bidder must not make any changes to the contents of the documents while uploading, except for filling in the required information.
- 3) **EMD** of amount as mentioned in TIS /ITB to be paid in favour of Central Warehousing Corporation, New Delhi only through e-payment gateway of e-procurement & receipt of same should be scanned and uploaded on the e-tendering website www.cwceprocure.com along with e-tender documents.
- 4) **Cost of tender** as mentioned in TIS /ITB to be paid only through e-payment gateway of e-procurement system. Proof should be submitted/uploaded with the tender.
- 5) **Tender processing fee** (Non-refundable) would be paid mandatorily to M/s ITI Ltd. through e-payment on the portal www.cwceprocure.com
- 6) **Integrity Pact:** If so indicated, in the TIS/ ITB, all Bidders shall have to sign the Integrity Pact with the Procuring Entity as per 'Annexure-V: Integrity Pact'. Bids without a signed Integrity Pact shall be rejected.

6. **Bid Opening**

Bids received shall be opened online at *the specified date and time given in TIS*. If the office is closed on the specified date of opening of the bids, the opening shall be done on the next working day at the same time.

7. **Disclaimers and Rights of Procuring Entity**

The issue of the Tender Document does not imply that the Procuring Entity is bound to select bid(s), and it reserves the right without assigning any reason to:

- a) reject any or all of the Bids, or
- b) cancel the tender process; or
- c) abandon the procurement of the Services; or
- d) issue another tender for identical or similar Services.

Note: For further details, please refer to appended TIS and the complete Tender Document volume II, III and IV.

Chief Engineer

Enclosers:

Appendix: Tender Information Summary (TIS)

Instructions to Bidder (ITB)

Volume II, Volume III and Volume IV

Appendix to NIT: Tender Information Summary

Tender Information Summary (TIS)

1.0 Basic Tender Details

Name of Work	Design, supply, installation, testing and commissioning of Fire Fighting System for Godown No. 1 & 2 at CW Kolathur, Kerala.		
Tender Type	Open Tender – Domestic		
Tender Category	Works		
Bidding System	Single Stage in Two Bid System		
Form of Contract	Schedule wise rate		
No. of Covers	Two Covers		
e-Reverse Auction to be held after financial bid opening	No		
the Procuring Organization/The Procuring Entity:	Central Warehousing Corporation		
Tender Accepting Authority	As per DOP		
Tender Inviting Authority (TIA)	Chief Engineer		
Address	4/1, Siri Institutional Area, August Kranti Marg, Hauz Khas, New Delhi-110016, Ph. No. & Fax No. (011) 49857894 Email Id: engg.cwhc@cewacor.nic.in		
Appointing Authority for Arbitration	Managing Director (CWC)		

2.0 Requirement Details

Contract Period:	[Four Months (including monsoon)]	Major Milestones / Stages	As per Schedule F
Completion Period	[Four Months (including monsoon)]	Consequence of delay	As per GCC Cl 2,3 and 14
Price Schedule	Sub-Schedule-I: Items for Fire fighting works		
Indicative HSN Code/ GST No.:	995419 / 32AAACC1206D2Z0		
State / Workplace of construction:	Kerala		
Address: Workplace /Site	CW Kolathur, Kasargod, Kerala		
Nearby Major Railway Stations.	Kasargod Railway Station		
Nearest City/District	Kasargod		
Nearest Major Airport	Mangalore Airport		

3.0 Critical Dates

Published Date	27.11.2024	Bid Validity (Days from the date of Tender Opening) –	90 days
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Document Download Start Date & Time	27.11.2024 From 15:00 Hrs.	Document Download End Date & Time	11.12.2024 up to 24.00 Hrs
Clarification Start Date & Time	27.11.2024 From 15:00 Hrs.	Clarification End Date & Time	02.12.2024 up to 24.00 Hrs
bid Submission Start Date & Time	28.11.2024 From 00:00 Hrs	EMD & bid Submission Closing Date & Time	12.12.2024 up to 15.00 Hrs
Tender Opening (techno-commercial bid) Date & Time	12.12.2024 at 15.30 hrs.	Tender Opening (Financial bid) Date & Time	Shall be intimated later vide E procurement portal only to Qualified Bidders.

4.0 Eligibility to Participate
(see NIT-clause 2 and ITB-clause 3.2 and Section III)

Nature of Bidders eligible	[Individual / Firms / Company]
Any kind of Joint venture	[Not Allowed]
Total Turnover	See Annexure-A; Section III
Technical Experience in Similar Nature of work completed within time or without (LD)	See Annexure-A; Section III
Other declaration and Power of attorney (as applicable)	Mandatory - Annexure-IV; See Annexure-A; Section III

5.0 Thresholds for Eligibility to Participate and Preference under Make in India Policy

Is the requirement divisible for purchase preference	[No]
Would the contract be split among more than one bidder	[No]

6.0 Obtaining the Tender Document and clarifications

E Procurement Portal from where tender to be purchased, submitted and where tender shall be opened.	www.cwceprocure.com
Other web sites from where tender can be downloaded for references/ study etc.	www.cewacor.nic.in
helpdesk for Document availability and submission	M/s Indian Telephone Industries Limited, C-62, 2nd Floor, Preet Vihar, Opp. Metro Pillar 79, New Delhi-110092. May also call at help-line nos.: 011-49424365
Cost of Tender Document (INR)	Rs. 1180/-
Office/ Contact Person/ email for clarifications	1. Sh. Lakshya Sharma, Tender Cell, Mobile No. 99998 25242, email: tendercell.co@cewacor.nic.in 2. Sh. Gurbinder Singh, AE, Corporate Office (Mob. No. 9950881527)

7.0 Pre-bid Conference

Place, time, and date of the Pre-bid Conference	Not required.
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8.0 Preparation and Submission and Opening of Bids F

Bids to be Addressed to	Central Warehousing Corporation , Through Chief Engineer, CWC
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Tender Opening Place		Only On e-procurement portal(s) mentioned above	
Alternate Bids allowed or not		[Only one bid meeting the conflict-of-interest criteria (as mentioned in this document) shall be considered as valid from a bidder.]	
9.0 Physical submission of Originals/ Self-attested copies of Originals of Scanned Documents uploaded			
Physical documents required/ permitted to be submitted		Not allowed and will not be entertained	
10.0 Bid Security and Performance Security			
EMD	<i>2.58 Lakhs</i>	<ul style="list-style-type: none"> to be paid in favour of Central Warehousing Corporation, New Delhi only through e-payment gateway of e-procurement & receipt of same should be scanned and uploaded on the e-tendering website www.cwceprocure.com along with e-tender documents. No Exemption from EMD to bidders from MSME/ Start-ups etc. 	
Performance Security		<i>See GCC clause 1, and Schedule F (operative schedules- Annexure-XI)</i>	
Additional Clauses			
Integrity Pact to be Signed and Submitted along with bid		<p>[NOT APPLICABLE]</p> <p>Independent External Monitor, Name and Contact Details</p>	<p>The CORPORATION has appointed Sh. Sudhansu Sekhara Mishra, B-3/3, E-112, Falcon Residency Apartment, Near KHT, Patia, Bhubaneswar 7, Dist. Khuda, Odisha (hereinafter referred to as Monitor) and Sh. Kesheo Prasad Dubey, 7/9-5, Auckland Road, Bahuguna Market, Prayagraj, Uttar Pradesh 211001, mail dkesheo.prasad@yahoo.com, an Independent Monitor for this Pact in consultation with the Central Vigilance Commission.</p>

Section II: Instructions to Bidders (ITB)

1. The Tender Document

1.1. Basic Tender Details

This Tender Document details the terms and conditions for entering into a contract for execution and completion of work as per scope mentioned in schedule A (price schedule), Scope of Works etc covered by General Conditions of contract (GCC), Special conditions of contract (SCC) and Technical conditions of contract (TCC).

Bidders must go through the Complete Tender Document for further details.

'Tender Information Summary' (TIS) is appended to Section I: Notice Inviting Tender (NIT) for ready reference.

1.2. Interpretations, Definitions, Abbreviations and Document Conventions

details Tenets of interpretation, Definitions, Document conventions and Abbreviations, mentioned in this section shall also apply to the rest of the Tender Document.

1.3. Overview of Contents

- 1) The Sections, Forms, Annexures, Appendix and Formats etc comprising this Tender Document are described in ITB-clauses 1.4. The BOQ file (Price schedule) & Tender Drawings are separately available on the eProcurement Portal and is also part of this Tender Document. Any generic reference to Tender Document shall also imply a reference to any/ all the sections, Forms, Formats and the BOQ file or other files that comprise this Tender Document.
- 2) Bidder must submit the bid in the Forms/ Formats mentioned in Section III (A) under ITB clause 1.4 below. The documents as mentioned in other sections under ITB-clause 1.4 below need not be signed or returned by the bidders; however, Bidder must declare in his affidavit as per format enclosed in Annexure IV of Section IIIA, that he has read, understood, complied, and stands bound by all requirements of the tender document:

1.4. Sections of the Tender Document

1.4.1 Sections of the Tender Document

The Tender Document contains the following sections mentioned in four different volumes, which are described in subsequent sub-clauses:

Volume I:

- 1) E -Tender Notice.
- 2) Section I: Notice Inviting Tender (NIT) and its Appendix: Tender Information Summary (TIS)
- 3) Section II: Instructions to Bidders (ITB)
- 4) Section III: Qualification Norms.
- 5) Section III(A): Tender Forms & Annexures-I to X to be filled by bidder & Operative Schedule – Annexure-XI, Appendix-I

Volume II-

- 6) Section IV: Special Conditions of Contract (SCC)
- 7) Section V: General Conditions of Contract (GCC)
- 8) Section VI: Model rules for the protection of health and sanitary arrangements for workers
- 9) Section VII Contractor's Labour Regulations

Volume III-

- 10) Section VIII Technical conditions and specifications
- 11) Section IX: Work Registers and testing proformas
- 12) Section X: Field quality plan (list & proforma of mandatory tests)

Volume IV-

- 13) Section XI: Price Schedules-Sub-Schedules
- 14) Section XII: Tender Drawings etc.

1.4.2 Section I: Notice Inviting Tender (NIT) and its Appendix: Tender Information Summary (TIS)

Section I – Notice Inviting Tender (NIT) and its Appendix – Tender Information Summary (TIS) provides a synopsis of information relevant for a Bidder to decide on participating in the Tender. Any generic reference to NIT shall also imply a reference to TIS as well.

1.4.3 Section II: Instructions to Bidders (ITB) and Section III: Qualification norms for tender.

Section II: “Instructions to Bidders” - ITB and Section III: “Qualification norms for tender” provides the relevant information as well as instructions to assist the prospective Bidders in preparation and submission of Bids. It also includes the mode and procedure adopted for receipt/ opening, scrutiny/ evaluation of Bids, and contract award and qualification norms of Tender. Any generic reference to ITB shall also imply a reference to NIT as well.

1.4.4 Section IV: Special Conditions of Contract (SCC), Section V: General Conditions of Contract (GCC), and Section VIII: Technical Conditions of Contract (TCC)

Section IV – Special Conditions of Contract (SCC) and Section V – General Conditions of Contract (GCC) in volume II describe the conditions that shall govern the resulting contract. In case of a conflict, provisions of SCC shall prevail over those in the GCC. Any generic reference to GCC shall also imply a reference to SCC as well. In case of any conflict, provisions of GCC/ SCC shall prevail over those in NIT/ITB.

Section VIII- Technical Conditions of Contract in volume III describe the technical procedures, specifications and measures to be followed for the works under the resulting Contract. In case of a conflict, provisions of TCC shall prevail over those in the SCC/GCC. Any generic reference to GCC shall also imply a reference to TCC as well.

1.4.5 Section VI, Section VII, Section IX, Section X:

These sections describe various Model rules, regulations towards health, safety, Labor laws, Site Registers, Testing procedure, Field quality plans etc to be followed at Construction Site during the Contract period.

1.4.6 Section XI: Price Schedule and sub schedules:

This section (in separate volume IV) describes the item of works to be executed for completing the work as per scope, its technical description, the tentative quantities and rates.

Bidder is required to quote their rates in various sub schedules of Price schedule -A for all item of works contained therein.

1.4.7 Section XII: Tender drawings.

The tender drawings for relevant information towards work site, Layout, construction, as available with procuring entity are uploaded in this section. Drawings good for construction shall be released separately at the time of execution of work if specifically mentioned in this section.

2. Procuring Entity - Rights and Disclaimers

2.1. The Procuring Entity

Central Warehousing Corporation having its corporate office at New Delhi also called (CWC) is the Procuring Entity and Bids are to be addressed to the Central Warehousing Corporation, New Delhi through the officer designated and mentioned in 'Schedule F'.

The officer designated and mentioned in 'Schedule F' is a Tender Inviting Authority (TIA) and he is the designated officer for inviting the tender and clarifying this Tender Document.

He shall also be Engineer in charge and shall discharge designated function during contract execution through his authorized representative and Team.

Executive Engineer/ Superintending Engineer/ Regional Manager/Chief Engineer/ Director / Managing Director shall be the tender accepting authority based on financials ie Estimated cost of work as per Prevailing DOP in Corporation.

The Authority who has invited the tender shall place the letter of award and shall enter into contract agreement with successful bidder after following due procedures and approval of Tender accepting authority as per delegation of power in CWC.

2.2. Right to Intellectual Property and confidentiality:

- 1) The Tender Document and associated correspondence are subject to copyright laws and shall always remain the property of the Procuring Entity and must not be shared with third parties or reproduced, whether in whole or part, without the Procuring Entity's prior written consent.
- 2) However, Bidders may share these to prepare and submit its bid with its employees, subcontractor(s), or holding Company. Bidders shall obtain from them an undertaking of confidentiality similar to that imposed on Bidder under this clause.
- 3) This condition shall also apply to bidders who do not submit a bid after downloading it or who are not awarded a contract in the process.
- 4) The obligation of the Bidders under sub-clauses above, however, shall not apply to information that:
 - a) now or hereafter is or enters the public domain through no fault of Bidder;
 - b) is legally possessed by Bidder at the relevant time and was not previously obtained, directly or indirectly, from the Procuring Entity; or
 - c) otherwise lawfully becomes available to Bidder from a third party that has no obligation of confidentiality.
- 5) The provisions of this clause shall survive completion or termination for whatever reason of the Tender Process or the contract.

2.3. Right to Reject any or all Bids

The Procuring Entity reserves its right to accept or reject any or all Bids, abandon/ cancel the Tender process, and issue another tender for the same or similar at any time before the award of the contract. It would have no liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for such action(s).

The Competent Authority on behalf of The Procuring Entity does not bind himself to accept the lowest or any other offer and reserves himself the authority to reject any or all the tenders received without assignment of any reason.

The Competent Authority on behalf of The Procuring Entity does not bind himself to accept the lowest tender and reserves to himself the right of accepting the whole or any part of the tender and the Bidder shall be bound to perform the same at the rate quoted.

2.4. Disclaimers

2.4.1 Regarding Purpose of the Tender Document

The Tender Document is neither an agreement nor an offer to prospective Bidder(s) or any other party hereunder. The purpose of the Tender Document is to provide the Bidder(s) with information to assist them in participation in this Tender Process.

2.4.2 Regarding Documents/ guidelines

The Tender Document, ensuing communications, and Contracts shall determine the legal and commercial relationship between the bidders/ contractors and the Procuring Entity. No other Government or Procuring Entity's document/ guidelines/ Manuals including its Procurement Manual (for internal and official use of its officers), notwithstanding any mention thereof in the Tender Document, shall have any locus-standii in such a relationship. Therefore, such documents/ guidelines/ Manuals shall not be admissible in any legal or dispute resolution or grievance redressal proceedings.

2.4.3 Regarding Information Provided

Information contained in the Tender Document or subsequently provided to the Bidder(s) is on the terms and conditions set out in the Tender Document or subject to which that was provided. Similar terms apply to information provided verbally or in documentary or any other form, directly or indirectly, by the Procuring Entity or any of its employees or associated agencies.

2.4.4 Regarding Tender Document:

- 1) The Tender Document does not purport to contain all the information Bidder(s) may require. It may not address the needs of all Bidders. They should conduct due diligence, investigation, and analysis, check the information's accuracy, reliability, and completeness, and obtain independent advice from appropriate sources. Information provided in the Tender Document to the Bidder(s) is on a wide range of matters, some of which may depend upon interpreting the law. The information given is not intended to be an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. The Procuring Entity, its employees and other associated agencies accept no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein.
- 2) The Procuring Entity, its employees and other associated agencies make no representation or warranty for the accuracy, adequacy, correctness, completeness or reliability, assessment, assumption, statement, or information in the Tender Document. They have no legal liability, whether resulting from negligence or otherwise, for any loss, damages, cost, or expense that may arise from/ incurred/ suffered howsoever caused to any person, including any Bidder, on such account.

3. Bidders – Eligibility and Preferential Policies

3.1. Bidders

Subject to provisions in the following clauses in this section and provisions in Tender Document, this invitation for Bids is open to all bidders who fulfil the 'Eligibility Criteria' stipulated in the Tender Document.

3.1.1 Sub-Contractors

Subject to the restrictions outlined in this Tender Document, any Bidder may propose to sub-contract a part of the contract for specialized items of services, provided that the names and details of the sub-contracts are clearly stated in the bid submitted by Bidder and provided further that such sub-contractor should not circumvent the eligibility condition laid down below. Procurement of material, hire of equipment or engagement of labour shall not be considered as sub-contracting. Despite any approval granted by the

Procuring Entity for such arrangements, the Bidder/ Contractor shall be solely and directly responsible for executing sub-contracted portions of the contract.

Sub-contracting by the contractor without the approval of the Procuring Entity shall be a breach of contract.

The Bidder, apart from being a contractor of appropriate class may associate himself with agencies of the other appropriate class which are eligible to tender for (i) Electrical, (ii) Sanitary and Water Supply Installation, (iii) Fire safety installation works, (iv) Horticulture and others specialized works, if any in the scope.

3.2. Eligibility Criteria for Participation in this Tender

Subject to provisions in this Tender Document, participation in this Tender Process is open to all bidders who fulfil the 'Eligibility' and 'Qualification criteria. The bidder should meet (as on the date of his bid submission and should continue to meet till the award of the contract) the 'Eligibility Criteria' detailed herein. Bidder shall submit a declaration about the 'Eligibility Criteria' compliance in Eligibility Declarations along with their PQ forms.

ELIGIBILITY CRITERIA: Contractor who fulfils the following requirements shall only be eligible to quote the rates.

- 1) Submit responsive technical bid comprising of Mandatory documents (towards proof of qualification as well) and other documents as prescribed herein.

A. Mandatory submission of Following mandatory documents.

- 1) EMD, Cost of Tender & Tender Processing Fees: As per 'TIS'
- 2) Technical Experience & Performance Certificate: As per Annexure-A (Section III)
- 3) Financial Soundness and Turnover: As per Annexure-A (Section III)
- 4) Affidavit for Compliance/declaration by Bidder: As per Annexure-A (Section III)

B. Other--submission of Following other Documents –

- 1) Eligibility Declaration as per Form-E.
- 2) Integrity Pact: Bidder will have to sign the Integrity Pact as per proforma at ANNEXURE-V for contracts having estimated value of Rs. 3 (three) crore or more and duly signed copy has to be submitted with the tender.
- 3) Net Worth: Bidder should submit with the tender the Positive Net Worth Certificate, duly certified by a practicing Chartered Accountant as per ANNEXURE I, based on the accounts for the latest financial year, i.e., Profit & Loss Account and Balance Sheet.
- 4) GST Registration: Contractor must have valid GST Registration Certificate from the concerned authority (as applicable) and copy to be enclosed with the tender.
- 5) PAN Card: Bidder must enclose copy of PAN Card along with the tender.
- 6) PF Registration: Bidders must have valid PF Registration Certificate from the concerned authority and copy to be enclosed with the tender.
- 7) Organization Details:
 - In case the Bidder is a Proprietorship Firm, they will submit an affidavit as per ANNEXURE II.
 - In case the Bidder is a Partnership Firm, a certified copy of the partnership deed shall be submitted by the Bidder.
 - In case the Bidder is a Company (whether Private or Public), a certified copy of Certificate of Incorporation together with Memorandum and Article of Association shall be submitted. Certificate of Registration with Registrars of

Company (ROC) in case of Ltd. / Pvt. Ltd. Company / PSU, if required shall be submitted by the Bidder.

- In other cases, a certified copy of Certificate of Incorporation shall be submitted by the Bidder.
- 8) The Bidder shall submit a Power of Attorney* in favor of signatory(ies) duly attested by the Notary as per ANNEXURE III. {This format is for guidance only and deviation in the wording can be accepted.}
 - 9) Declaration of near relative: Bidder shall submit a declaration about their near relative in compliance of clause 36 of General condition of contract as per ANNEXURE-VI
 - 10) Declaration to be given by the bidder for works in Hand (in progress) on letter head of firm (ANNEXURE- IX).
 - 11) A Bar Chart / PERT Network indicating various milestones and date of completion vis-a-vis deployment of resources to be enclosed with the tender. This Bar Chart shall form part of the contract agreement.(Annexure-X)

***Power of Attorney:** Notwithstanding anything contained in the Clause above, the Bidder shall execute the Power of Attorney (POA) in prescribed format as mentioned in ANNEXURE III and shall conform to the following –

- a) A company, while executing Power of Attorney must make conformity with the Board Resolution and the charter documents giving the power to issue the said Power of Attorney including further sub-delegation of the same by the said POA holder only.
- b) Unless notified in writing to the Tendering Authority, the Authority shall recognize only that POA holder for the purposes of tender submission and matters related thereto whose notice and necessary POA document was submitted to the Authority at the time of tender submission.
- c) While for a Partnership Firm, either all the partners of the partnership firm shall execute and confirm the Power of Attorney if executed or there shall exist a Power of Attorney in favour of the Partners executing the Power of Attorney for the delegation of power on behalf of the Bidder.
- d) The Power of Attorney being executed by the Bidder herein shall be executed in favour of only its Partner or Director or Salaried employee. And in case the POA is being executed by the Bidder in favour of its salaried employee, the said employee should have worked for at least more than one year continuously with the Bidder and the Bidder should furnish the following:
 - Name
 - Designation
 - Mobile / Contact no.
 - Employment Letter / Agreement issued by the Firm
 - Identity Card with number, issued by the Firm
 - Information about the wages paid, i.e. Salary Slips
 - Form-16
 - PAN Card
 - PF Number
 - Power of Attorney as per ANNEXURE III

- e) CWC will not be bound by the Power of Attorney furnished by the Bidder and acceptance of the same shall be at the sole discretion of the CWC.
 - f) There can validly exist only a single Power of Attorney at any given time. The Power of Attorney executed and accepted by CWC shall stand revoked on issuance of any new Power of Attorney issued within the rules herein, with regard to this particular Project.
 - g) During the subsistence of contract, if Power of Attorney holder is found to be creating mischief or involved in any illegal or unlawful activity, CWC will at its sole discretion reject the Power of Attorney of such person submitted by the Bidder and the Bidder would be required to issue a fresh Power of Attorney within the rules herein in favour of authorized person, stated above, within a period of 10 days of being so notified.
 - h) The CWC will not be bound by any power of attorney granted by the Bidder or by change in the composition of the Firm and subsequent to the execution of the contract. It may, however, recognize such Power of Attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the Contractor.
- 2) The contractor shall not be permitted to tender for works in the Central Warehousing Corporation in which his near relative is posted as Accounts Officer or as any officer in any capacity between the grade of Chief Engineer and Assistant Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any officer in the Central Warehousing Corporation or in the Ministry of Consumer Affairs, Food & Public Distribution, Govt. of India, New Delhi. The Corporation reserves the right to debar the Bidder from participating in future bidding processes of the Corporation for a minimum period of five years, which may be further extended at the discretion of the Corporation for any breach of this condition.
- 3) No Engineer employed in Engineering or Administrative duties in Engineering Division of the Corporation is allowed to work as a contractor and also an employee of contractor for a period of one year after his retirement from Corporation service, without the previous permission of the Central Warehousing Corporation in writing. This contract is liable to be cancelled, if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of the Central Warehousing Corporation as aforesaid before submission of the tender or engagement in the contractor's service.

3.3. Eligibility of bidders from specified countries

Orders issued by the Government of India restricting procurement from bidders from certain countries that share a land border with India shall apply to this procurement.

- 1) Any bidder (as defined in GCC) from a country that shares a land border with India¹, excluding countries as listed on the website of the Ministry of External Affairs², to which the Government of India has extended lines of credit or in which the Government of India is engaged in development projects – hereinafter called 'Restricted Countries') shall be eligible to bid in this tender only if Bidder is registered³ with the Registration Committee constituted by the

¹<https://mea.gov.in/india-and-neighbours.htm>

²<http://meadashboard.gov.in/indicators/92>

³<https://dipp.gov.in/sites/default/files/Revised-Application-Format-for-Registration-of-Bidders-15Oct2020.pdf>

Department for Promotion of Industry and Internal Trade (DPIIT). Bidders shall enclose the certificate in this regard.

- 2) In Bids for Turnkey contracts, including Works contracts, the successful bidder shall not be allowed to sub-contract works to any contractor from such Restricted Countries unless such contractor is similarly registered. In such cases, the bidders shall enclose the certificate in this regard.
- 3) If Bidder has proposed to sub-contract Services or incidental Goods directly/ indirectly from the vendors from such countries, such vendor shall be required to be registered with the Competent Authority. However, if Bidder procures raw material, components, and sub-assemblies from such countries' vendors, such vendors shall not require registration.
- 4) "Bidder from such Restricted Countries" means: -
 - a) An entity incorporated, established, or registered in such a country; or
 - b) A subsidiary of an entity incorporated, established, or registered in such a country; or
 - c) An entity substantially controlled through entities incorporated, established, or registered in such a country; or
 - d) An entity whose beneficial owner is situated in such a country; or
 - e) An Indian (or other) agent of such an entity; or
 - f) A natural person who is a citizen of such a country; or
 - g) A consortium/ joint venture where any member falls under any of the above
- 5) The beneficial owner shall mean:
 - a) In a company or Limited Liability Partnership, the beneficial owner is the natural person(s). Whether acting alone or together or through one or more juridical persons, controlling ownership interest or exercises control through other means.

Explanation-

- i) "Controlling ownership interest" means ownership of or entitlement to more than twenty-five percent of the company's shares or capital or profits.
 - ii) "Control" shall include the right to appoint a majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholder agreements or voting agreements;
- b) In the case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together or through one or more juridical persons, has ownership of entitlement to more than fifteen percent of capital or profits.
 - c) In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
 - d) Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official.
 - e) In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

3.4. Conflict of Interest

Any bidder having a conflict of interest, which substantially affects fair competition, shall not be eligible to bid in this tender. Bids found to have a conflict of interest shall be rejected as non-responsive. The Bidder shall be required to declare the absence of such conflict of interest in Eligibility Declarations along with PQ forms. A bidder in this Tender Process shall be considered to have a conflict of interest if the bidder:

- 1) directly or indirectly controls, is controlled by or is under common control with another Bidder; or
- 2) receives or have received any direct or indirect subsidy/ financial stake from another bidder; or
- 3) has the same legal representative/ agent as another bidder for purposes of this bid. A Principal can authorise only one agent, and an agent also should not represent or quote on behalf of more than one Principals. However, this shall not debar more than one Authorised distributor from quoting equipment manufactured by an Original Equipment Manufacturer (OEM), in procurements under Proprietary Article Certificate; or
- 4) has a relationship with another bidder, directly or through common third parties, that puts it in a position to have access to information about or influence the bid of another Bidder or influence the decisions of the Procuring Entity regarding this Tender process; or
- 5) participates in more than one bid in this tender process. Participation in any capacity by a Bidder (including the participation of a Bidder as sub-contractor in another bid or vice-versa) in more than one bid shall result in the disqualification of all bids in which he is a party. However, this does not limit the participation of a non-bidder firm as a sub-contractor in more than one bid; or
- 6) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services that it provided (or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm), for the procurement planning (inter-alia preparation of feasibility/ cost estimates/ Detailed Project Report (DPR), design/ technical specifications, terms of reference (ToR)/ Activity Schedule/ schedule of requirements or the Tender Document etc)of this Tender process; or
- 7) has a close business or family relationship with a staff of the Procuring Organisation who: (i) are directly or indirectly involved in the preparation of the Tender document or specifications of the Tender Process, and/or the evaluation of bids; or (ii) would be involved in the implementation or supervision of resulting Contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Procuring Entity throughout the Tender process and execution of the Contract.

4. The Schedule of Requirements and Form of Contract

4.1. Eligible Supply of Goods and Services –Origin and Minimum Local Content

Unless otherwise stipulated in the Tender Document, all Works, ‘Services’ and incidental ‘Goods and Works’ to be delivered under the contract must conform to i) restrictions on certain countries with land-borders with India; ii) minimum local content (Make in India Policy).

4.2. Quotation for All Schedules and all Services

Unless otherwise stipulated in the Tender Document, Bidder must quote for all the sub schedules (and all the Services and item of works in a Sub Schedule) in the Price Schedule- that is Schedule A of Tender document; otherwise, his bid would be rejected as nonresponsive.

4.3. Facilities to be Provided by the Procuring Entity

- 1) Unless otherwise stipulated in the Tender Document, no Facilities (including Reference Documents, Medical facilities, Rooms, Furniture, Transport, Access to IT Services etc.) shall be provided by the Procuring Entity to Contractor at Site.
- 2) Unless otherwise stipulated in the Tender Document, The Procuring Entity may supply without any obligation to do so, to the contractor part or whole of the quantity of the water and electricity required for the delivery of Services/ completion of work from the Procuring Entity's existing water/ electricity supply system at or near the site of Services on specified terms and conditions and on chargeable basis, provided that the contractor shall arrange, at his own expense, to effect the connections and lay additional pipe/ power lines and accessories on the site. Nevertheless, it shall be the responsibility of the contractor to install adequate alternative arrangements to tide over outages in utilities or failure in supply by the Procuring Entity, and that the contractor shall not be entitled to any compensation– nor shall this be a reason for the delay in delivery of Services.
- 3) Unless exclusively stipulated in the Tender Document ‘Schedule B’ / ‘Schedule C’ or ‘Schedule’ D’, The Procuring Entity will not provide any T&P, Construction material, Consumable, Labour either free of cost or chargeable basis for completion of work under this contract.
- 4) Good for construction drawings and technical specifications / documents pertaining to the works will be provided by procuring entity. The tender drawings and specifications if not enclosed with tender are open for inspection by the Bidders in the office of the Superintending / Chief Engineer (CWC), New Delhi.

4.4. Completion Time and Contract Period

Time is the essence of the contract.

The work shall be required to be completed within stipulated time period and up to the date mentioned in letter of Acceptance (LOA):

The stipulated period of completion shall be that as mentioned in TIS (appendix to NIT) and shall be in ‘N’ months to be reckoned from the 15th day from date of issue of Letter of Acceptance.

5. Bid Prices, Taxes and Duties

5.1. Prices

5.1.1 Competitive and Independent Prices

- a) The prices should be arrived at independently, without restricting competition, any consultation, communication, or agreement with any other bidder or competitor relating to:
 - i) those prices; or
 - ii) the intention to submit an offer; or
 - iii) the methods or factors used to calculate the prices offered.
- b) The prices should neither be nor shall be knowingly disclosed by the Bidder, directly or indirectly, to any other bidder or competitor before bid opening or contract award unless otherwise required by law.

5.1.2 Undue profiteering

- 1) **Controlled Price, if any:** The price quoted by Bidder shall not be higher than the controlled price fixed by law for any of the Services covered under contract, if any, or where there is no controlled price, it shall not exceed the prices or contravene the norms for fixation of prices if any, laid down by Government or where the Government has fixed no such prices or norms, it shall not exceed the price appearing in any agreement, if any, relating to price regulation by any industry.
- 2) **Undue profiteering:** If the price quoted is higher than the controlled price in the sub-clause above, Bidder shall specifically mention this fact in his bid giving reasons for quoting a higher price(s). If he fails to do so or makes any misstatement, it shall be lawful for the Procuring Entity either to revise the price at any stage to bring it in conformity with the sub-clause (1) above or to terminate the contract for default as per the contract and avail all the remedies available therein in addition to other punitive actions for violation of Code of Integrity.

5.1.3 Price Components

- 1) The prices quoted by Bidder shall include all cost towards satisfactorily completion of works as per technical specification, including cost of material, labour, Tools and Plants, Consumables, Sundries, site establishment, overhead, Contractor Profit, Water charges, cost of incidental goods & services, cost towards testing and measurement and Taxes as applicable.
- 2) The Prices quoted by the bidders shall be inclusive of GST and all applicable taxes, Building and Other Construction Workers Welfare Cess (As applicable), Levies, Duties on materials or services and on complete works in respect of this contract.
- 3) The quoted price shall be considered to include all relevant financial implications, including inter-alia the scope of the Services to be delivered and the incidental goods/ works to be supplied, location of the bidder, site(s) of the delivery of Services, terms of delivery, extant rules and regulations relating to taxes, duties, customs, transportation, environment, labour, cost of watch and ward of bidder's material through private security, Mining & Forest etc in India.

Central Warehousing Corporation will not entertain any claim, whatsoever in this respect.

5.1.4 Price Schedule

- 1) Bidders are to upload only the downloaded BOQ and Price sub schedules (in excel format) after entering the relevant fields without any alteration/ deletion/ modification of other portions of the excel sheet. All the columns shown in the price schedules should be filled up as required. If any column does not apply to a Bidder, he should clarify the same.
- 2) Bidders shall fill in their rates other than zero value in the specified cells without keeping it blank.
- 3) The Bidder shall quote the rate on-line in prescribed proforma, available with the tender in Excel format only and sign the same digitally.

5.1.5 Provisions of BOCW Cess, EPF, Income Tax, GST etc.

- 1) Contractor is required to get himself registered as per Building & Other Construction Workers Cess Act 1996, PF Registration, GST etc. as per Govt. of India law.
- 2) The Bidder shall be required to pay cess @ 1% of cost of construction work, or at the rate as mentioned in latest act/rules or guidelines of Government, in accordance with each bill payable on account of such construction to the concerned State Govt. (Labour Deptt.).
Cost of material shall be outside the purview of cess, when supplied under a separate schedule

item. CWC shall not entertain any claim whatsoever in this respect.

- 3) Under Income Tax Act, 1961; a deduction for income tax along with surcharge, as applicable will be made from sums paid on account and final payments for carrying out the work under this contract.

5.1.6 Currencies of Bid and Payment

Unless otherwise stipulated in the Tender Document, the currency of bid and payment shall be quoted by Bidder entirely in Indian Rupees. All payments shall be made in Indian Rupees only.

5.1.7 Non-compliance

Tenders, where prices are quoted in any other way, shall be rejected as nonresponsive.

5.2. Price Variation

The Price quoted by the bidder and accepted by CWC, shall remain firm during the currency of contract including the extended period, if any extended due to any reason attributable to either CWC or Contractor or Force majeure. No claim whatsoever shall lie against the Corporation on account of any variation, escalation etc. in the rates in market during contract.

However, the rates for payment upon variation due to deviation (increase) in quantity and/or due to execution of extra item/ altered items shall be govern as per General conditions of contract clause 12.2 (c) and special condition of contract clause 15 respectively.

5.3. Goods and Services Tax (GST)

5.3.1 GST Registration Status:

- 1) All the Bidders should ensure that they are GST compliant and their quoted tax structure/ rates as per GST Act/ Rules. Bidder should be registered under GST and furnish GSTIN number and GST Registration Certificate in their offer unless they are specifically exempted from registration under specific notification/ circular/ section/ rule issued by statutory authorities.
- 2) **GST Registration Number (15-digit GSTIN).** If the bidder has multiple business verticals in a state and has separate registration for each vertical, the GSTIN of each vertical is concerned with the delivery of Services involved, as per the Schedule of Requirements and Price Schedule's scope be quoted. If the services provided are from multiple states, the bidder should mention GST registration numbers for each state separately.
- 3) **Composition scheme:** If the Bidder has opted for a composition levy under Section 10 of CGST, he should declare the fact while bidding along with GSTIN and GST registration certificate.
- 4) **Exemption from Registration:** If a bidder is not liable to take GST registration, i.e., having turnover below threshold, he shall submit undertaking/ indemnification against tax liability. Bidder claiming exemption in this respect shall submit a valid certificate from practising Chartered Accountant (CA)/ Cost Accountant with Unique Document Identification Number (UDIN) to the effect that Bidder fulfils all conditions prescribed in notification exempting him from registration. Such bidder/ dealer shall not charge any GST and/ or GST Cess in the bill/ invoice. In such case, applicable GST shall be deposited under Reverse Charge Mechanism (RCM) or otherwise as per GST Act by the Procuring Entity directly to concerned authorities. Bidder should note that his offer would be loaded with the payable GST under the RCM. Further, Bidder should notify and submit to the Procuring Entity within 15 days from the date of becoming liable to registration under GST.
- 5) The Procuring Entity's state-wise GSTINs is indicated in TIS

5.3.2 HSN Code and GST Rate:

- 1) It shall be the responsibility of Bidder to ensure that they quote for the exact HSN Code and including corresponding correct GST rate for each activity of the Services / works being offered by them.
- 2) **Applicability to Imported Goods/ Services:** Following the implementation of GST, the import of commodities shall not be subject to such erstwhile applicable duties like safeguard duty, education cess, basic customs duty, anti-dumping duty, etc. All these supplementary custom duties are subsumed under GST. The supply of commodities or services or both, if imported into India, shall be considered as supply under inter-state commerce/ trade and shall attract integrated tax (IGST). The IGST rate and GST cess shall be applicable on the 'Custom Assessable Value' plus the 'Basic Customs duty applicable thereon'.

5.4. Payments

5.4.1 General

Periodic "On Account" payments and final Payment shall be made as per the procedure laid down in GCC/SCC only upon raise of valid invoice through BTS portal "Bill tracking system portal" of CWC after submission of complete E -MB (computerized Measurement Book) by Contractor and Acceptance of E MB by CWC on "CMS Portal" of CWC.

- Central Warehousing Corporation (CWC) in its endeavor to achieve Zero Paper Usage (ZPU) and to ensure timely payment to the Contractors/vendors/ suppliers, has mandated the usage of BTS to submit the digitally signed invoices/ bills and supporting documents, if any, against the supply of goods/ services/ works etc. The ink signed invoices or physical copy of the invoices/ supporting documents shall not be accepted for processing the due payments.
- The Contractors/ vendors/ suppliers shall be required to get themselves registered on the BTS as "vendors" (<https://cwceportal.com/bts/>) upon entering into the contract with CWC.
- Similarly, for increasing the transparency, expediting the process and achieving the contract management benefits through digital system, CWC has commenced "Contract Management system Portal (CMS)". All contractors are required to submit their agreements, EMBS and Quality test reports etc. through CMS.

5.4.2 No Advance Payments

Unless otherwise stipulated, no advance payment like Mobilization advance shall be made by the Procuring Entity. The other advances viz secured advances can be made if so, provided for such advances as per conditions stipulated therefore in GCC/SCC.

6. Quantity Variations:

At the time of contract execution, the Procuring Entity reserves the right to increase or decrease the quantity without any change in other terms and conditions of the bid and the Tender Document.

The quantum of various works/ services to be performed/ delivered under this contract is liable to variation to any extent and in such cases, the variation in quantity of an individual item is considered unavoidable, then same shall be executed & paid as per detailed provisions contained in Clause 12.2-C of General Conditions of Contract.

7. Technical Specifications of Works:

- 1) Works will be carried out according to the technical specifications of works mentioned in Schedule A and its sub schedules, Technical Conditions of Contract, CPWD Specifications with up-to-date correction slips along with Special & General Conditions of Contract, Technical Specifications and

approved Drawings of CWC, issued with this tender document and /OR Good for construction drawings issued at the time of work execution.

- 2) For roads and pavements, MORTH Specifications shall be followed. However, if any particular item or issue is not covered by these specifications and special specifications, the work shall be carried out in accordance to relevant BIS (IS) Codes and Code of Practice.
- 3) MORTH Standard Specification (latest revised edition) for Road and bridge work; along with up-to-date correction slips for roads “& pavements can be obtained from Secretary, Indian Road Congress, Jam Nagar House, New Delhi’s book shop.
CPWD’s Specifications & DSR with up-to-date correction slips can be obtained from CPWD office, Nirman Bhawan, New Delhi.

8. Downloading the Tender Document; Corrigenda and Clarifications

8.1. Downloading the Tender Document

The Tender Document shall be published and be available for download as mentioned in TIS. Bidders can obtain the Tender Document after the date and time of the start of availability till the deadline for availability. If the office happens to be closed on the deadline for the availability of the Tender Document, the deadline shall not be extended.

Tender document should be purchased (at the price mentioned in TIS) by the Bidder who is participating in the tender, i.e., Tender forms should be in name of bidder, otherwise tender will be summarily rejected.

8.2. Corrigenda/ Addenda to Tender Document

Before the deadline for submitting bids, the Procuring Entity may update, amend, modify, or supplement the information, assessment or assumptions contained in the Tender Document by issuing corrigenda and addenda. The corrigenda and addenda shall be published in the same manner as the original Tender Document. Newspaper press advertisement shall not be issued for the same. Without any liability or obligation, the Portal may send intimation of such corrigenda/ addenda to bidders who have downloaded the document under their login. However, the bidders' responsibility is to check the website(s) for any corrigenda/ addenda. Any corrigendum or addendum thus issued shall be considered a part of the Tender Document. To give reasonable time to the prospective bidders to take such corrigendum/ addendum into account in preparing their bids, the Procuring Entity may also suitably extend the deadline for the bid submission, as necessary. After the procuring entity makes such modifications, any Bidder who has submitted his bid in response to the original invitation shall have the opportunity to either withdraw his bid or re-submit his bid superseding the original bid within the extended time of submission.

8.3. Clarification on the Tender Document or discrepancies in the Document

- 1) A Bidder may seek clarification of the Tender Document from Office/ Contact Person/ e-procurement Help Desk as mentioned in TIS, provided the clarifications are raised before the clarification end date mentioned in TIS (or if not mentioned, within 7 days before the deadline for the bid submission). The Procuring Entity shall respond within 5 working days of receipt of such a request for clarification. The query and clarification shall be shared on the portal with all the prospective bidders. Any modification of the Tender Document that may become necessary due to the clarification shall be made by the Procuring Entity through an Addendum/ Corrigendum issue under the sub-clause above.
- 2) It should be understood that every endeavour has been made to avoid any error which can materially affect the basis of the tender and the successful Bidder shall take upon himself and provide for the risk of any error which may subsequently be discovered & shall make no subsequent claim on account thereof.

Should a Bidder find discrepancies or omissions in the drawings or any of the Tender forms or

should he be in doubt as to their meaning, he should at once notify , within 10 days from start of document download date to the authority inviting tenders to remove this discrepancy.

9. Pre-bid Conference

- 1) If a Pre-bid conference is stipulated in the TIS, prospective bidders interested in participating in this tender may attend a Pre-bid conference to clarify the techno- commercial conditions of the Tenders at the venue, date and time specified therein. Participation in the Pre-bid conference is restricted to prospective bidders who have downloaded the Tender Document.
- 2) Participation is not mandatory. However, if a bidder chooses not to (or fails to) participate in the Pre-bid conference or does not submit a written query, it shall be assumed that they have no issues regarding the techno-commercial conditions.
- 3) The date and time by which the written queries for the Pre-bid must reach the authority and the last date for registration for participation in the Pre-bid conference are also mentioned in the TIS. If the dates are not mentioned, such date and time shall be 7 days before the date and time of the pre-bid conference.
- 4) The pre-bid conference may also be held online at the discretion of the Procuring Entity.
- 5) After the Pre-bid conference, Minutes of the Pre-bid conference shall be published on the Procuring Entity's portal within seven days from the Pre-bid conference. If required, a clarification letter and corrigendum to Tender Document shall be issued, containing amendments of various provisions of the Tender Document, which shall form part of the Tender Document. The Procuring Entity may suitably extend, as necessary, the deadline for the bid submission to give reasonable time to the prospective bidders to take such clarifications into account in preparing their bids.

10. Preparation of Bids

10.1. The bid

10.1.1 Language of the bid

Unless otherwise stipulated in the ITB, the bid submitted by Bidder and all subsequent correspondence and documents relating to the bid exchanged between Bidder and the Procuring Entity shall be written in English or the Official Language (Hindi). However, the language of any printed literature furnished by Bidder in connection with its bid may be written in any other language provided a translation accompanies the same in the bid language. For purposes of interpretation of the bid, translation in the language of the bid shall prevail.

10.1.2 Acquaintance with Local Conditions and Factors

The Bidder, at his own cost, responsibility, and risk, is encouraged and advised to visit, examine, and familiarize himself with all the site/ local conditions and factors like the nature of ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, availability of Water, electricity, material, T&P , Laboure etc in local , accommodation they may require and in general, themselves to obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender.

The address of site (work place) is mentioned in TIS.

The Bidder shall be deemed to have full knowledge of the construction site located in Central warehousing complex, working culture, rules etc prevailing in central warehousing complex, Operation hours, working days etc and whether he/they inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed.

The Bidder shall be responsible for arranging and maintaining at his own cost, all materials, tools and plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for, in the contract documents.

The Bidder acknowledges that before the submission of the bid, he has, after a complete and careful examination, made an independent evaluation of the Site/ local conditions, infrastructure, logistics, communications, the legal, environmental, and any other conditions or factors, which would have any effect on the performance of the contract. Bidders shall themselves be responsible for compliance with Rules, Regulations, Laws and Acts in force from time to time at relevant places. On such matters, the Procuring Entity shall have no responsibility and shall not entertain any request from the bidders in these regards. Submission of tender by a Bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plants etc. will be issued (if any) to him by the Corporation and local conditions and other factors having a bearing on the execution of the work.

10.1.3 Cost of Bidding

The Bidder(s) shall bear all direct or consequential costs, losses and expenditure associated with or relating to the preparation, submission, and subsequent processing of their Bids, including but not limited to preparation, copying, postage, delivery fees, expenses associated with any submission of samples, demonstrations, or presentations which the Procuring Entity may require, or any other costs incurred in connection with or relating to their Bids. All such costs, losses and expenses shall remain with the Bidder(s), and the Procuring Entity shall not be liable in any manner whatsoever for the same or any other costs, losses and expenses incurred by a Bidder(s) for participation in the Tender Process, regardless of the conduct or outcome of the Tender process.

10.1.4 Interpretation of Provisions of the Tender Document

The provisions in the Tender Document must be interpreted in the context in which these appear. Any interpretation of these provisions far removed from such context or other contrived or between-the-lines interpretation is unacceptable.

10.1.5 Quote Quantities/ Prices in both Numerals and Words

Although the software on the Portal may convert quantities/ rates/ amounts in numerical digits in Bids to words, the bidders are advised to ensure that there is no ambiguity in this regard.

10.1.6 Alternate Bids not Allowed.

Any conditional offers, alternative offers, multiple bids by a bidder shall not be considered. The Portal shall permit only one bid to be uploaded.

10.2. Documents comprising the bid:

10.2.1 Techno-commercial bid/ Cover

"Technical Bid" shall include inter-alia the original or scanned copies of duly signed or digitally signed copies of the following documents in pdf format. Pdf documents should not be password protected. If so stipulated in TIS/ ITB, specified originals or self-certified copies of originals shall also be required to be physically submitted as per instruction contained therein. *No price details should be given or hinted at in the technical bid:*

The Bidder shall scan and upload:

- 1) Tender (bid) Form (to serve as covering letter and declarations applicable for both the technical bid and financial bid);

This form shall be consisting of the:

- a) PQ form;
- b) Eligibility Declarations;
- 2) The proof of submission of EMD,
- 3) Cost of tender document (if provided in TIS),
- 4) Power of Attorney,

- 5) Proof of the Constituent of Bidders organization: Affidavit of Proprietorship / Memorandum & Article of Association/ Partnership Deed as the case may be,
- 6) Pan Card,
- 7) Goods and Service Tax Registration Certificate,
- 8) PF Registration Certificate,
- 9) Similar Nature Works Completion Certificates,
- 10) CA Certificate & Balance Sheets with Profit & Loss Account, Trading account of specified preceding three financial years in respect of financial turnover,
- 11) Annexure IV along with Form 5: Deviation Statement from Terms and Conditions of Tender - Any deviations should be listed in a chart form without ambiguity or conditionality, along with justification and supporting documents. All such Statements and Documents shall be uploaded as Form 5.
 In case of no deviation, it is not necessary to submit Form -5.
 If deviations are mentioned elsewhere in the bid (other than designated Form 5), such deviations shall not be recognized and shall be null and void.
 If Form 5 is not enclosed along with Annexure-IV, it shall be considered that the bidder does not have any deviation.
- 12) Net Worth Certificate,
- 13) Integrity Pact, (if required & mentioned in TIS) as per, Annexure V)
- 14) Declaration about the near relative in CWC (Annexure VI)
- 15) Declaration of works in Hand -In progress by Bidder (Annexure IX).
- 16) Bar Chart and
- 17) Duly signed Checklist: Bidder must also upload the Checklist given in the Tender Document as to confirm that he has complied with all the instructions in the Tender Document, and nothing is inadvertently left out. This checklist is only for general guidance and is not comprehensive and does not absolve Bidder from complying with all the requirements stipulated elsewhere in the Tender Document.

10.2.2 Financial bid/ Cover

"Financial bid" shall comprise the Price Schedules (To be submitted separately as an excel sheet) considering all financially relevant details, including Taxes and Duties. No additional technical details, which have not been brought out in the technical bid shall be brought out in the financial bid and if so shall not be entertained.

10.2.3 Important Note:

- 1) For deciding eligibility/Qualification of Bidder, it is mandatory for Bidder to submit Affidavit (as per Annexure IV), EMD, Financial Turnover (Balance Sheets with Profit & Loss Account / Trading Account of specified preceding three years as per NIT) and Similar Nature of Work Experience Certificates of requisite magnitude (as per NIT), failing which the tender shall be summarily rejected.
- 2) No additional mandatory documents will be entertained after tender opening, except clarification documents required, if any regarding already submitted documents with tender. Any documents submitted Suo-moto by the Bidder through e-mail/post/hand delivery etc. shall neither be entertained nor considered for evaluation.
- 3) All other documents like Integrity Pact, Net Worth, Goods and Services Tax Registration Certificate, PAN Card, PF Registration, Organization Details, Power of Attorney, Annexure VI, BAR/PERT Chart, Form of declaration as per Annexure -VI & IX, List of plant & machinery, list of permanent

technical persons, Bank details etc. as per NIT/pre-qualifying Proforma / Comparative Statement, are also required to be submitted along with tender.

- 4) All other documents should also be uploaded by the Bidder. However, if the Bidder has not uploaded any of the other documents as per NIT/Pre-qualifying Proforma/Comparative Statement, lowest Bidder should submit the same with submission of Performance Guarantee, If the lowest Bidder fails to do so, then no Agreement between CWC and contractor will be executed and it will lead to rejection of bid and forfeiture of EMD & Performance Guarantee and punitive action towards breach of contract.

10.3. Bid Validity

- 1) Unless specified to the contrary in the TIS/ ITB, Bids shall remain valid for a period not less than 90 days from the deadline for the bid submission stipulated in TIS. A bid valid for a shorter period shall be rejected as nonresponsive.
- 2) In case the day up to which the bids are to remain valid falls on/ subsequently declared a holiday or closed day for the Procuring Entity, the bid validity shall automatically be deemed to be extended up to the next working day.
- 3) In exceptional circumstances, before the expiry of the original time limit, the Procuring Entity may request the bidders to extend the validity period for a specified additional period. The request and the bidders' responses shall be made in writing electronically. A bidder may agree to or reject the request.
- 4) The bidder(s) who has/have agreed to the Procuring Entity's request for extension of bid validity, in no case, shall be permitted to modify his/their bid.

10.4. Bid Security / Earnest Money Deposit (EMD)

- 1) All Bidders shall submit appropriate Bid Security/ EMD amount as mentioned in TIS/ITB, along with its technical bid. The EMD is required to protect the Procuring Entity against the risk of the Bidder's unwarranted conduct as amplified under the sub-clause below.
- 2) Any request for recovery from outstanding bills for Earnest Money against present tender will not, under any circumstance, be entertained. Tenders submitted with earnest money in the forms other than specified in TIS/ITB, shall not be considered.
- 3) The EMD shall be forfeited if Bidder breaches the following obligation(s) under the tender conditions:
 - (a) withdraws or amends his bid or impairs or derogates from the bid in any respect within the period of validity of its bid; or
 - (b) after having been notified within the period of bid validity of the acceptance of his bid by the Procuring Entity:
 - i) refuses to or fails to submit the original documents for scrutiny or the required Performance Security (PG) within the stipulated time as per the conditions of the Tender Document.
 - ii) Fails or refuses to sign the contract in prescribed Proforma at Annexure-VII within period prescribed in ITB.
- 4) Unsuccessful Bidders' EMD shall be returned (only through digital mode), if the contract is not awarded to them, upon:
 - (a) receipt by Bidder of the Procuring Entity's notification

- i) of cancellation of the entire tender process or rejection of all bids or
- ii) of the name of the successful bidder or

(b) thirty days after the expiration of the bid validity or any extension thereof

- 5) The Bidder shall provide name of bank, account no., branch code and RTGS code for account maintained by them/him for financial transaction.
- 6) For the successful Bidder, Earnest Money will be retained as part of the Security Deposit (SD) in terms of Clauses of Contract.
- 7) The procuring entity shall not be responsible for any depreciation that may happen thereto EMD due to price inflation etc while in its possession, nor shall be liable to pay any interest thereon.

10.5. Non-compliance with these provisions

Bids are liable to be rejected as nonresponsive if a Bidder:

- 1) fails to provide and/ or comply with the required information, instructions etc., incorporated in the Tender Document or gives evasive information/ reply against any such stipulations.
- 2) furnishes wrong and/ or misleading data, statement(s) etc. In such a situation, besides rejection of the bid as nonresponsive, it is liable to attract other punitive actions under relevant provisions of the Tender Document for violation of the Code of Integrity.

11. Signing and Uploading of Bids

11.1. Relationship between Bidder and eProcurement Portal

The Procuring Entity is neither a party nor a principal in the relationship between Bidder and the organization hosting the e-procurement portal (hereinafter called the Portal). Bidders must acquaint and train themselves with the rules, regulations, procedures, and implied conditions/ agreements of the Portal. Bidders intending to participate in the bid shall be required to register in the Portal. Bidders shall settle clarifications and disputes, if any, regarding the Portal directly with them. In case of conflict between provisions of the Portal with the Tender Document, provisions of the Portal shall prevail. Bidders may study the resources provided by the Portal for Bidders.

11.2. Signing of bid

- 1) The individual digitally signing the bid or any other connected documents should submit an authenticated copy of the document(s), which authorizes the signatory to commit and submit bids on behalf of the bidder in PQ form (Bidder Information).
- 2) If the tender is made by Proprietary firm, it shall be signed by the Proprietor with his full name and full name of his firm with its current address.
- 3) If the application is made by a Firm in Partnership, it shall be signed by all partners of the Firm above their full names and current addresses or by a partner holding the power of attorney for the Firm by signing the applications in which case a certified copy of the power of attorney shall accompany the application. A certified copy of the Partnership Deed, current address of the Firm and the full names and current addresses of all the Partners of the Firm shall also accompany the application.
- 4) If the application is made by a limited company or a limited corporation, it shall be signed by a duly authorized person, holding the power of attorney for signing the application in which case a certified copy of the Power of Attorney shall accompany the application. Such Limited Company or Corporation will be required to furnish satisfactory evidence of its existence, before the contract is awarded.

11.3. Submission/ uploading of Bids.

11.3.1 Submission/ Uploading to the Portal

- 1) No manual Bids shall be made available or accepted for submission. In the case of downloaded documents, Bidder must not make any changes to the contents of the documents while uploading, except for filling the required information– otherwise, the bid shall be rejected as nonresponsive.
- 2) Bids shall be received only *Online* on or before the deadline for the bid submission as notified in TIS.
- 3) Only one copy of the bid can be uploaded, and Bidder shall digitally sign all statements, documents, certificates uploaded by him, owning sole and complete responsibility for their correctness/ authenticity as per the provisions of the IT Act 2000 as amended from time to time.
- 4) Bidder need not sign or up-load the entire tender document and its sections as mentioned in ITB-clause 1.4 above while uploading his bid. It is assumed that Bidder commits itself to comply with all the Sections and documents uploaded by the Tender Inviting Officer.
- 5) Bidder must upload scanned copies of originals – (as specified). Uploaded Pdf documents should not be password protected. Bidder should ensure the clarity/ legibility of the scanned documents uploaded by him.
- 6) The Procuring Entity reserves its right to call for verification originals of all such self-certified documents from the Bidders at any stage of evaluation, especially from the successful Bidder(s) even after the issue of Letter of Award (LoA).
- 7) Regarding the protected Price Schedule (excel format, Cover-2), Bidder shall write his name in the space provided in the specified location only. Bidder shall type percentage rates in the figure only in the bidder's rate column of each of sub schedule without leaving any blank cell or Zero values in the rate column, without any alteration/ deletion/ modification of other portions of the excel sheet.
- 8) The date and time of the deadline for the bid submission shall remain unaltered even if the specified date is declared a holiday for the Tender Inviting Officer.
- 9) The date and time of the e-Procurement server clock, which is also displayed on the dashboard of the bidders, shall be taken as the reference time for deciding the closing time of bid submission. Bidders are advised to ensure they submit their bid within the deadline and time of bid submission, taking the server clock as a reference, failing which the portal shall not accept the Bids. No request on the account that the server clock was not showing the correct time and that a particular bidder could not submit their bid because of this shall be entertained. Failure or defects on the internet or heavy traffic at the server shall not be accepted as a reason for a complaint. The Procuring Entity shall not be responsible for any failure, malfunction or breakdown of the electronic system used during the e-Tender Process.
- 10) Submission of tender and credential documents through E-Tender website www.cwceprocure.com shall be sole risk & responsibility of the Bidder. Any claim on this account will not be entertained. Hence, Bidder should ensure that tender along with all requisite credential papers are submitted / uploaded on e-tender website in correct way and at correct place on or before tender submission date & time.
- 11) Bidder should upload all the required documents with the tender under valid digital signature. Uploading of tender with digital signature shall imply that all tender terms & conditions have been accepted by the bidder unless the bidder has specifically declared for non-acceptance / deviation in his technical bid. It shall also mean that documents uploaded by bidders are attested by him self and he takes full responsibility of authenticity of same.

- 12) All Bids uploaded by Bidder to the portal shall get automatically encrypted. The encrypted bid can only be decrypted/ opened by the authorised persons on or after the due date and time. The bidder should ensure the correctness of the bid before uploading and take a printout of the system generated submission summary to confirm successful bid upload.
- 13) The Procuring Entity may extend the deadline for the bid submission by issuing an amendment, in which case all rights and obligations of the Procuring Entity and the bidders previously subject to the original deadline shall then be subject to the new deadline for the bid submission.
- 14) Bid submitted through modalities other than those stipulated in TIS shall be liable to be rejected as nonresponsive.
- 15) For whatsoever reasons, if any part of tender document is not uploaded/submitted by the bidder, other than financial & technical offers and requisite pre-Qualifying credentials; in that case, the missing part of the tender document shall be treated as read and accepted by bidder. Missing part of tender document shall not be called for re-submission; however, the same shall form part of contract agreement and shall be binding on bidder.

11.3.2 Implied acceptance of procedures by Bidders

Submission of bid in response to the Tender Document is deemed to be acceptance of the e-Procurement and tender procedures and conditions of the Tender Document.

11.3.3 Late Bids

The bidder shall not be able to submit his bid after the expiry of the deadline for the bid submission (as per server time). Therefore, in eProcurement, a situation of Late Tender does not arise.

11.4. Modification, Resubmission and Withdrawal of Bids

11.4.1 Modification & Resubmission

Once submitted in e-Procurement, Bidder cannot view or modify his bid since it is locked by encryption. However, resubmission of the bid by the bidders for any number of times superseding earlier bid(s) before the date and time of submission is allowed. Resubmission of a bid shall require uploading of all documents, including financial bid afresh. The system shall consider only the last bid submitted.

11.4.2 Withdrawal

- 1) The bidder may withdraw his bid before the bid submission deadline, and it shall be marked as withdrawn.
- 2) No bid should be withdrawn after the deadline for the bid submission and before the expiry of the bid validity period. If a Bidder withdraws the bid during this period, the Procuring Entity shall be within its right to enforce Bid Security (EMD), in addition to other punitive actions provided in the Tender Document for such misdemeanour.

12. Bid Opening

The date & time of the opening bid is as stipulated in TIS. Bids cannot be opened before the specified date & time, even by the Tender Inviting Officer, the Procurement Officer, or the Publisher. If the specified date of tender opening falls on a subsequently declared holiday or closed day for the Procuring Entity, the Bids shall be opened at the appointed time on the next working day.

13. Evaluation of Bids and Award of Contract

13.1. General norms

13.1.1 Evaluation based only on declared criteria.

The evaluation shall be based upon scrutiny and examination of all relevant data and details submitted by Bidder in its/ his bid and other allied information deemed appropriate by Procuring Entity. Evaluation of bids shall be based only on the criteria/ conditions included in the Tender Document.

13.1.2 Infirmary/ Irregularity/ Non-Conformity/ Deviations - Substantive or Minor

- 1) An infirmity/ irregularity or non-conformity/ exception/ deviation/ reservation/ omission from the requirements of the Tender Document shall be considered as a substantive deviation as per the following norm, and the rest shall be considered as Minor deviation:
 - a) which affects in any substantive way the scope, quality, or performance standards of the Works/ Services.
 - b) which limits in any substantive way, inconsistent with the Tender Document, the Procuring Entity's rights or the Bidder's obligations under the contract; or
 - c) Whose rectification would unfairly affect the competitive position of other Bidders presenting substantively responsive Bids.
- 2) The decision of the Procuring Entity shall be final in this regard. Bids with substantive deviations shall be rejected as nonresponsive.
- 3) Variations and deviations and other offered benefits (Techno-commercial or Financial) above the scope/ quantum of Works/ Services stipulated in the Tender Document shall not influence evaluation Bids. If the bid is otherwise successful, such benefits shall be availed by the Procuring Entity, and these would become part of the contract.
- 4) The Procuring Entity reserves the right to accept or reject bids with any minor deviations. Wherever necessary; the Procuring Entity shall convey its observation as per sub-clause below, on such 'minor' issues to Bidder electronically etc. asking Bidder to respond by a specified date. If Bidder does not reply by the specified date or gives an evasive reply without clarifying the point at issue in clear terms, that bid shall be liable to be rejected as nonresponsive.

13.1.3 Clarification of Bids and shortfall documents

- 1) During the evaluation of Techno commercial or Financial Bids, the Procuring Entity may, at its discretion, but without any obligation to do so, ask Bidder to clarify its bid by a specified date otherwise within time of 07 days. Bidder should answer the clarification within that specified date otherwise within time of 07 days.
- 2) The request for clarification shall be submitted in writing electronically and no change in prices or substance of the bid shall be sought, offered, or permitted that may grant any undue advantage to such bidder.
- 3) for this purpose, the procedure stated below is to be followed and the specific clarification is required to be uploaded on the same portal as per the procedure prescribed therein.
- 4) The Bidder has the option to respond or not to respond to these queries.
- 5) If the Bidder fails to respond, within the stipulated time period or fails to respond/submit the clarification(s)/document(s) with respect to mandatory documents submitted or it is non-conforming to requirement of tender conditions; no further time will be given for submitting the same and the tender will be summarily rejected.
- 6) For obtaining clarification, following procedure is to be followed:

- i. An icon for clarification shall appear on “Bid Details” page (in front of each of the Bidder’s name) at Corporation’s end after opening of Technical / Financial Bid.
 - ii. Corporation shall click on clarification icon for the desired Bidder and enter the details of clarifications sought within the prescribed time.
 - iii. After entering the details of clarification sought by the Corporation, same icon shall appear at Bidder’s end for replying to the particular clarification sought by the Corporation. The system will also send the alert to the Bidder at his registered e-mail address about the clarification sought by the Corporation.
 - iv. Bidder will click on clarification icon and will reply to the same and upload the required clarification/documents in support of clarification sought, if any, within the prescribed time. Bidder cannot ask for any clarification from the corporation.
 - v. Once the prescribed time expires, clarification icon from Bidder site shall also disappear automatically.
 - vi. After expiry of prescribed time, Corporation shall download the clarification/ documents in support of clarification submitted by the Bidder.
- 7) If discrepancies exist between the uploaded scanned copies and the Originals submitted by the bidder, the original copy's text, etc., shall prevail. Any substantive discrepancy shall be construed as a violation of the Code of Integrity, and the bid shall be liable to be rejected as non-responsive in addition to other punitive actions under the Tender Document for violation of the Code of Conduct.
- 1) The Procuring Entity reserves its right to, but without any obligation to do so, to seek any shortfall information/ documents only in case of historical documents which pre-existed at the time of the tender opening, and which have not undergone change since then and does not grant any undue advantage to any bidder. There is a provision on the portal for requesting Short-fall documents from the bidders.

13.1.4 Contacting Procuring Entity during the evaluation

Canvassing whether directly or indirectly in connection with tenders is strictly prohibited and the tenders submitted by the Bidders who resort to canvassing will be liable to rejection.

From the time of bid submission to awarding the contract, no Bidder shall contact the Procuring Entity on any matter relating to the submitted bid. If a Bidder needs to contact the Procuring Entity for any reason relating to this tender and/ or its bid, it should do so only in writing electronically. Any effort by a Bidder to influence the Procuring Entity during the processing of bids, evaluation, bid comparison or award decisions shall be construed as a violation of the Code of Integrity, and bid shall be liable to be rejected as non-responsive in addition to other punitive actions for violation of Code of Integrity as per the Tender Document.

13.2. Evaluation of Bids

13.2.1 Preliminary Examination of Bids - Determining Responsiveness

A substantively responsive bid is complete and conforms to the Tender Document's essential terms, conditions, and requirements, without substantive deviation, reservation, or infirmity. Only substantively responsive bids shall be considered for further evaluation. Unless otherwise stipulated in the ITB, the following are some of the crucial aspects for which a bid shall be rejected as nonresponsive:

- 1) The bid is not in the prescribed format or is not submitted as per the stipulations in the Tender Document.
- 2) Required Bid Security (EMD) has not been provided.
- 3) Tender Document Cost, if specifically mentioned in TIS/ITB, has not been paid.
- 4) Bidder is not eligible to participate in the bid as per laid down eligibility criteria;

- 5) The Services offered are not eligible as per the provision of this tender.
- 6) Bidder has quoted conditional bids or more than one bid or alternative bids unless permitted explicitly in the TIS/ ITB.
- 7) The bid validity is shorter than the required period.
- 8) The bid departs from the essential requirements stipulated in the bidding document;
- 9) Bidder has not quoted in all sub-Schedules or against any sub schedule of Price Schedule -A. or has not quoted for all item of works as per scope as stipulated in any sub schedule of Price Schedule.
- 10) Non-submission or submission of illegible scanned copies of stipulated **Mandatory documents/ declarations**
- 11) Tenders containing any condition leading to unknown/indefinite liabilities.

13.2.2 The evaluation process:

- 1) This Tender Process is for Single Stage bids in Two bid System (Technical and Financial) as stipulated in TIS/ITB.
- 2) Initially, only the techno-commercial bids that is also referred /called as technical bid shall be opened on the stipulated date of opening of bids. After that, the techno-commercial evaluation shall be done to find whether these bids meet the eligibility & qualification criteria and techno-commercial aspects. Subsequent opening of financial bids and financial evaluation shall be done only of bids declared successful in techno-commercial evaluation.

13.3. Techno-commercial Evaluation

Only substantively responsive bids shall be evaluated for techno-commercial evaluation. In evaluating the techno-commercial bid, conformity to the eligibility/ qualification criteria, technical specifications, and Quality Assurance; and commercial conditions of the offered Services to those in the Tender Document is ascertained. Additional factors incorporated in the Tender Document shall also be considered in the manner indicated therein. Bids with substantive techno-commercial deviations shall be rejected as non-responsive. The procuring entity reserves its right to consider and allow minor deviations in technical and Commercial Conditions.

13.3.1 Evaluation of eligibility

The Tender evaluation Committee constituted by Procuring Entity shall determine, to its satisfaction, whether the Bidders are eligible as per ITB-clause 3.2 and NIT-clause 2 above to participate in the Tender Process as per submission in Eligibility Declarations. Tenders that do not meet the required eligibility criteria prescribed shall be rejected as nonresponsive.

13.3.2 Evaluation of Qualification Criteria

The Tender evaluation Committee constituted by the Procuring Entity shall determine, to its satisfaction, whether the Bidders are qualified and capable in all respects to perform the contract satisfactorily. This determination shall, inter-alia, consider the Bidder's Experience/ Past Performance and Financial Capabilities etc; for satisfying all requirements incorporated in the Tender Document. The determination shall not consider the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors, or any other firm(s) different from the Bidder.

13.3.3 Evaluation of Conformity to Commercial and Other Clauses

Bidder must comply with all the Commercial and other clauses of the Tender Document. The Procuring Entity shall also evaluate the commercial conditions quoted by Bidder to confirm that all terms and conditions stipulated in the Tender Document have been accepted without substantive omissions/

reservations/ exception/ deviation by the Bidder. Deviations from or objections or reservations to critical provisions such as those concerning Governing laws and Jurisdiction, Contractor's Obligations and Restrictions of its Rights, Performance Bond/ Security, Force Majeure, Taxes & Duties , Defects Liability Period , Completion Time, LD clauses, Technical Specifications, and Code of Integrity (GCC Clause 14) will be deemed to be a material deviation.

13.3.4 Declaration of Techno-commercially Suitable Bidders and Opening of Financial Bids

Bids that succeed in the above techno-commercial evaluation shall be considered techno-commercially suitable, and financial evaluation shall be done only of such Bids. The list of such techno-commercially suitable bidders and a date/time and venue for the opening of their financial bids shall be declared on the e procurement Portal only.

13.4. Evaluation of Financial Bids and Ranking of Bids

13.4.1 Ranking of Financial Bids

- 1) Evaluation of the financial bids shall be on the price criteria only. Financial Bids of all Techno-commercially suitable bids shall be evaluated and ranked to determine the lowest priced bidder.
- 2) The comparison of the responsive Bids shall be on total outgo from the Procuring Entity's pocket, to be paid to the contractor including all elements of costs as per the terms of the proposed contract, duly delivered, commissioned, etc. as the case may be, including any taxes, duties, levies etc.
- 3) If Price Schedule may contain more than one sub schedule, the financial ranking of bids shall be done based on total amount in all such sub schedules put together. The Bidders should quote their percentage rate separately for each Sub Schedule in Financial bid i.e separate for DSR CIVIL, DSR E&M, Market rates (Civil)/ Market Rate (E&M) etc. The bid for a schedule shall not be considered if all item of works prescribed in that schedule are not quoted or included in the bid.
Any mention of prices elsewhere other than at appropriate place in financial bid XLS sheet, will be summarily rejected and will not be entertained.
- 4) All tenders in which any of the prescribed condition is not fulfilled and any condition including that of conditional rebate is put forth by the Bidder, shall be summarily rejected.
- 5) If any bidder offers discounts/ rebates in his bid or suo-motu discounts and rebates after the tender opening (techno-commercial or financial), such rebates/ discounts shall not be considered for ranking the offer. But if such a bidder does become L-1 without such discounts/ rebates, such discounts/ rebates shall be availed and incorporated in the contracts;
- 6) Unless announced beforehand, the quoted price shall not be loaded based on deviations in the commercial conditions. If it is so declared, such loading of a financial bid shall be done as per the relevant provisions;
- 7) Bidders quoted rates shall be inclusive of GST, ESI, EPF, Building & Construction Workers Cess and any other taxes, levies, duties, as applicable on complete work. Evaluation of Bids shall include and consider these component over and above basic rates of material & services. The Procuring Entity shall not be responsible for any misclassification of HSN Number or incorrect GST rate if quoted by the bidder. Any increase in GST rate due to misclassification of HSN number shall have to be absorbed by the supplier
- 8) Valid L1 shall be decided based on over all lowest quote calculated by arithmetic sum of amount quoted in all sub schedules of Price schedule A.
- 9) **Ambiguous Financial bid:** If the financial bid is ambiguous, it shall be rejected as nonresponsive.

13.4.2 Cartel Formation/ Pool Rates

- 1) If Procuring Entity decides this to be a case of Cartel/ Pool Rates, leading to “Appreciable Adverse Effect on Competition” (AAEC) as identified in Competition Act, 2002, as amended from time to time, It reserves its rights to:
 - a) consider it as a violation of the Code of Integrity and reject the bid(s) as non-responsive in addition to other punitive actions provided in this regard in the Tender Document. In addition to such remedies, the Procuring Entity also reserves the right to refer the matter to the Competition Commission of India (CCI) for obtaining necessary relief. In addition, the attention of the bidders is drawn to Chapter VI of the “The Competition Act 2002”, which deals with Penalties. Such actions shall be in addition to other rights and remedies available to the Procuring Entity under the contract and Law.

13.4.3 Reasonableness of Rates Received

Procuring Entity shall evaluate whether the rates received in the Bids in the zone of consideration are reasonable. If the rates received are considered abnormally low or unreasonably high, it reserves its right to take action as per the following sub-clauses, or as per ITB-clause 2.3, reject any or all Bids; abandon/ cancel the Tender process and issue another tender for identical or similar Services.

13.4.4 Consideration of Abnormally Low Bids

An Abnormally Low bid is one in which the bid price, in combination with other elements of the bid, appears so low that it raises substantive concerns as to the Bidder's capability to perform the contract at the offered price. Procuring Entity shall in such cases seek written clarifications from the Bidder, including detailed price analyses of its bid price concerning scope, schedule, allocation of risks and responsibilities, rates of material, manpower, T&P, machines etc required to be provided to complete the work or to deliver the services and any other requirements of the Tender Document.

The Bidder/s shall submit an analysis of rates, if called upon to do so. A format for prices of material & labor is given in price bid sheet which needs to be filled by the contractor in support of rate analysis which may be used to see the reasonability of rates quoted by the bidder

If, after evaluating the price analyses, procuring entity determines that Bidder has substantively failed to demonstrate its capability to deliver the contract at the offered price, the Procuring Entity shall reject the bid/proposal.

13.4.5 Price Negotiation

Usually, there shall be no price negotiations. However, the Procuring Entity reserves its right to negotiate with the lowest acceptable bidder (L-1).

The Bidder shall not increase his rate in case the Procuring Entity negotiates for reduction of rates. Such negotiations shall not amount to cancellation or withdrawal of original offer and rates originally quoted will also be binding on the Bidder.

14. Award of Contract

There shall be no parallel orders or splitting quantities among more than one Bidders.

14.1. Letter of Award (Acceptance - LoA) and Signing of Contract

14.1.1 Selection of Successful Bidder(s)

The Procuring Entity shall award the contract to the Bidder whose bid is Techno-commercially suitable and bid price is the lowest and reasonable, as per evaluation criteria detailed in the Tender Document.

14.1.2 Letter of Award (LoA)

- 1) The Bidder, whose bid has been accepted, shall be notified of the award by the Procuring Entity before the expiration of the bid validity period in written by digital means only through CWC Contract Management Portal (CMS)/email. This notification (hereinafter and in the Conditions of Contract called the "Letter of Award - LoA") shall state the sum (hereinafter and in the contract called the "Contract Price") that the Procuring Entity shall pay the contractor in consideration of completion of work. The Letter of Award (LoA) shall constitute the legal formation of the contract, subject only to the furnishing of performance security as per the provisions of the sub-clause below.
- 2) The bidder shall return duly acceptance copy of LOA in written by digital means only through CWC Contract Management Portal (CMS)/email. Failure in acceptance of LOA or non acting for further deposition of PG will lead to termination and forfeiture of EMD and other punitive actions as mentioned in ITB.
- 3) On acceptance of the tender, the name of the accredited representative(s) of the contractor, who would be responsible for taking instructions from the Engineer-in-charge / Engineer shall be communicated to the Engineer-in-Charge.
- 4) If a Bidder expires after the submission of his tender or after the acceptance of his tender, the CWC shall deem such tender as cancelled. If a partner of a Firm expires after the submission of their tender or after the acceptance of their tender, the CWC shall deem such tender as cancelled, unless the Firm retains its character. However, in such cases, the amount of Earnest Money will be refunded to the legal heir on production of successor certificate.

14.1.3 Performance Security / Performance Guarantee (PG)

- 1) The Bidder, whose tender is accepted and LOA has been placed, will be required to furnish to the Procuring Entity, a Performance Guarantee (PG) Within 15 days of receipt of the Letter of Award (LoA) or period specified in Schedule 'F' whichever is earlier, as per details in TIS/GCC-CL -1/ LOA
- 2) In case of non-submission of Performance Security / Performance Guarantee (PG) by contractor by due date as above, Procuring Entity, upon written request of Contractor, may extend the due date of submission of PG which in no case shall be 30 days of receipt of the Letter of Award (LOA). Such (maximum) allowable extension shall be with late fee @ 0.1% per day of Performance Guarantee amount beyond the initial period of 15 days.
- 3) In case of non-receipt of written request of Contractor for extension of initial due date of submission of PG or non-submission of PG even by 15th day of receipt of LOA, no extension of such due date shall be su moto granted by Procuring Entity. The action on contract shall be decided by Procuring Entity as per provisions made herein at subclause (4) or elsewhere in Tender Document.
- 4) In case the PG/SD is to be submitted through BG then, The Bank Guarantee issuing bank shall send cover for Bank Guarantee issued through SFMS platform to the CWC Banker i.e. **ICICI Bank, 9 Phelps Building, Connaught Place, New Delhi, (IFSC Code: ICIC0000007)** as per details given below:
 - MT760 COV for issuance of bank guarantee.
 - MT767 COV for amendment of bank guarantee.
 - Issuing bank shall mention CWC beneficiary code i.e. CENTRALW27112020 in field 7037 of MT 760 COV / MT767 COV.

- The bidder shall submit the copy of SFMS message as sent by the issuing
 - bank branch along with the original Bank Guarantee.
 - Bank Guarantee submitted without these details shall not be accepted.
- 5) If the contractor, having been called upon by the Procuring Entity to furnish PG, fails to do so within the period as specified above in subclause (1) (in case of non-extension) and even up to last date of extended period, if extended as specified in subclause (2) above, the contract shall be terminated without any notice to Contractor, duly forfeiting EMD and other dues, if any payable against the contract. The failed contractor shall be debarred from participating in future tender of the Corporation for next two years from the date of debarring.
- 6) In the case, when bidder, whose bid has been found to be the lowest evaluated bid withdraws or whose bid has been accepted, fails to sign the contract as may be required, or fails to provide the security (PG) as may be required for the performance of the contract or otherwise withdraws from the procurement process, the Procuring Entity shall cancel the procurement process.

14.1.4 The Contract and Signing of Contract

- 1) Post receipt and acceptance/verification of PG by CWC, the contract can be signed physically at corporate office of Procuring Entity within 15 days of the acceptance of performance security. The contractor may point out to the Procuring Entity, in writing/ electronically, any anomalies noticed in the contract within seven days of its receipt vide email or otherwise.
- 2) Failure to do so ie signing the contract by successful bidder (contractor) shall constitute a breach, in which case, the Procuring Entity would be at liberty to not only terminate the contract, but also forfeit EMD and Performance Guarantee. Cost of stamp paper for the agreement will be borne by contractor. The due dates of work completion shall be valid as mentioned in LOA/ Tender document.
- 3) The contract agreement shall consist of:
The Press Notification (if any), E-Tender Notice, Notice Inviting Tender (NIT), Tender information summary (TIS), Instructions to Bidders (ITB), all the Documents of Tender & Contract for works including Special Conditions of Contract, Technical Specifications and Drawings, if any, forming the part of tender documents, as issued/downloaded by the Bidder from the websites at the time of invitation of tender and acceptance thereof together with any correspondence with them leading thereto and also the correspondence related with verification of credentials

14.1.5 Publication of Tender Result

The name and address of the successful Bidder(s) receiving the contract(s) shall be published only on the e procurement Portal ie on www.cwceprocure.com

14.1.6 Verification of Original Documents

The Procuring Entity, at its discretion, may ask Bidder to submit for verification the originals of all such documents whose scanned copies were submitted online along with the technical bid. The credential documents of financial and experience criteria shall also be got verified from the authority/ office who has issued such documents. If so decided, the photocopies of such self-certified documents and the credential documents verified from issuing office/ authority shall be kept in the records as part of the contract agreement.

If the Bidder fails to provide such originals or in case of substantive discrepancies in such documents or it is found at any stage of tendering process that documents submitted in bid is/are fabricated/ tempered/ forged/ altered/ manipulated/ false then it shall be construed as a violation of the Code of Integrity. Such bid shall be liable to be rejected as non-responsive, bidder shall be disqualified and the evaluation of Bids

shall proceed with the subsequent ranked offers.

If the Bidder fails to provide such originals or in case of substantive discrepancies in such documents or documents submitted in bid is/are fabricated/ tempered/ forged/ altered/ manipulated/ false if found even after placement of LOA or signing the contract or then Procuring Entity reserves the right to terminate the contract, forfeit of EMD and Performance Security / Security Deposit whichever is available at the time of termination.

In addition to above (disqualification of bidder or termination of contract as the case may be), other punitive actions shall also be taken to blacklist/debar the bidder from future participation in tenders of the Procurement Entity for next five years.

15. Grievance Redressal/ Complaint Procedure

- 1) Bidder has the right to submit a complaint or seek de-briefing regarding the rejection of his bid, in writing or electronically, within 10 days of declaration of techno-commercial or financial evaluation results. The complaint shall be addressed to the Group General manager (Personnel) vide email warehouse@nic.in.
- 2) Within 10 working days of receipt of the complaint, the Tender Inviting Officer shall acknowledge the receipt in writing to the complainant indicating that it has been received, and the response shall be sent in due course after a detailed examination.
- 3) The Tender Inviting Officer shall convey the final decision to the complainant within 21 days of receiving the complaint. No response shall be given regarding the confidential process of evaluating bids and awarding the contract before the award is notified, although the complaint shall be kept in view during such a process. However, no response shall be given regarding the following topics explicitly excluded from such complaint process:
 - a) Only a bidder who has participated in the concerned Tender Process, i.e., bidding, can make such representation.
 - b) Only a directly affected bidder can represent in this regard.
 - i) In case a technical bid has been evaluated before the opening of the financial bid, an application for review concerning the financial bid may be filed only by a bidder whose technical bid is found to be acceptable.
 - c) Following decisions of the Procuring Entity shall not be subject to review:
 - i) Determination of the need for procurement.
 - ii) Complaints against performance standards except under the premise that they are either vague or too specific to limit competition
 - iii) Selection of the mode of procurement or bidding system;
 - iv) Choice of the selection procedure.
 - v) Provisions limiting the participation of bidders in the Tender Process, in terms of policies of the Government.
 - vi) Provisions regarding purchase preferences to specific categories of bidders in terms of policies of the Government
 - vii) The decision to enter into negotiations with the L-1 bidder; and
 - viii) Cancellation of the Tender Process except where it is intended to subsequently re-tender the same Services.

16. Code of Integrity in Public Procurement, Misdemeanors and Penalties:

Procuring authorities, bidders including their suppliers, contractors, and consultants shall observe the highest standard of integrity and not indulge in prohibited practices or other misdemeanors, either directly or indirectly, at any stage during the Tender Process or during the execution of resultant contracts. Integrity Pact (including the penalties prescribed therein) shall be considered to be part of this clause of ITB (even though it is not being reproduced here for the sake of brevity) and shall apply mutadis mutandis during the

pre-award tender process.

17. The contract operations and proceeding in connection with the works at all times be conducted during the continuance of contract in accordance with the laws, ordinances, rules and regulations for the time being in force and the contractors shall further observe and comply with the by-laws & regulations of the Govt. of India, State Govts., local Municipalities and other authorities, having jurisdiction over area involved in connection with the works of site & over operations, such as those as carried out by the contractor/s and shall give all notices required by such by-laws & regulations. The hospital and medical regulations in force for the time being shall also be complied with by the contractor/contractors and their workmen.

18. The contractor shall be responsible for observance of the rules and regulations under Mines Act, Mineral Rules and Indian Metallurgical rules & regulations of State Govt. concerned, as amended from time to time.

19. The contractor shall, at all times, keep CWC indemnified against all penalties that may be imposed by the Govt. of India or State Govt. for infringement of any other clauses of the mines act and rules made thereunder in respect of the quarries from which the quarry material for these works is procured.

20. Engineer in charge shall monitor the contract progress and shall ensure the day-to-day supervision of execution, quality etc through a team of his representative at site who will be a PMC and field representative of him as mentioned in LOA. The contractor shall own the responsibility under the contract and shall report regularly to such representative and keeping engineer in charge informed also.

Pre-Qualifying (PQ) Proforma

{To be Filled by Bidder and Submitted along with Tender Document}

Name of Works: Design, supply, installation, testing and commissioning of Fire Fighting System for Godown No. 1 & 2 at CW Kolathur, Kerala.

SL	Description	Details (filled by Bidder)
1.	Name of the Bidder,	
1a	Address, Organization ID, Tel./Fax No. & E-mail address of Bidder	
2.	Type of constituent (Organization) (Proprietorship / Partnership / Private Limited Co. / Limited Co.)	
2a	Attested copy of organization Details (Proprietorship / Partnership / Private Limited / Limited) enclosed. Submitted with tender duly signed copy of Annexure-II in case of proprietorship OR copy of Partnership deed (in case of Partnership firm) OR Copy of Registration of Company & MOA etc (in case of Company) as applicable	Submitted Yes No.
3	Name of the person holding the power of attorney for this Bid	
3a	Contact details of person holding the power of attorney Mobile Number Email id.	
3.	Attested Copy of Power of Attorney details to sign the Tender Document (Annexure-III)	Submitted Yes No.
4.	Earnest Money Deposit (EMD) of Rs. 2.58 Lakhs Only through e- payment Gateway	Submitted Yes No.
5.	Cost of Tender Documents (Rs. 1180/-) Only through e- payment Gateway	Submitted Yes No.
6.	PF Registration code and copy of PF number	
7.	GST Registration code and copy of GST number	
8.	PAN No. of the Bidder and copy of PAN number	

9.	Contractor Registration enlistment with CPWD/ MES/ Railway/ PWD/ any other PSU etc if any, Copy of Registration certificate and Registration number.	
10	Financial Eligibility Criteria:	
10a.	<p>The average turnover i.e. bidders' revenue (income) from operations for the last three financial years ((i.e. FY 2021-22, 2022-23,2023-24) should be of value not less than 75% of Estimated Cost mentioned in Tender.</p> <p>➤ In case the Balance Sheet and Statement of Profit/Loss for the immediately preceding financial year have not been prepared / audited; the account for one more preceding financial year can be submitted. In case, Bidder does not submit Audited balance sheet and P&L accounts for a particular year (among previous three years as mentioned above), turn over for that particular year will be considered '0'(zero) for calculating average of previous three years.</p> <p>{Please see Eligibility criteria as per Annexure-A (section -III) in Tender document for minimum criteria }</p>	(i) Average of Turnover revenue (income) from operations during FY 2021-22, 2022-23 & 2023-24 against the criteria Rs.
10b	Chartered Accountant's Certificate for Annual financial turnover/ revenue (income) from operations of specified preceding three FY years (i.e. FY 2021-22,2022-23,2023-24)	Submitted Yes No.
10c.	<p>Working Capacity: The Bidder should have achieved turnover: revenue (income) from operations during any of the last three financial years (i.e FY 2021-22, 2022-23,2023-24) of value higher than "T" where T is calculated as below:</p> <p>T = E ÷ N ;</p> <p>➤ Where E = Estimated cost put on tender ➤ N = completion period of works in Years</p> <p>The information shall be supported by audited Balance Sheets and Profit & Loss Statements for the specified period. {Please see Eligibility criteria as per Annexure-A (section -III) in Tender document for minimum criteria }</p>	ii Highest Turnover revenue (income) from operations during FY 2021-22, 2022-23 & 2023-24 against the criteria Rs.
11.	Annual Financial Turnover-Revenue (Income) from operations (as per P&L Account)	
	(a) FY - 2020 – 2021(only when audited turn over for FY 23-24 is not available)	Total - Rs.....
	(b) FY - 2021 – 2022	Total - Rs.....
	(c) FY - 2022 – 2023	Total - Rs.....
	(d) FY - 2023- 2024	Total- Rs.....

12.	<p>Experience w.r.t. Similar Nature of Work:</p> <p>Tenderer, during the last four financial years (ie FY 2020-21, FY 2021-22, FY 2022-23 & FY 2023-24) & current year (FY 2024-25 up to the latest due date of tender submission), must have completed successfully:</p> <p>(1) at least ONE similar nature of work of value not less than 80% of the Estimated Cost put on Tender OR</p> <p>(2) at least TWO similar natures of work of value not less than 50% of the Estimated Cost put on Tender OR</p> <p>(3) at least Three similar nature of work of value not less than 40% of the Estimated Cost put on Tender</p> <p>Note:</p> <p>(i) Experience certificates released by private individuals (proprietor/partnership firms) and private company shall not be considered. However, experience certificate released by Public limited company can be considered only if these are duly supported with</p> <ul style="list-style-type: none"> ➤ Copy of work order or Contract agreement with Client organization and Form 16 A released by Client organization reflecting all the payments made and TDS deducted and – Certificate Issued by Client Organization and certified by Practicing CA with UDIN as per Format attached at Appendix - I. <p>(ii) Similar nature of work shall be as defined in Annexure A (Section III)</p> <p>(iii) The credential Certificate of work experience should include the name of work, agreement no., date of start, stipulated and actual date of completion & gross amount of work done up to the completion, status of Time extension (if any) and Levy of LD (if any).</p> <p>(iv) Experience of work not completed in Time and where LD is levied by Client organization shall not be accepted /considered for evaluation. The bidder shall provide information on levy of LD /time extension by client on the work in PQ Performa which is liable to verification from client as mentioned in Tender document.</p> <p>{Please see Eligibility criteria as per Annexure-A (section -III) in Tender document for minimum criteria }</p>	Name of the work(s) completed and presented against the criteria:
	Brief of Experience-1	
12 a	Work order/ contract agreement ref number and date	
12 b	Name of client issuing the work order and completion certificate	
12 c	Completion certificate -ref number and date	
12 d	Total value of work completed (Rs.)	
12 e	Stipulated date of completion	
12 f	Actual date of completion	
12 g	If LD is levied: Amount / period of delay for which Liquidity damage levied by client (if any)	
	Brief of Experience-2	
13 a	Work order/ contract agreement ref number and date	
13 b	Name of client issuing the work order and completion certificate	

13 c	Completion certificate -ref number and date	
13 d	Total value of work completed (Rs.)	
13 e	Stipulated date of completion	
13 f	Actual date of completion	
13 g	If LD is levied: Amount / period of delay for which Liquidity damage levied by client (if any)	
Brief of Experience-3		
14a	Work order/ contract agreement ref number and date	
14 b	Name of client issuing the work order and completion certificate	
14 c	Completion certificate -ref number and date	
14 d	Total value of work completed (Rs.)	
14 e	Stipulated date of completion	
14 f	Actual date of completion	
14 g	If LD is levied: Amount / period of delay for which Liquidity damage levied by client (if any)	
15	Duly signed declarations/ Affidavit (Annexure-IV) on stamp paper .	Submitted (Yes / No)
16	Duly filled and signed Tender forms as per the format given in Section III A	Submitted (Yes / No)
17	Other documents as per Tender document : Form 'E' and Annexure 1 and Annexure VI and Annexure IX	Submitted (Yes / No)
18	Copy of bar chart after filling of dates for completion of work as per milestone given in Annexure XI in format given in Annexure X	Submitted (Yes / No)

Note :

1. Tenderers have to fill complete details in Pre-Qualifying Performa.
2. Documents pertaining to the above details should be scanned and uploaded on e-tendering website at the time of on-line tender submission.
3. RTGS/NEFT E-payment Challans with UTR no. duly authenticated by Bank may also be scanned & uploaded along with tender submission.
4. Bidder must refer Tender eligibility criteria and Qualification norms as per ITB clause 3 and Annexure A (Section -III)
5. All above documents mentioned in this Performa are mandatory and must be submitted by the Bidder.

Sign of Bidder.
(Digital Signature)

(To be submitted as part of technical bid)
(On Company Letterhead)
(Along with supporting documents, if any)

Name of work: Design, supply, installation, testing and commissioning of Fire Fighting System for Godown No. 1 & 2 at CW Kolathur, Kerala.

Bidder's Name _____

[Address and Contact Details]

Bidder's Reference No. _____

Date.....

Eligibility Declarations

(Please tick appropriate boxes or cross out any declaration not applicable to the bidder)

We hereby confirm that we comply with all the stipulations of NIT and ITB-clause 3 and declare as under and shall provide evidence of our continued eligibility to the Procuring Entity as may be requested:

- 1) **Legal Entity of Bidder:** _____
- 2) **Bidder/ Agent Status:** _____
- 3) We solemnly declare that we (including our affiliates or subsidiaries or constituents):
 - i. are not insolvent, in receivership, bankrupt or being wound up, not have our affairs administered by a court or a judicial officer, not have our business activities suspended and are not the subject of legal proceedings for any of these reasons;
- 4) **Including our Contractors/ subcontractors for any part of the contract:**
 - i. Do not stand declared ineligible/ blacklisted/ banned/ debarred by the Procuring Organisation or its Ministry/ Department from participation in its Tender Processes; and/ or
 - ii. Are not convicted (within three years preceding the last date of bid submission) or stand declared ineligible/ suspended/ blacklisted/ banned/ debarred by appropriate agencies of Government of India from participation in Tender Processes of all of its entities, for offences mentioned in Tender Document in this regard. We have neither changed our name nor created a new "Allied Firm", consequent to the above disqualifications.
- 5) Do not have any association (as bidder/ partner/ Director/ employee in any capacity) with such retired public official or near relations of such officials of Procuring Entity, as counter-indicated, in the Tender Document.
- 6) We certify that we fulfil any other additional eligibility condition if prescribed in Tender Document.
- 7) We have no conflict of interest, which substantially affects fair competition. The prices quoted are competitive and without adopting any unfair/ unethical/ anti-competitive means. No attempt has been made or shall be made by us to induce any other bidder to submit or not to submit an offer to restrict competition.
- 8) Restrictions on procurement from bidders from a country or countries, or a class of countries under Rule 144 (xi) of the General Financial Rules 2017:

"We have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries, and solemnly certify that we fulfil all requirements in this regard and are eligible to be considered. We certify that:

*we are not from such a country or, if from such a country, we are registered with the Competent Authority (copy enclosed). and;
we shall not subcontract any work to a contractor from such countries unless such contractor is registered with the Competent Authority.*

9) We also declare that.

- There is no country whose bidders have been notified as ineligible on a reciprocal basis under this order for the offered / tendered works/ Services, or
- We do not belong to any Country whose bidders are notified as ineligible on a reciprocal basis under this order for the offered / tendered works/ Services.
-

10) Penalties for false or misleading declarations:

We hereby confirm that the particulars given above are factually correct and nothing is concealed and undertake to advise any future changes to the above details. We understand that any wrong or misleading self-declaration would violate the Code of Integrity and attract penalties as mentioned in this Tender Document.

.....
(Signature with date)

.....
(Name and designation)

Duly authorized to sign bid for and on behalf of

.....
.....

[name & address of Bidder and seal of company]

Section III:
ANNEXURE 'A'

The Qualification Norms for bidder

1. EMD, Cost of Tender & Tender Processing Fees:

EMD (as mentioned in TIS -Appendix of NIT) to be paid in favor of Central Warehousing Corporation, New Delhi only through e-payment gateway of e-procurement & receipt of same should be scanned and uploaded on the e-tendering website www.cwceprocure.com along with e-tender documents.

Cost of tender to be paid only through e-payment gateway of e-procurement system. Proof should be submitted/uploaded with the tender.

Tender processing fee (Non-refundable) would be paid mandatorily to M/s ITI Ltd. through e-payment on the portal www.cwceprocure.com.

2. Technical Experience:

Tenderer, during the last four financial years (i.e. FY 2020-2021, 2021-2022, 2022-23 and 2023-24) & current year (FY 2024-25) up to the date of tender submission, must have completed successfully:

(1) at least ONE similar nature of work of value not less than **Rs. 103.16 Lakh** (80% of the Estimated Cost put on Tender) OR

(2) at least TWO similar natures of work of value not less than **Rs. 64.48 Lakh** (50% of the Estimated Cost put on Tender) OR

(3) at least Three similar nature of work of value not less than **Rs. 51.58 Lakh** (40% of the Estimated Cost put on Tender)

Note:

(i) Experience certificates released by private individuals (proprietor/partnership firms) and private company shall not be considered. However, experience certificate released by Public limited company can be considered only if these are duly supported with

➤ Copy of work order or Contract agreement with Client organization and Form 16 A released by Client organization reflecting all the payments made and TDS deducted and – Certificate Issued by Client Organization and certified by Practicing CA with UDIN as per Format attached at Appendix -I.

(ii) Similar nature of work shall be as below:

Similar nature work means **Supply and installation of Internal / External Fire Fighting System of Building like internal sprinkle /external yard hydrant works with or without allied/ associated civil works**. The credential Certificate of work experience should include the name of work, agreement no., date of start, stipulated and actual date of completion & gross amount of work done up to the completion and status of time extension granted with or without LD clearly.

(iii) The credential Certificate of work experience should include the name of work, agreement no., date of start, stipulated and actual date of completion & gross

amount of work done up to the completion, status of Time extension (if any) and Levy of LD (if any).

- (iv) Experience of work not completed in Time and where LD is levied by Client organization shall not be accepted /considered for evaluation. The bidder shall provide information on levy of LD /time extension by client on the work in PQ Performa which is liable to verification from client as mentioned in Tender document.

3 Turnover: Financial Soundness:

The average of turnover i.e. bidders' revenue (income) from operations for the last three financial years (i.e. FY 2021-22,2022-23,2023-24) should be of value not less than **Rs. 96.71 Lakh** (75% of Estimated Cost mentioned in Tender).

- In case the Balance Sheet and Statement of Profit/Loss for the immediately preceding financial year (i.e. FY 2023-24) have not been prepared / audited; the account for one more preceding financial year (i.e. FY 2020-21) can be submitted. In case, Bidder does not submit Audited balance sheet and P&L accounts for a particular year (among previous three years as mentioned above), turn over for that particular year will be considered '0'(zero) for calculating average of previous three years.

4 Working Capacity:

The Bidder should have achieved turnover: revenue (income) from operations during any of the last three financial years (i.e FY 2021-22,2022-23,2023-24) of value higher than 'T' where T is calculated as below:

$T = E \div N$; i.e. Bidder should have achieved turnover revenue (income) from operations (T) during any of the last three financial years (i.e. FY 2021-22,2022-23,2023-24) **of value higher than Rs. 386.85 lakhs.**

- Where E = Estimated cost put on tender = Rs. 128.95 Lakhs
➤ N = completion period of works in Years= 0.33 Years i.e. 4 months

The information shall be supported by audited Balance Sheets and Profit & Loss Statements for the specified period.

4 Affidavit:

Duly filled up and signed on stamp paper as per Annexure-IV.

OTHER Important Notes:

1. The credential documents viz Letter of award/ Work order/ Contract Agreement /Work completion certificate etc should be in the name of Bidder and works should have been executed in the same name and style, the bidder is participating in the tender.
2. The past experience in similar nature of work should be supported by work completion Certificates issued by the client's organization. The work experience for Private sector shall not be considered.
3. The information about actual completion date and stipulated completion date and LD levied by client (if any) on delay in completion must be available in the client certificate. In case this information is silent on client certificate, Bidder shall submit factual position of Delay and LD levied in his eligibility declaration along with PQ form. This information from bidder shall be varied from client organization at any stage of evaluation/ execution of work.
4. The value of executed works, for the purpose of this clause shall also include the value of any materials (such as cement, steel, etc.), services (scaffolding, batching-plant, other machinery, etc.), which have been supplied by client/employer free cost/ on discounted price to the contractor, and

which have not been already included in the 'value of works executed' that is reflected/declared on the relevant 'experience certificate' or 'Letter of Award'. Such exclusion shall be specifically mentioned on the Letter of Award, "Experience Certificate" and the 'value of free supplies' shall be separately certified by the employer, or in cases where the employer is a private entity, by a practicing cost/chartered accountant (holding valid certificate of practice),

5. Joint-venture / Consortia of firms / companies and foreign bidders are not eligible to quote for the tender.
6. The bidder submitting experience certificate for the works done in joint venture (JV)/consortium with other firms/companies, their proportionate experience to the extent of its share in the JV/consortium or work done by them shall only be allowed on submitting the valid proof of their share/work done.
7. Experience gained by executing work on back-to-back contract basis is acceptable. Back-to-back contract means work awarded by owner to first agency and then by the first agency to the second agency. The first agency shall not be eligible for work experience in such a case. To get the weightage of experience, following conditions must be fulfilled.
 - a. Work should be actually executed by the second agency with due concurrence of the owner as tri-partite agreement. It should be backed by valid agreement and experience certificate.
 - b. Payments received by second agency should be reflected in bank accounts and income tax statements.
 - c. Owner of the project and first agency should jointly certify the experience certificate.
 - d. The actual amount of payment received by the second agency shall be considered for experience.
8. Experience in respect of an associate contractor, subcontractor or those executing work on subletting may be allowed only if the conditions of sub-contract / sub-letting have been incorporated in the original agreement between the client/owner and first agency and the experience certificate is jointly issued by first agency and owner/client.
9. Experience of petty contractor, labour rate contractor work shall not be accepted.
10. Experience of works on foreign soil shall not be accepted.
11. Certificate in the name of other companies:
 - a) Certificates of Subsidiary/ Parent/ Group Company/ Own works: Any company/firm while submitting tender can use the work experience of its subsidiary company to the extent of its ownership in the subsidiary company. On the other hand, the companies/firms which intend to get qualified on the basis of experience of the parental company/group company/ Own works, shall not be considered. Further, the financial parameters of the subsidiary or Parental Company cannot be used by the other one for qualification.
 - b) Merger/ Acquisition of Companies: In case of a Company/firm, formed after merger and/ or acquisition of other companies/ firms, past work experience and financial parameters like turnover, profitability, net worth etc. of the merged/ acquired companies/ firms will be considered for qualification of such Company/ firm provided such Company/ firm continues to own the requisite assets and resources of the merged/ acquired companies/ firms. Valid document like Copy of MOA/ROC etc should be submitted in support of this information.
 - c) The bidder, who have changed the name of Firm/merged/acquired/purchased any Firm whose credential papers are being used/submitted for qualification of tender, should submit the following documents in this regard and in absence of the complete documentary evidence, such offer shall be summarily rejected.
 - i. The copy of certificate of Incorporation of Firm or Registration Certificate of Firm.

- ii. Copy of Memorandum and Articles of Association of Firm.
- iii. Copy of Board Resolution regarding change of name of/take over/merger of Firm.
- iv. Copy of sale deed/Memorandum of Understanding for Purchase/sale/merger of Firm along with assets and liabilities.
- v. Copy of PF Registration and PAN Card.
- vi. Affidavit regarding change of name of Firm along with all assets and liabilities, if any.
- vii. Affidavit regarding closure of business of Old Firm/Merged Firm.
- viii. Copy of Certificate of CA/Company Secretary regarding Sale/Merger/Change of name of Firm.

12. In case a work is started prior to 04 (four) years, ending last day of tender submission, but completed in last 04 (four) years, ending last day of tender submission, the completed work shall be considered for fulfilment of credentials.

13. If a work is physically completed and a completion certificate to this extent is issued by the concerned Client organization but final bill is pending, such work shall be considered for fulfilment of credentials.

14. If a part or a component of work is completed but the overall scope of contract is not completed, this work shall not be considered for fulfilment of technical credentials even if the cost of part completed work/component is more than required for fulfilment of credentials. In case a work is considered similar in nature for fulfilment of technical credentials, the overall cost of that work including PVC amount if any shall be considered and no separate evaluation for each component of that work shall be made to decide eligibility.

15. The value of final bill including PVC amount-if paid, or otherwise in case final bill is pending the contract cost in last approved variation statement plus PVC amount paid or cumulative amount paid up to last on-account bill including PVC amount and statutory deductions whichever is less, shall be considered as the completion cost of work.

16. Participation of Partnership Firms in works tenders:

- i. The Partnership Firms participating in the tender should be legally valid under the provisions of the Indian Partnership Act.
- ii. The partnership firm should have been in existence or should have been formed prior to submission of tender. Partnership firm should have either been registered with the Registrar or the partnership deed should have been notarized prior to date of tender opening as per the Indian Partnership Act.
- iii. Separate identity / name should be given to the partnership firm. The partnership firm should have PAN / TAN number in its own name and PAN / TAN number in the name of any of the constituent partners shall not be considered. The valid constituents of the firm shall be called partners.
- iv. Once the tender has been submitted, the constitution of the firm shall not be allowed to be modified / altered / terminated during the validity of the tender as well as the currency of the contract except when modification becomes inevitable due to succession laws etc., in which case prior permission should be taken from CWC and in any case the minimum eligibility criteria should not get vitiated. The re-constitution of firm in such cases should be followed by a notary certified Supplementary Deed. The approval for change of constitution of the firm, in any case, shall be at the sole discretion of the CWC and the Bidder shall have no claims what-so-ever. Any change in the constitution of Partnership firm after opening of tender shall be with the consent of all partners and with the signatures of all partners as that

in the Partnership Deed. Failure to observe this requirement shall render the offer invalid and full EMD shall be forfeited. If any Partner/s withdraws from the firm after opening of the tender and before the award of the contract, the offer shall be rejected. If any new partner joins the firm after opening of tender but prior to award of contract, his / her credentials shall not qualify for consideration towards eligibility criteria either individually or in proportion to his share in the previous firm. In case the Bidder fails to inform CWC beforehand about any such changes / modification in the constitution which is inevitable due to succession laws etc. and the contract is awarded to such firm, then it will be considered a breach of the contract conditions liable for determination of the contract under Clause 3 of General Conditions of Contract.

- v. A partner of the firm shall not be permitted to participate either in his individual capacity or as a partner of any other firm in the same tender.
- vi. The tender form shall be submitted only in the name of partnership firm. The EMD shall be deposited by partnership firm through e-payment gateway as mentioned in tender document. The EMD submitted in the name of any individual partner or in the name of authorized partner (s) shall not be considered.
- vii. One or more of the partners of the firm or any other person (s) shall be designated as the authorized person (s) on behalf of the firm, who will be authorized by all the partners to act on behalf of the firm through a “Power of Attorney”, specially authorizing him / them to submit & sign the tender, sign the agreement, receive payment, witness measurements, sign measurement books, make correspondences, compromise / settle / relinquish any claim (s) preferred by the firm, sign “No Claim Certificate”, refer all or any dispute to arbitration and to take similar such action in respect of the said tender / contract. Such “Power of Attorney” shall be notarized / registered and submitted along with the tender.
- viii. On issue of Letter of Acceptance (LOA) to the partnership firm, all the guarantees like Performance Guarantee, Guarantee for various Advances to the Contractor shall be submitted only in the name of the partnership firm and no splitting of guarantees among the partners shall be acceptable.
- ix. On issue of Letter of Acceptance (LOA), contract agreement with partnership firm shall be executed in the name of the firm only and not in the name of any individual partner.
- x. In case the Letter of Acceptance (LOA) is issued to a partnership firm, the following undertakings shall be furnished by all the partners through a notarized affidavit, before signing of contract agreement.

(a) Joint and several liabilities: The partners of the firm to which the Letter of Acceptance (LOA) is issued, shall be jointly and severally liable to the CWC for execution of the contract in accordance with General and Special Conditions of the Contract. The partners shall also be liable jointly and severally for the loss, damages caused to the CWC during the course of execution of the contract or due to non-execution of the contract or part thereof.

(b) Duration of the partnership deed and partnership firm agreement: The partnership deed/partnership firm agreement shall normally not be modified/altered/ terminated during the currency of contract and the maintenance period after the work is completed as contemplated in the conditions of the contract. Any change carried out by partners in the constitution of the firm without permission of CWC, shall constitute a breach of the contract, liable for determination of the contract under Clause 3 of the General Conditions of Contract.

(c) Governing laws: The partnership firm agreement shall in all respect be governed by and interpreted in accordance with the Indian laws.

(d) No partner of the firm shall have the right to assign or transfer the interest right or liability in the contract without the written consent of the other partner/s and that of the CWC.

- xi. The Bidder shall clearly specify that the tender is submitted on behalf of a partnership firm. The following documents shall be submitted by the partnership firm, with the tender:
- a. A copy of partnership deed.
 - b. A copy of Power of Attorney (duly registered as per prevailing law) in favour of the individual to tender for the work, sign the agreement etc. and create liability against the firm.
 - c. An undertaking by all partners of the partnership firm that they are not blacklisted or debarred by CWC/CPWD/Railways or any other Ministry / Department of the Govt. of India / any State Govt. or PSU from participation in tenders / contracts as on the date of opening of bids, either in their individual capacity or in any firm in which they were / are partners. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 3 of the General Conditions of Contract.
- xii. In case of newly formed partnership firm, the credentials of individual partners from previous propriety firm(s) or dissolved previous partnership firm(s) or split previous partnership firm(s), shall be considered only to the extent of their share in previous entity on the date of dissolution / split and their share in newly formed partnership firm. For example, a partner A had 30% share in previous entity and his share in present partnership firm is 20%. In the present tender under consideration, the credentials of partner A will be considered to the extent of 0.3×0.2 value of the work done in the previous entity. For this purpose, the Bidder shall submit along with his bid all the relevant documents which include copy of previous partnership deed(s), dissolution deed(s) and proof of surrender of PAN No.(s) in case of dissolution of partnership firm(s) etc.
- xiii. In case of existing partnership firm, if any one or more partners quit the partnership firm, the credentials of remaining partnership firm shall be re-worked out i.e., the quitting partner(s) shall take away his credentials to the extent of his share on the date of quitting the partnership firm (e.g. in a partnership firm of partners A, B & C having share 30%, 30% & 40% respectively and credentials of Rs 10 crore; in case partner C quits the firm, the credentials of this partnership firm shall remain as Rs 6 crore). For this purpose, the Bidder shall submit along with his bid all the relevant documents which include copy of previous partnership deed(s), dissolution deed(s) and proof of surrender of PAN No.(s) in case of dissolution of partnership firm(s) etc.
- xiv. In case of existing partnership firm if any other partner(s) joins the firm, the credentials of partnership firm shall get enhanced to the extent of credentials of newly added partner(s) on the same principles as mentioned in subclause above. For this purpose, the Bidder shall submit along with his bid all the relevant documents which include copy of previous partnership deeds, dissolution/splitting deeds and proof of surrender of PAN No.(s) in case of dissolution of partnership firm etc.
- xv. Any partner in a partnership firm cannot use or claim his credentials in any other firm without leaving the partnership firm i.e., In a partnership firm of A&B partners, A or B partner cannot use credentials of partnership firm of A&B partners in any other partnership firm or propriety firm without leaving partnership firm of A&B partners.

- xvi. In case a partner in a partnership firm is replaced due to succession as per succession law, the proportion of credentials of the previous partner will be passed on to the successor.
- xvii. If the percentage share among partners of a partnership firm is changed, but the partners remain the same, the credentials of the firm before such modification in the share will continue to be considered for the firm as it is without any change in their value. Further, in case a partner of partnership firm retires without taking away any credentials from the firm, the credentials of partnership firm shall remain the same as it is without any change in their value.
- xviii. In case of a partnership firm 'AB' consisting of partners 'A' & 'B', if Partner 'A' also works as proprietor firm 'P' or partnership in other firm 'AX', the credentials of 'A' in proprietor firm 'P' or other partnership firm 'AX' earned after date of becoming a partner of the firm AB shall not be added in partnership firm AB.
- xix. In case a Bidder is LLP, the credentials of Bidder shall be worked out on above lines similar to a partnership firm.

Bidder not fulfilling the above requirements or submission of clarification with respect to above or any of mandatory document documents (s/n 1 to 4 above), shall be summarily rejected.

Chief Engineer

SECTION – III A
(TENDER FORMS & ANNEXURES)

CENTRAL WAREHOUSING CORPORATION

(A Govt. of India Undertaking)

Corporate Office, 4/1, Siri Institutional Area, August Kranti Marg, Hauz Khas, New Delhi

“TENDER & CONTRACT”

PERCENTAGE RATE TENDER & CONTRACT FOR WORKS

Tender for the Work of Design, supply, installation, testing and commissioning of Fire Fighting System for Godown No. 1 & 2 at CW Kolathur, Kerala.

T E N D E R F O R M

I/We have read and examined the E-Tender Notice; Notice Inviting Tender; Tender information summary (TIS), Instructions to Bidders (TIB), Tender Appendixes, Schedules, Specifications applicable, Drawings & designs; General rules & directions; Conditions of contract; Clauses of contract; General, Special & technical conditions; Schedule of rate, Price Sub Schedules; Other documents; Rules referred to in the Conditions of Contract and all other contents in the tender documents for the work.

I/We hereby confirm that I/We meet the tender eligibility as required by Central Warehousing Corporation for this work therefore I/We tender for execution of the work, specified for the Central Warehousing Corporation within the time specified in Schedule 'F'/ NIT (TIS), viz. Schedule of quantities in all sub-schedules and in accordance with, in all respects with the Specifications, Designs, Drawings and Instructions in writing and in line of technical, special, General Conditions of Contract and with such materials, as are provided for by and in respect & in accordance with such conditions, so far as applicable, and NIT/ ITB as well.

I/We agree to keep **the tender open for ninety (90) days from the date of opening of Technical Bid** under two bid system and not to make any modifications in its terms and conditions.

A sum of **Rs. _____ including GST** is hereby submitted **through e-payment gateway of e-procurement as EMD and Cost of the tender Rs. ____***.

If I/We fail to furnish the prescribed Performance Guarantee within prescribed period after award of the contract to me/us; I/We agree that the Central Warehousing Corporation shall, without prejudice to any other right/remedy, be at liberty to forfeit the said Earnest Money absolutely.

Further, if I/We, fail to commence the work as specified, I/We agree that the Central Warehousing Corporation shall, without prejudice to any other right or remedy, be at liberty to forfeit the said Earnest Money and the Performance Guarantee absolutely, otherwise the said Earnest Money shall be retained by the Corporation towards Security Deposit to execute all the works referred to in the tender documents upon the terms and conditions, contained or referred to therein and to carry out such deviations as may be ordered, up to maximum of the percentage mentioned in Tender document (General /Special Conditions of contracts)and those in excess of that limit at the rates to be determined in accordance with the provisions contained in the General/Special conditions of contract.

Further, I/We agree that in case of forfeiture of Earnest Money or both Earnest Money and Performance Guarantee as aforesaid, I/We shall be debarred for participation and shall not be eligible to participate in future tender /procurement process of Central warehousing corporation from the date of debarment.

“I/we undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back-to-back basis. Further that, if such a violation comes to the notice of Department, then I/we shall be debarred for tendering in CWC in future. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-charge shall be free to forfeit the entire amount of Earnest Money Deposit / Performance Guarantee.”

I/We hereby declare that I/We shall treat tender documents, drawings and other records connected with the work as secret / confidential documents and shall not communicate information/ derived there from to any person other than a person to whom I/We am/are authorized to communicate the same or use the information in any manner pre-judicial to the safety of the Corporation.

Dated __/__/_____

Signature of Contractor
Postal Address

Witness :

Address :

Occupation :

FORMAT OF NET WORTH

The Net Worth of Mr./Ms./M/s _____ for last
Financial Year _____ - _____ is Rs. _____ lakhs as per his/her/their books of Accounts.

(Note : Net Worth means sum total of paid up share capital plus free reserves. Further, any debit balance of Profit & Loss Account and Misc. Expenses to the extent not adjusted / or written off, if any, shall be reduced from Reserves and Surpluses.

Signature of Chartered Accountant

Name :

Membership No. :

Seal :

Date :

Signature of Contractor

AFFIDAVIT
(For Sole Proprietary Firm)

(To be executed in presence of Public Notary on non-judicial stamp paper of appropriate value. The stamp paper has to be in the name of the Bidder.)

I, _____ R/o _____
_____ do hereby solemnly affirm and
declare as under –

1. That I am Sole Proprietor of _____
_____ (Sole Proprietor Firm Name).
2. That the office of the firm is situated at _____
_____ (address).

Place :

DEPONENT

Date :

VERIFICATION

Verified that the contents of my above said affidavit are true and correct to the best of my knowledge & belief and nothing has been concealed there from.

Place :

DEPONENT

Date :

FORMAT FOR POWER OF ATTORNEY TO AUTHORIZED SIGNATORY

POWER OF ATTORNEY

(To be executed on non-judicial stamp paper of the appropriate value in accordance with relevant Stamp Act. The stamp paper to be in the name of the Firm / Company who is issuing the Power of Attorney)

We, M/s _____ (name of the Firm / Company with address of the registered office) hereby constitute, appoint and authorize Mr/Ms _____ (Name & residential address) who is presently with us and holding the position of _____ and whose signature is given below, as our Attorney to do in our name and our behalf all or any of the acts, deeds or things, necessary or incidental to our bid for the work _____ (name of work), including signing and submission of application / tender / proposal, participating in the meetings, responding to queries, submission of information / documents and generally, to represent us in all the dealings with CWC or any other Government Agency or any person, in connection with the works until culmination of the process of bidding, till the Contract Agreement is entered into with CWC and thereafter, till the expiry of the Contract Agreement.

We hereby agree to ratify all acts, deeds and things lawfully done by our said Attorney, pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid Attorney shall always be deemed to have been done by us.

Dated this _____ day of _____, 20__

(Signature and Name of Authorized Signatory, being given Power of Attorney)

Signature and Name in block letters of Proprietor / All the Partners of the Firm / Authorized Signatory for the Company (Strike out whichever is not applicable)

Seal of the Proprietorship Firm / Partnership Firm / Company Witness 1

:	Witness 2 :
Name :	Name :
Address :	Address :
Occupation :	Occupation :

Notes :

- The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.
- Power of Attorney is to be attested by Notary.

AFFIDAVIT***{TO BE SUBMITTED BY BIDDER ALONGWITH THE TENDER DOCUMENTS}***

**(To be executed in presence of Public Notary on non-judicial stamp paper of the value of Rs. 100.
The stamp paper has to be in the name of the Bidder.)**

I _____ (Name and Designation) _____, appointed as the attorney / authorized signatory of the Bidder (including its constituents) M/s _____ (hereinafter called the Bidder) for the purpose of the Tender documents for the work of _____ as per the Tender No. of CWC, do hereby solemnly affirm and state on behalf of the Bidder including its constituents, as under :

1. I/We the Bidder(s), am/are signing this document after carefully reading the contents and confirm that I /We meet the eligibility criteria as per ITB clause 3.2 .
2. I/We the Bidder(s) also accept all the conditions of the tender document and have signed all the pages in confirmation thereof.
3. I/We hereby declare that I/We have downloaded the tender documents from CWC tender portal www.cwceprocure.com and printed the same. I/We have verified the content of the printed document from the website and there is no addition, no deletion or no alteration to the content of the tender document. In case of any discrepancy noticed at any stage (i.e. evaluation of tenders & execution of work), the decision of CWC with regard to such discrepancies shall be final and binding upon me/us.
4. I/We declare and certify that I/we have not made any misleading or false representation in the PQ forms, eligibility declaration, statements and attachments in proof of the qualification requirements.
5. **I/We also understand that my/our offer will be evaluated based on the documents /credentials submitted along with the offer and same shall be binding upon me/us.**

I/We declare that the information and documents submitted along with the tender by me/us are correct and I/We are fully responsible for the correctness of the information and documents, submitted by us.

6. I/We understand that if the Certificates and information regarding Eligibility Criteria, Qualification norms submitted by us are found to be forged/false or incorrect at any time during process for evaluation of tenders, it shall lead to forfeiture of the tender EMD besides suspending of business for five year. Further, I/We _____ [insert name of the Bidder] _____ and all my/our constituents understand that my/our offer shall be summarily rejected.
7. I/We also understand that if the certificates submitted by us are found to be false/ forged or incorrect at any time, after the award of the contract, it will lead to termination of the contract, along with forfeiture of EMD/SD and Performance Guarantee, besides any other action provided in the contract and suspending of business for five year.
8. I/We also understand that in case I/we fails to submit the requisite Performance Guarantee even after the period specified in Clause 1 of Schedule 'F' from the date of issue of Letter of Acceptance (LOA), the contract shall be terminated, duly forfeiting EMD and other dues, if any payable against the contract or in case of termination of contract due to default at my/our end, I/we shall be debarred from participating in future tender /procurement process of the Corporation for two years from the date of debarring.

9. I/We certify that I/We are not black listed or debarred by MES / CPWD / Railways / any Govt. Department / State PWDs / PSU (Public Sector Undertaking) and Govt. Sector Construction Agencies from participation in tenders / contract on the date of opening of bids.
10. I/We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back-to-back basis. Further that, if such a violation comes to the notice of Department, then I/We shall be debarred for tendering in CWC in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit / Performance Guarantee.

11. COMPLIANCE TO BID REQUIREMENT:

I/We hereby confirm that we have gone through and understood the Tender Document and our Bid complies with the requirements / terms & conditions of the Tender Document and subsequent Addendum / Corrigendum (if any), issued by CWC, without any deviation/ exception / comments / assumptions.

We also confirm that we have quoted the rates without any condition. The Tender has been submitted along with the required documents and same have been uploaded under digital signatures of the authorized signatory. We undertake that the tender document shall be deemed to be our bid and in the event of award of work to us, the same shall be considered for constitution of contract agreement. Further, we shall sign and stamp each page of the Tender Document as token of acceptance and as part of contract in the event of award of contract to us. We further confirm that we have quoted our rates in our financial bid as per the conditions of the Tender Document and for all the items.

DEPONENT

VERIFICATION

Seal and Signature of the Bidder

I/We above named Bidder do hereby solemnly affirm and verify that the contents of my /our above Affidavit are true and correct. Nothing has been concealed and no part of it is false.

DEPONENT

Seal and Signature of the Bidder

Place:

Dated:

- Details, as appropriate, are to be filled in suitably by Bidder.
- Attestation before Magistrate/ Notary Public.

ANNEXURE-V

Tender Ref. No.: _____ Date: _____

(Compulsory Ink signed on each page and to be submitted along with Technical Bid)

(The same shall be signed on non-judicial stamp paper of appropriate value during agreement signing)

General This pre bid / pre contract Agreement (hereinafter called the Integrity Pact) is made on _____ day of the month of _____ between on one hand, the Central Warehousing Corporation (A Govt. of India Undertaking), 4/1 Siri Institutional area, Hauz Khas, New Delhi, acting through Group General Manager (Personnel), Central Warehousing Corporation (A Govt. of India Undertaking) (hereinafter called the "CORPORATION" which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the First Part and M/s _____ represented by Shri _____, (Name of the contractor) (hereinafter called BIDDER which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS the CORPORATION proposes to appoint contractor at _____ and the BIDDER is willing to execute the items of work / Section as per schedule of work, the work order issued General conditions of the contract of CWC.

WHEREAS the BIDDER is a private company / public company / Government undertaking / partnership firm constituted in accordance with the relevant law in the matter and the corporation is a PSU performing its functions on behalf of the Ministry of Consumer Affairs, Food and Public Distribution, New Delhi, Govt. of India.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence / prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to: Enabling the CORPORATION to obtain the desired said work at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and enabling BIDDER to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the CORPORATION will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this integrity Pact and agree as follows:

[1] Commitments of the Corporation

[1.1] The Corporation undertakes that no official of the CORPORATION, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person, organization or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.

[1.2] The CORPORATION will, during the pre contractor stage, treat all BIDDERS alike and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to other BIDDERS.

[1.3] All the officials of the CORPORATION will report to the appropriate authority any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.

[2] In case any such preceding misconduct on the part of such official(s) is reported by the BIDDER to the

CORPORATION with full and verifiable facts and the same is prima facie found to be correct by the CORPORATION, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the CORPORATION and such a person shall be debarred from further dealings related to the contract process. In such a case while an enquiry is being conducted by the CORPORATION the proceedings under the contract would not be stalled.

~~{3} Commitments of BIDDERS~~

The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following:—

~~{3.1} The BIDDER will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the CORPORATION, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.~~

~~{3.2} The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the CORPORATION or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract with the CORPORATION for showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with the CORPORATION.~~

~~{3.3} The BIDDER, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the CORPORATION or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.~~

~~{3.4} The BIDDER will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.~~

~~{3.5} The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.~~

~~{3.6} The BIDDER shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the CORPORATION as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The BIDDER also undertakes to exercise due and adequate care lest any such information is divulged.~~

~~{3.7} The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.~~

~~{3.8} The BIDDER shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.~~

~~{3.9} If the BIDDER or any employee of the BIDDER or any person acting on behalf of the BIDDER, either directly or indirectly, is a relative of any of the officers of the CORPORATION, or alternatively, if any relative of an officer of the CORPORATION has financial interest / stake in the BIDDER's firm, the same shall be disclosed by the BIDDER at the time of filling of tender.~~

The term 'relative' for this purpose would be as defined in Section 6 of the Companies Act 1956.

~~{3.10} The BIDDER shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the CORPORATION~~

~~{4} Previous Transgression~~

~~{4.1} The BIDDER declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify BIDDER's exclusion from the tender process.~~

~~{4.2} The BIDDER agrees that if it makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.~~

~~{5} Sanctions for Violations~~

~~Any breach of the aforesaid provision by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle the CORPORATION to take all or any one of the following actions, wherever required:—~~

- ~~i. To immediately call off the pre contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings with the other BIDDER(s) would continue.~~
- ~~ii. The Security Deposit / Performance Bond (after the contract is signed) shall stand forfeited either fully or partially, as decided by the CORPORATION and the CORPORATION shall not be required to assign any reason therefore.~~
- ~~iii. To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.~~
- ~~iv. To recover all sums already paid by the CORPORATION, and in case of an Indian BIDDER with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a BIDDER from a country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the BIDDER from the CORPORATION in connection with any other contract for any other stores / work such outstanding payment could also be utilized to recover the aforesaid sum and interest.~~
- ~~v. To encash the advance bank guarantee and performance bond / warranty bond, if furnished by the BIDDER, in order to recover the payments, already made by the CORPORATION, along with interest.~~
- ~~vi. To cancel all or any other Contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to the CORPORATION resulting from such cancellation / rescission and the CORPORATION shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.~~
- ~~vii. To debar the BIDDER from participating in future bidding processes of the CORPORATION for a minimum period of five years, which may be further extended at the discretion of the CORPORATION.~~
- ~~viii. To recover all sums paid in violation of this Pact by BIDDER(s) to any middleman or agent or broker with a view to securing the contract.~~
- ~~ix. In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the CORPORATION with the BIDDER, the same shall not be opened.~~
- ~~x. Forfeiture of Performance Bond in case of a decision by the CORPORATION to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.~~

~~{5.1} The CORPORATION will be entitled to take all or any of the actions mentioned at para 5.1(i) to (x) of this Pact also on the Commission by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), of an offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.~~

~~{5.2} The decision of the CORPORATION to the effect that a breach of the provisions of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the BIDDER can approach the independent Monitor(s) appointed for the purposes of this Pact.~~

~~{6} Fall Clause~~

~~{6.1} The BIDDER undertakes that it has not supplied / is not supplying similar product / systems or subsystems at a price lower than that offered in the present bid in respect of any other Ministry / Department of the Government of India or PSU and if it is found at any stage that similar product / systems or sub-systems was supplied by the BIDDER to any other Ministry / Department of the Government of India or a PSU at a lower price, then that very price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the BIDDER to the CORPORATION, if the contract has already been concluded.~~

{7} Independent Monitor

~~{7.1} The CORPORATION has appointed Independent Monitors (hereinafter referred to as Monitors) for this Pact in consultation with the Central Vigilance Commission, New Delhi.~~

~~{7.2} The CORPORATION has appointed Sh. Sudhanshu Sekhara Mishra, Email—ssmishra.995@gmail.com and Sh. Kesheo Prasad Dubey dkesheo.prasad@yahoo.com, kesheodubey@gmail.com as an Independent Monitor (hereinafter referred to as Monitor) for this Pact in consultation with the Central Vigilance Commission.~~

~~{7.3} The task of the Monitor shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.~~

~~{7.4} The Monitor shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.~~

~~{7.5} Both the Parties accept that the monitors have the right to access all the documents relating to the project / procurement, including minutes of meetings.~~

~~{7.6} As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform the Authority designated by the CORPORATION.~~

~~{7.7} The BIDDER(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the CORPORATION including that provided by the BIDDER. The BIDDER will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor shall be under contractual obligation to treat the information and documents of the BIDDER / Subcontractor(s) with confidentiality.~~

~~{7.8} The CORPORATION will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings.~~

~~{7.9} The Monitor will submit a written report to the designated Authority of CORPORATION within 8 to 10 weeks from the date of reference or intimation to him by the CORPORATION / BIDDER and, should the occasion arise, submit proposals for correcting problematic situations.~~

{8} Facilitation of Investigation

~~In case of any allegation of violation of any provisions of this Pact or payment of commission, the CORPORATION or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.~~

{9} Law and Place of Jurisdiction

~~This Pact is subject to Indian Law. The Place of performance and jurisdiction is the seat of the CORPORATION.~~

{10} Other Legal Actions

The actions stipulated in this integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

[11] Validity

[11.1] The validity of this Integrity Pact shall be from date of its signing and extend upto 5 years or the complete execution of the contract to the satisfaction of both the CORPORATION and the BIDDER / Seller, including warranty period, whichever is later. In case BIDDER is unsuccessful, this integrity Pact shall expire after six months from the date of the signing of the contract.

[11.2] Should one or several provisions of this Pact out to be invalid; the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

[12] The parties hereby sign this Integrity Pact at _____ on _____

Corporation	Bidder
Name of the Officer:-	Name of Authorized Signatory:-
Designation	Designation
Signature & Stamp:-	Signature & Stamp:-
Signature and Name of Witness 1	Signature and Name of Witness 1
Signature and Name of Witness 2	Signature and Name of Witness 2

DECLARATION

(On the letter head of firm)

Following are the near relative of the contractor, who are working as Officer in any capacity Officer in the Central Warehousing Corporation or in the Ministry of Food, Consumer Affairs & Public Distribution, Govt. of India, New Delhi:

S/N	Department	Name of officer	Relation	Remarks
1	Central Warehousing Corporation			
2	Ministry of Food, Consumer Affairs & Public Distribution, Govt. of India, New Delhi:			

(Duly authorized signatory of the BIDDER)

CENTRAL WAREHOUSING CORPORATION
(A Govt. of India Undertaking)

Contract Agreement For Item / Percentage Rates For Works

This Agreement for execution of work executed at _____ this day of the , 20__ by the Central Warehousing Corporation, New Delhi-16, established under Warehousing Corporation Act, 1962 (hereinafter called 'the' Corporation) and M/S , _____ a Partnership Firm, consisting of partners namely (i) , (ii) , (iii) / Company registered under Companies Act / Individual carrying on business in the name and style of _____ (herein under called "CONTRACTOR", which term shall mean and include unless repugnant to the context his / their Executors, Administrators, Legal and Personal Representatives), Witnesseth as follows :

WHEREAS the Corporation requires **Design, supply, installation, testing and commissioning of Fire Fighting System for Godown No. 1 & 2 at CW Kolathur, Kerala** and whereas the CONTRACTOR has agreed to execute the items of Work Section as per Terms and Conditions of Contract and Schedule of Work attached, mentioned in tender document.

AND WHEREAS the CONTRACTOR having agreed to execute the above referred items of Works / Section, it is hereby agreed that the terms and conditions of the contract, as enumerated in Tender Document (Broad Heading of which are given in the Index thereto), item of Works / Section as per Schedule of Work, the LOA /Work Order issued and Specification of the CPWD for the time being enforce, shall form an integral part sole repository of the terms & conditions of this contract.

In witness where of the aforementioned Parties to the contract have affixes their signatures.

Contractor

For and on behalf of the Corporation

Witness & Address

Witness & Address

1.
Dated :

1.
Dated :

2.
Dated :

2.
Dated :

Form of Performance and Security Bank Guarantee Bond

In consideration of Central Warehousing Corporation (A Govt. of India Undertaking), Warehousing Bhawan, 4/1 Siri Institutional Area, August Kranti Marg, Hauz Khas, New Delhi - 110016 (hereinafter called "THE CORPORATION"), having offered to accept the Letter of Acceptance no. _____, dated _/_/ and the terms & conditions of the proposed agreement between CORPORATION and _____ {hereinafter called "THE said CONTRACTOR(s)"} for the work of _____ (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(s) for compliance of his obligations in accordance with the terms & conditions in the said Agreement.

We _____ (indicate name of the Bank) _____ (hereinafter referred to as "the BANK") hereby undertake to pay CORPORATION an amount not exceeding Rs. _____ (Rupees _____ only), on demand by the CORPORATION.

1. We _____ (indicate name of the Bank) _____ do hereby undertake to pay the amounts due and payable under Guarantee without any demure, merely on a demand from the CORPORATION, stating that the amount claimed is required to meet the recoveries due or likely to be due from the said CONTRACTOR(s). 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).

2. We, the said BANK further undertake to pay to the CORPORATION any money so demanded notwithstanding any dispute or disputes raised by the CONTRACTOR(s) 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 valid discharge of our liability for payment thereunder, and the CONTRACTORS (s) shall have no claim against us for making such payment.

3. We _____ (indicate name of the Bank) _____ further agree that the Guarantee herein contained shall remain in 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 CORPORATION under or by virtue of the said agreement have been fully paid and its claim satisfied or discharged or till Engineer-in-Charge on behalf of the CORPORATION certified that the terms & conditions of the said agreement have been fully and properly carried out by the said CONTRACTOR(s) and accordingly discharges this Guarantee.

4. We ____ (indicate name of the Bank)_____further agree with the Central Warehousing Corporation that the CORPORATION shall have the fullest liberty withoutour consent and without effecting in any manner our obligations hereunder to vary any of the terms & conditions of the said agreement or to extend time of performanceby 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 Central Warehousing Corporation againstthe said CONTRACTOR(s) and to forbear or enforce any of the terms & conditions relating to the said agreement and we shall not be relieved from our liability by reasonof any such variation or extension, being granted to the said CONTRACTOR(s) or for any forbearance, act if omission on the part of the Central Warehousing Corporation or any indulgence by the Central Warehousing Corporation to the said CONTRACTOR(s) or by any such matter or things whatsoever which under the law relating to sureties would, but for this provision, have effect of so reliving us.
5. This guarantee will not be discharged due to the change in the constitution of the BANK or the CONTRACTOR(s).
6. We ____ (indicate name of the Bank)_____lastly undertake not to revoke this Guarantee except with the previous consent of the Central Warehousing Corporation in writing.
7. This Guarantee shall be valid upto_____, unless extended on demand by Central Warehousing Corporation. Notwithstanding anything mentioned above, our liability against this Guarantee is restricted to Rs. _____(Rs. _____ only) and unless a claim in writing is lodged withus 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 _____ date of _____ for _____ (indicate name of the Bank) _____

WORKS IN HAND

(On letter head of firm)

The list of works which are in hand (in-progress) of the Bidder on the date of tender submission –

SL	Name of Work	Name & Particulars of Division /Department/Organization Where Work is being Executed	Amount of Work (Rs.)	Status of Work in Progress	Remarks
1	2	3	4	5	6

(Duly authorized signatory of the BIDDER)

Work Completion Program

and bar chart with dates

(On letter head of Bidder)

I/we..... undertakes that work including all milestones, if awarded to me/us, will be completed within time period stipulated for completion mentioned in tender document with individual date of following critical activities.

S/n	Brief of Activity	Duration	Target Date as per Tender	Planned-Start	Planned-Finish	Remarks	Period
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

ANNEXURE - XI

OPERATIVE SCHEDULES

SCHEDULE 'A'

Bill of Quantities cum price schedules and various Sub-Schedule (See-Volume-IV of tender document)

SCHEDULE 'B'

Schedule of Materials to be issued to the Contractor –

SL	Description of Item	Quantity	Rates in Figures & Words at which the Material will be Charged to the Contractor	Place of Issue
1	2	3	4	5
NIL				

SCHEDULE 'C'

Tools & Plants to be hired to the Contractor –

SL	Description	Hire Charges per day	Place of Issue
1	2	3	4
NIL			

SCHEDULE 'D'

Extra Schedule for Specific Requirements / Document for the Work, if any : NIL

SCHEDULE 'E'

Name of Work: **Design, supply, installation, testing and commissioning of Fire Fighting System for Godown No. 1 & 2 at CW Kolathur, Kerala.**

(i) **Estimated Cost of Work:**

Rs. 128.95 lakhs

(ii) **Earnest Money:**

Rs. 2.58 Lakhs (to be adjusted in Security Deposit of Successful bidder and shall be returned to unsuccessful bidders in line of Tender Conditions)

(iii) **Performance Guarantee**

5% of Tendered Value as mentioned in LOA and to be deposited by the Contractor within time line mentioned in LOA /Schedule F and in form described in GCC clause 1

(iv) **Security Deposit:**

5% of Tendered Value as mentioned in LOA. Balance sum of Security Deposit (after adjustment from EMD) may be deposited by the Contractor before release of first on account bill as per GCC clause 1

SCHEDULE 'F'

(Refer relevant clauses of General Conditions of Contract (GCC) as mentioned below.)

GENERAL RULES & DIRECTIONS	Officer Inviting Tender	Chief Engineer
	Maximum Percentage for Quantity of Items of Work to be Executed beyond which rates are to be determined in accordance with Clauses 12.2 (c) of GCC	25% in Superstructure 25% in foundation

Definitions:

2(v)	Engineer-in-Charge	Chief Engineer
2(vi)	Tender Accepting Authority	As per DOP
2(viii)	Percentage on cost of materials and labour to cover all overheads and profits:	15%
2(ix)	Standard Schedule of Rates: DSR(Civil) – 2023, DSR(E&M) – 2022, CPWD Plinth Area Rates 2023 and Market rates.	
2(x)	Department : Central Warehousing Corporation	

Clause 1

- (i) Time allowed for submission of Performance Guarantee, Programme Chart (Time & Progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof from the date of issue of LOA: **15 days**
- (ii) Maximum allowable extension with late fee @ **0.1% per day** of Performance Guarantee amount beyond the period provided in (i) above: **15 days**

Clause 2 Authority for fixing compensation under Clause 2 Chief Engineer

Clause 2A

Clause 5 Number of days from the date of issue of Letter of Acceptance for reckoning date of start **15 days**

Milestone(s) / Stages of completion of Works as per Table given below:

SL	Milestone Number	Brief Description	Time Allowed in Days	Remarks for actions upon failure in achieving Milestone
1	MS1	Making of the Detail drawings including workshop drawings and submission of drawings for approval from Local Fire Safety Department	20 Days	Note as below *
2	MS2	Applying for Initial NOC/ Fire Safety Department recommendation. For Getting the approval from Local fire department	30 Days from the date of start	Note as below *
3	MS3	Getting the approval from Local fire department and Getting the Initial NOC/ recommendations as per the site conditions from the Local Fire department.	40 Days from the date of start	
4	MS4	Completion of all Supply under Scope as per approved drawings of Package works including other balance equipment/pumps/panel, etc.	75 Days from the date of start	Note as below *

5	MS5	Installation/ erection in position and initial testing of complete sprinkler and water curtain system equipment/pipes/accessories etc. along with accessories as per specification	100 Days from the date of start	0.5% of tendered value
6	MS6	(a) Completion of all erection and alignment works including civil works package and final finishing works. (b) Final Testing and commission of the Firefighting system, and	110 days from the date of start	
7	MS7	(a) Applying to local fire Safety Department for FIRE NOC	120 days from the date of start	

Note: 1st, 2nd & 4th milestone are major milestones and if contractor fails to achieve any two milestones from the first three, then it shall be treated as failure on part of contractor in performance and default resulting in breach of contract and necessary action be taken as per the conditions of contract for such breach of contract.

LD shall be levied as per GCC cl 2 for delay in completion of works from the stipulated date of completion of milestone (MS5).

Time Allowed for Completion of entire Work: **04 months (including Monsoon)**

Authority to Decide:

- (i) Extension of Time : As per DOP
- (ii) Rescheduling of Milestones : Chief Engineer
- (iii)** Shifting of Date of Start in case of delay in handing over of site : Chief Engineer
- (iv) Schedule of Handing Over of Site**

Part	Portion of Site	Description	Time Period for handing over reckoned from date of issue of Letter of Intent
Part A	Portion without any hindrance	Entire	Immediately
Part B	Portions occupied by offices		
Part C	Portions dependent on work of other agencies	--	---

Schedule of Issue of Designs

Part	Portion of design	Description	Time Period for Issue of Design reckoned from date of issue of Letter of Intent
Part A	Portion already included in NIT	Entire	Immediately after submission of PG by contractor
Part B-1	Portions of Architectural Drawings to be issued	--	-

Part B-2	Portions of Civil (Structural) Drawings to be issued	--	-
Part B-3	Portions of E&M Drawings to be issued	--	-

Clause 5.1 Schedule of rate of recovery for delay in submission of modified program interns of delay days

SL	Contract Value	Recovery (Rs.)
I.	Less than or equal to Rs. 1 crore	500
II.	More than Rs. 1 Crore but less than or equal to Rs. 5 crore	1000
III.	More than Rs. 5 Crore but less than or equal to Rs. 20 crore	2500
IV.	More than 20 crore	5000

Clause 5.2 & 5.3 Nature of Hindrance Register (either ~~Physical~~ or Electronic only)

Clause 7 Gross work to be done together with net payment after adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment, if work done payment is 5% or more of contract value Rs. _____

Clause 8A

- (i) This shall not apply for maintenance or upgradation contracts, not involving any services
(ii) For other works, the limit shall be as below:

SL	Contract Value	Limit (Rs.)
I.	Less than or equal to Rs. 1 crore	10,000
II.	More than Rs. 1 Crore but less than or equal to Rs. 5 crore	35,000
III.	More than Rs. 5 Crore but less than or equal to Rs. 20 crore	1,00,000
IV.	More than Rs. 20 crore	2,00,000

Clause 10A

List of testing equipment to be provided by the contractor at site lab in addition of minimum specified in Technical condition of contract –

1.Screw Gauge, 2) Vernier calliper, 3) Measuring tape -5mtr.,10mtr. & 30mtr. 4)weighing machine 5) Flow test equipment 6)Pressure guage ; 7) welding rectifier.

Clause 11

Specifications to be followed for execution of work	<ul style="list-style-type: none"> CPWD Specifications Vol - I & II 2019 for Civil Works and CPWD General Specifications for Electrical Works Part-I (Internal) 2023 & Part-II (External) 2023 with up-to-date Correction Slips or Latest CPWD Specifications in vogue on the date of tender publication.
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Clause 12Type of Work: **Project**

*** **To be filled by NIT** approving authority, either Project or original work or Maintenance works including works of aesthetic, special repair, addition/alteration in buildings.

Items related to road work like up gradation or improvement of carriage-way by patch repair or annual/periodical repairs of road surface and A/R & M/O works pertaining to road shall be treated as maintenance work.

New road construction works, replacement of AC sheet roofing with Galvalume pre-coated steel sheet roofing and the strengthening of floor & road surface by repaving the same shall be considered as original works.

Clause 16

Competent Authority for deciding reduced rates: Chief Engineer

Clause 18 List of mandatory machinery, tools & plants to be deployed by contractor at site –

Scaffolding and scissor lift for pipe erection	Hydra Crane for pipe erection

Clause 19(C) - Safety Provisions

In case the contractor fails to make arrangement and provide necessary facilities, he shall be liable to pay a penalty of Rs.500/- per day for the period he does not arrange the safety provision.

Clause 19(D)- Submission of statement

In case the contractor fails to submit the statement, he shall be liable to pay a penalty of Rs.500/-per week for the period he does not submit the statement.

Clause 19(G) – Default & breach of provisions.

In the event the contractor(s) committing a default or breach of any of the provision, he shall be liable to pay a penalty @ 0.05% for each day of default subject to a maximum of 5% of estimated cost.

Clause 19(K) – Employment of skilled/semi-skilled workers.

In case the contractor fails to deploy the qualified tradesman, he shall be liable to attract penalty of Rs.700/- per day.

Clause 25

Constitution of Dispute Redressal Committee (DRC) -As constituted by Competent authority (MD)

Place of Arbitration - New Delhi

Clause 32: Requirement of Technical Staff for a Work and Rate of Recovery

SL	Cost of Work	Minimum Qualification of Technical Representative	Designation (Principal Technical / Technical Representative)	Minimum Experience (years)	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 36(i)
1	Above 1.5 cr. & Upto 5Cr.	i) Graduate Engineer Or Diploma Engineer	Principal Technical Representative Or Project Planning / Site / Billing Engineer	2 Years Or 5 Years (in case of Diploma)	1 Or 1	Rs. 15,000 pm Or Rs. 15,000 pm

- *One required for Civil work and one required for fire fighting system installation work. The Engineer may be graduate in Electrical/Mechanical /Civil Engineering.
- Assistant Engineers retired from Govt. Services that are holding Diploma will be treated at par with Graduate Engineers.
- Diploma holder with minimum 10 years relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.

Clause 38

(I) (a) Schedule / Statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates 2021 printed by CPWD

(II) Variations permissible on theoretical quantities:

(a)	Cement -For works with estimated cost put to tender not more than Rs. 5 lakh +/- 3% \ For works with estimated cost put to tender more than Rs. 5 lakh +/- 2%
(b)	Bitumen All Works :2.5% plus & only & nil on minus side
(c)	Steel Reinforcement and structural steel sections for each diameter, section and category +/- 2%
(d)	Repair chemicals and mortar- no deviation from tolerance limit given by Manufacturers.

RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

SL	Description of Item	Rates at which recovery shall be made from the Contractor	
		Excess Beyond Permissible Variation	Less use Beyond Permissible Variation
1.	Cement	-	Twice the rates mentioned in DSR 2023 adopted for estimation

2.	Steel reinforcement	-	do
3.	Structural Sections	-	do
4.	Bitumen	-	do
5.	Bitumen issued free	-	NA
6.	Bitumen issued at stipulated fixed price	-	NA

General

Tenets of Interpretation

Unless where the context requires otherwise, throughout the contract:

- 1.** The heading of these conditions shall not affect the interpretation or construction thereof.
- 2.** Writing or written includes matter either whole or in part, in digital communications, manuscript, typewritten, lithographed, cyclostyled, photographed, or printed under or over signature or seal or digitally acceptable authentication, as the case may be.
- 3.** Words in the singular include the plural and vice-versa.
- 4.** Words importing the masculine gender shall be taken to include other genders, and words importing persons shall include any company or association or body of individuals, whether incorporated or not.
- 5.** Terms and expression not herein defined shall have the meanings assigned to them in the contract Act, 1872 (as amended) or the Sale of Goods Act, 1930 (as amended) or the General Clauses Act, 1897 (as amended) or of INCOTERMS, (current edition published by the International Chamber of Commerce, Paris) as the case may be.
- 6.** Any reference to 'Works' shall be deemed to include the incidental Services/ Goods also.
- 7.** Any generic reference to GCC shall also imply a reference to SCC as well.
- 8.** Any reference to 'Contract' shall be deemed to include all other documents (inter-alia GCC, SCC, TCC, ITB, NIT)
- 9.** Any reference to any legal Act, Government Policies or orders shall be deemed to include all amendments to such instruments, from time to time, till date.

Definitions

In the contract, unless the context otherwise requires:

- 1.** "Agent" is a person employed to do any act for another or represent another in dealings with a third person. In the context of public procurement, an Agent is a representative participating in the Tender Processor Execution of a Contract for and on behalf of its principals.
- 2.** "Beneficiary" (of Services/ Works) means the person for whom the Services/ Works are to be delivered as stipulated in the contract.
- 3.** "bid" (including the term 'tender', 'offer', 'quotation' or 'proposal' in specific contexts) means an offer to supply goods, services or execution of works made as per the terms and conditions set out in a document inviting such offers.
- 4.** "Bidder" (including the term 'Bidder', 'consultant' or 'service provider' in specific contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a Tender Process.
- 5.** "Bill of Quantities" (including the term Price Schedule or BOQ) means the priced and completed Bill of Quantities forming part of the bid.
- 6.** "Commercial Bank" means a bank, defined as a scheduled bank under section 2(e) of the Reserve Bank of India Act, 1934.
- 7.** "Contract" (including the terms 'Purchase Order' or 'Supply Order' or 'Withdrawal Order' or 'Work Order' or 'Consultancy Contract' or 'Contract for Services', 'rate contract' or 'framework contract' or 'Letter of Award – LoA' (letter or memorandum communicating to the contractor the acceptance of his bid) or 'Agreement' or a 'repeat order' accepted/ acted upon by the contractor in specific contexts), means a formal legal agreement in writing relating to the subject matter of procurement, entered into between the

Procuring Entity and the contractor on mutually acceptable terms and conditions and which are in compliance with all the relevant provisions of the laws of the country;

- 8.** “Contractor” (including the terms ‘Supplier’ or ‘Service Provider’ or ‘Consultant’ or ‘Firm’ or ‘Vendor’ or ‘Manufacturer’ or ‘Successful Bidder’ in specific contexts) means the person, firm, company, or a Joint Venture with whom the contract is entered into and shall be deemed to include the contractor's successors (approved by the Procuring Entity), agents, subcontractor, representatives, heirs, executors, and administrators as the case may be unless excluded by the terms of the contract;
- 9.** “PMC” means the Project Management Consultant or any other officer or a third-party agency who has been assigned the authority to take day to day actions on behalf of the Engineer in charge / Procuring Entity during the execution of the contract by the contractor;
- 10.** “Day”, “Month”, “Year” shall mean calendar day/ month or year (unless reference to financial year is clear from the context).
- 11.** “Drawing” means the drawing or drawings stipulated in or annexed to the Specifications or the Tender Document/ Contract;
- 12.** “Equipment” means the contractor's machinery and vehicles brought temporarily to the Site for the performance of Service.
- 13.** “General Conditions” means the General Conditions of Contract, also referred to as GCC.
- 14.** "Goods" (including the terms ‘Stores’, ‘Material(s)’ in specific contexts) includes all articles, material, commodity, livestock, medicines, furniture, fixtures, raw material, consumables, spare parts, instruments, machinery, equipment, industrial plant, vehicles, aircrafts, ships, railway rolling stock assemblies, sub-assemblies, accessories, a group of machines comprising an integrated production process or such other categories of goods or intangible, products like technology transfer, licenses, patents or other intellectual properties (but excludes books, publications, periodicals, etc., for a library), in specific contexts), procured or otherwise acquired by a Procuring Entity. Any reference to Goods shall be deemed to include specific small work or some services that are incidental or consequential to the supply of such goods;
- 15.** “Government" means the Central Government or a State Government as the case may be and includes agencies and Public Sector Enterprises under it, in specific contexts;
- 16.** “Inspection” means activities such as measuring, examining, testing, analysing, gauging one or more characteristics of the goods or services or works, and comparing the same with the specified requirement to determine conformity.
- 17.** “Intellectual Property Rights” (IPR) means the rights of the intellectual property owner concerning a tangible or intangible possession/ exploitation of such property by others. It includes rights to Patents, Copyrights, Trademarks, Industrial Designs, Geographical indications (GI).
- 18.** “Joint Venture” means a Joint Venture or a Consortium (that is an association of several persons, or firms or companies - also referred to as JV/C)
- 19.** “Materials” means all supplies, including consumables, used by the contractor for service performance or use by his staff.
- 20.** “Parties”: The parties to the contract are the "Contractor" and the “Procuring Entity”, as defined in this clause;
- 21.** “Performance Security” (includes the terms ‘Performance Bond’ or ‘Performance Bank Guarantee’ or other specified financial instruments in specific contexts) means a monetary guarantee to be furnished by the successful Bidder or Contractor in the form prescribed for the due performance of the contract;
- 22.** “Procurement” or “public procurement” (or ‘Purchase’, or ‘Government Procurement/ Purchase’ including an award of Public-Private Partnership projects, in specific contexts) means the acquisition of Goods/ Services/ works by way of purchase, lease, license or otherwise, either using public funds or any other source of funds (e.g. grant, loans, gifts, private investment etc.) of goods, works or services or any combination thereof, by a Procuring Entity, whether directly or through an agency with which a contract for procurement services is entered into, but does not include any acquisition without consideration. The term “procure”/ “procured” or “purchase”/ “purchased” shall be construed accordingly;

23. “Procuring Entity” means the entity in The Procuring Organization procuring Goods, Works, or Services that is Central warehousing Corporation in context of this contract.
24. “Engineer in charge” means the officer signing the Letter of Award (LoA) in capacity of chief engineer/ superintending engineer and/or the contract on behalf of the Procuring Entity;
25. “Service(s)” (including the term ‘non-consultancy services’ or ‘Outsourcing of Services’ in specific contexts) are defined by exclusion as services that cannot be classified as Consultancy Services. Services (non-Consultancy) involve routine, repetitive physical, procedural, and non-intellectual outcomes for which quantum and performance standards can be tangibly identified and consistently applied and are bid and contracted on such basis but does not include the appointment of an individual made under any law, rules, regulations, or order issued in this behalf. Any reference to Services shall be deemed to include the supply of goods or performance of consultancy service or small works, which are incidental or consequential to such services;
26. “Works” refer to any activity involving construction, fabrication, repair, overhaul, renovation, decoration, installation, erection, excavation, dredging, and so on, which make use of a combination of one or more of engineering design, architectural design, material and technology, labour, machinery, and equipment.
27. “Special Conditions” means Special Conditions of Contract, which override the General Conditions, also referred to as SCC.
28. “Specification” or “Technical Specification” means the drawing/ document/ standard or any other details governing the construction, manufacture or supply of goods or performance of services or completion of work that prescribes the requirement to which goods or services or works have to conform as per the contract.
29. “Signed” means ink signed or digitally signed with a valid Digital Signature as per IT Act 2000 (as amended from time to time). It also includes stamped, except in the case of Letter of Award or amendment thereof.;
30. “Sub-Contractor” means a person or corporate body with an agreement with the contractor to carry out a specific part of the contract that may or may not include working on the Site.
31. “Temporary Works” means works designed, constructed, installed, and removed by the contractor needed during the Services' performance.
32. “Variation” means an instruction given by the Contract Manager, which varies the scope, quantum or performance standards of the Service performed.
33. “Tender”; “Tender Document”; “Tender Enquiry” or “Tender Process”: ‘Tender Process’ is the whole process from the publishing of the Tender Document till the resultant award of the contract. ‘Tender Document’ means the document (including all its sections, appendices, forms, formats, etc.) published by the Procuring Entity to invite bids in a Tender Process. The Tender Document and Tender Process may be generically referred to as “Tender’ or ‘Tender Enquiry’, which would be clear from context without ambiguity.

The Contract

Language of Contract

Unless otherwise stipulated in the SCC, the contract shall be written in the Official Language or English. All correspondence and other contract documents, which the parties exchange, shall also be written/ translated accordingly in that language. For purposes of interpretation of the contract, the English documents/ translation shall prevail.

The Entire Agreement

This Contract and its documents constitutes the entire agreement between the Procuring Entity and the contractor and supersedes all other communications, negotiations, and agreements (whether written or oral) of the Parties

made before the date of this Contract. No agent or representative of either Party has the authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not outlined in this Contract.

Severability

If any provision or condition of this Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of this Contract.

Parties

The parties to the contract are the contractor and the Procuring Entity, as defined above and as nominated in the contract.

Contract Documents and their Precedence

The following conditions and documents in indicated order of precedence (higher to lower) shall be considered an integral part of the contract, irrespective of whether these are not appended/ referred to in it. Any generic reference to 'Contract' shall imply reference to all these documents as well:

- Valid and authorized Amendments issued to the contract.
- the Agreement consisting of the initial paragraphs, recitals and other clauses set forth immediately before the GCC and including the formats annexed to it and signatures of Procuring Entity;
- Price Schedule, Bill of Quantities;
- Technical drawings and specifications of works.
- the Letter of Award (LoA)
- Final written submissions made by the contractor during negotiations, if any;
- The TCC
- the SCC
- the GCC
- the NIT and ITB
- the contractor's bid;
- any other document listed in the SCC as forming part of this Contract.
- Integrity Pact, if any

Modifications/ Amendments, Waivers and Forbearances

Modifications/ Amendments of Contract

If any of the contract provisions must be modified after the contract documents have been signed, the modifications shall be made in writing and signed by the Procuring Entity, and no modified provisions shall be applicable unless such modifications have been done. No variation in or modification of the contract terms shall be made except by a written amendment signed by the Procuring Entity. Requests for changes and modifications may be submitted in writing by the contractor to the Procuring Entity. At any time during the currency of the contract, the Procuring Entity may suo-moto or, on request from the contractor, by written order, amend the contract by making alterations and modifications within the general scope of the Contract.

If the contractor does not agree to the suo-moto modifications/amendments made by the Procuring Entity, he shall convey his views within 14 days from the date of amendment/ modification. Otherwise, it shall be assumed that the contractor has consented to the amendment.

Any verbal or written arrangement abandoning, modifying, extending, reducing, or supplementing the contract or any of the terms thereof shall be deemed conditional and shall not be binding on the Procuring Entity unless and until the same is incorporated in a formal instrument and signed by the Procuring Entity, and till then the Procuring Entity shall have the right to repudiate such arrangements.

Waivers and Forbearance

The following shall apply concerning any waivers, forbearance, or similar action taken under this Contract:

Any waiver of a Procuring Entity's rights, powers, or remedies under this Contract must be in writing, dated, and signed by an authorized representative of the Procuring Entity granting such waiver and must specify the terms under which the waiver is being granted.

No relaxation, forbearance, delay, or indulgence by Procuring Entity in enforcing any of the terms and conditions of this Contract or granting of an extension of time by Procuring Entity to the contractor shall, in any way whatsoever, prejudice, affect, or restrict the rights of Procuring Entity under this Contract, neither shall any waiver by Procuring Entity of any breach of Contract operate as a waiver of any subsequent or continuing breach of Contract.

Separate Contracts in Connection with Services

The Procuring Entity shall have the right to let other contracts related to or linked with the Services/works/goods. The contractor shall afford other contractors' reasonable opportunity to store their materials, execute their services/ works, and properly connect and coordinate their services. The contractor shall inspect services/ works of other contractor(s) and promptly report to the Engineer in charge or his representative at site any defects that may hinder proper execution of his Services to proper performance standards. The contractor's failure to inspect and report such defects shall constitute an acceptance of the other contractor's work as fit and proper for the performance of Contractor's services, except as to defects that may develop in the other contractor's work after such a provision Services.

Governing Laws and Jurisdiction

This Contract, its meaning and interpretation, and the relation between the Parties shall be governed by the Laws of India for the time being in force.

Irrespective of the place of delivery, or the place of performance or the place of payments under the contract, or place of the Letter of Award (LoA, or the contract Agreement, in the absence of LoA) has been issued. The courts at New Delhi, where corporate office of central warehousing corporation is located shall alone have jurisdiction to decide any dispute arising out or in respect of the contract.

Communications

- 2) All communications under the contract shall be served by the parties on each other in writing, in the contract's language, and served in a manner customary and acceptable in business and commercial transactions.
- 3) The effective date of such communications shall be either the date when delivered to the recipient or the effective date mentioned explicitly in the communication, whichever is later.
- 4) No communication shall amount to an amendment of the terms and conditions of the contract, except a formal letter of amendment of Contract, so designated.
- 5) Such communications would be an instruction or a notification or an acceptance or a certificate from the Procuring Entity, or it would be a submission or a notification from the contractor. A notification or certificate which the contract requires must be communicated separately from other communications.

- 6) The Contract Manager/ PMC or Representative of the Engineer in charge or Engineer in charge shall direct the order in which the several components of the Services / works shall be provided, and the contractor shall execute without delay all such orders given time to time. Still, the contractor shall not be relieved thereby from responsibility for the due performance of the Services in all respects.

Persons signing the Communications

For all purposes of the contract, including arbitration, thereunder all communications to the other party shall be signed by:

The person who has signed the contract on behalf of the contractor shall sign all correspondences. A person signing communication in respect of the contract or purported to be on behalf of the contractor, without disclosing his authority to do so, shall be deemed to warrant that he has authority to bind the contractor. If it is discovered at any time that the person, so signing has no authority to do so, the Procuring Entity reserves its right, without prejudice to any other right or remedy, to terminate the contract for default in terms of the contract and avail any or all the remedies thereunder and hold such person personally and/ or the contractor liable to the Procuring Entity for all costs and damages arising from such remedies.

Unless otherwise stipulated in the contract, the Engineer in charge signing the contract shall administer the contract and sign communications on behalf of the Procuring Entity. PMC / field representative of Engineer in charge mentioned in the contract / letter of award (LOA) shall also administer respective functions during Contract Execution.

Address of the parties for sending communications by the other party.

For all purposes of the contract, including arbitration, thereunder the address of parties to which the other party shall address all communications and notices shall be:

The address of the contractor as mentioned in the contract, unless the contractor has notified change by a separate communication containing no other topic to the Procuring Entity. The contractor shall be solely responsible for the consequence of an omission to notify a change of address in the manner aforesaid, and

The address of the Procuring Entity shall be the address mentioned in the contract. The contractor shall also send additional copies to officers of the Procuring Entity presently dealing with the contract.

In case of the communications from the contractor, copies of communications shall be marked to the PMC and field representative of Engineer in charge (as mentioned in LOA) and the Procuring Entity's officer signing the contract.

Unless already specified before the contract's start, the Procuring Entity and the contractor shall notify each other if additional copies of communications are to be addressed to additional addresses.

Abbreviation of the words used in Tender document

Abbreviation	Definition
BG	Bank Guarantee
BIS	Bureau of Indian Standard
BOQ	Bill of Quantities
BSD	Bid Securing Declaration
CAR Policy	Contractor's all Risk Policy
CC	Cement Concrete
CGST	Central Goods and Services tax
CPP	Central Procurement Portal
CPWD	Central Public Works Department
CTE	Chief Technical Examiner
CWC	Central Warehousing Corporation
DBM	Dense Bituminous Macadam
DLC	Dry Lean Concrete
DPC	Damp Proof Course
DPIIT	Department for Promotion of Industry and Internal Trade
DSR	Delhi Schedule of Rates
EFT	Electronic Funds Transfer
EMD	Earnest Money Deposit
EOT	Extension of Time
EPFO	Employees Provident Fund Organization
ESI	Employees State Insurance
ESI	Employees State Insurance
FD/FDR	Fixed Deposit Receipt
GCC	General Conditions of Contract
GCC	General Condition of Contract
GST	Goods and Services Tax
GST	Goods and Services Tax
GSTIN	GST Identification Number
HSN	Harmonized System of Nomenclature
IEM	Independent External Monitor
IGST	Integrated Goods and Services tax
IIT	Indian Institute of Technology
INR	Indian Rupee
IPC	Indian Penal Code
IPR	Intellectual Property Rights
IRC	Indian Roads Congress
ITB	Instructions To Bidders
JV	Joint Venture
JV/C	Joint Venture/ Consortium
LAR	Last Approved Rates
LD	Liquidated damage
LoA	Letter of Award (Acceptance)
MD	Managing Director

MES	Military Engineering Services
MII	Make in India
MORTH	Ministry of Road Transport & Highway
MSE	Micro and Small Enterprises
MSME	Micro Small and Medium Enterprises
MSMED	MSME Development (Act)
MT	Metric Tonne
NEFT	National Electronic Funds Transfer
NIT	Notice Inviting Tender
OPC	Ordinary Portland Cement
PAN	Permanent Account Number
PC	(Indian) Penal Code
PC	Prevention of Corruption
PERT	Programme Evaluation Review Technique.
PF	Provident Fund
PPC	Pozzolana Portland Cement
PQ	Pre-Qualifying
PQC	Pavement Quality Concrete
PSU	Public Sector Undertaking
PVC	Price Variation Clause
RCC	Reinforced Cement Concrete
RCM	Reverse Charge Mechanism
RMC	Ready Mixed Concrete
SCC	Special Conditions of Contract
SD	Security Deposit
SGST	State Goods and Services tax/
SOR	Schedules of Rates
T&P	Tools & Plants
TCS	Tax Collected at Source
TDS	Tax Deducted at Source
TIA	Tender Inviting Authority
TIS	Tender Information Summary
UGST	Union Territory Goods and Services tax
WBM	Water Bound Macadam
WC Policy	Workmen Compensation Policy
WMM	Wet Mix Macadam

(Format for Submitting Work Experience of Public Limited Company)

TO WHOMSOEVER IT MAY CONCERN

It is to inform that M/s. _____ having PAN No. _____ has completed the work for our organization as per below details:

Sr. No.	Particulars	Details
1.	Name of Work	
2.	Brief Description of Work	
3.	Date of Issue of Work Order/LOA	
4.	Date of Agreement and Agreement No. (if any)	
5.	Value of Work as per Work Order (in Rupees)	
6.	Date of Start of Work (As per work order)	
7.	Schedule Date of Completion of Work (As per work order)	
8.	Actual Date of Completion of Work	
9.	Value of Completed Works (in Rupees)	
10.	Amount paid till date of issuance of this letter ((in Rupees)	
11.	Details of Time extension given, if any and amount of Liquidated Damages (LD) or any other penalty levied due to delay in completion of work (in Rupees)	
12.	Penalty levied, if any, due to Sub-standard Quality of work, any other reason (in Rupees)	
13.	Remarks on Overall Performance of the Contractor	

Date: _____
 Place: _____

Signature of Officer Authorized _____
 Name & Designation of Officer _____
 Employee ID _____
 Phone No. & Email ID of Officer _____
 Website of Company _____
 Name of Company _____
 Registered Address _____

 CIN No. _____

(to be certified by Practicing Chartered Accountant)

It is to certify that M/s. _____ has received payment against the work executed for M/s. _____ (Name of client organization). A total of Rs. _____ has been received against this Contract/Work Order/Agreement No. _____ dated _____. The Financial Year wise break of amount received is as under:

Financial Year	Payment Received (in Rupees)
XXXX-XX	
XXXX-XX	
XXXX-XX	
Total	

The details have also been verified from Form 26AS, Form 16A and Audited Books of Accounts.

Signature and stamp of Chartered Accountant _____
 Date: _____ Name _____
 Place: _____ Membership No. _____
 Name of Firm _____
 FRN No. _____



केंद्रीय भंडारण निगम

(भारत सरकार का एक उपक्रम)

CENTRAL WAREHOUSING CORPORATION

(A Govt. of India Undertaking)

Corporate Office	4/1, Siri Institutional Area, August Kranti Marg, Hauz Khas, New Delhi-110016, Ph. No. & Fax No. (011) 49857894 Email Id: engg.cwhc@cewacor.nic.in
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E- Tender

Tender Reference Number:(E NIT_ CWC/CO/Engg./NIT/24-25/06)

For Procurement of Works:

Name of Work:

Design, supply, installation, testing and commissioning of Fire Fighting System for Godown No. 1 & 2 at CW Kolathur, Kerala.

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SECTION – IV

(SPECIAL CONDITIONS OF CONTRACT)

SPECIAL CONDITIONS OF CONTRACT

Scope of Work includes:

1.0 General

- 1.1** The contractor will engage the experienced **Technical representatives** of concerned discipline on the project, who should have full knowledge of work and are capable of getting executed the work and removing defects, as pointed out by the Engineer-in-charge. Deployment of the technical representatives and recovery, in case the contractor fails to do so, shall be in accordance with the **Schedule-F**.
- 1.2** The contractor shall procure all construction materials well in advance, so that there is sufficient time for testing of materials and clearance of the same before incorporation in the works. In case, untested material is used by the contractor and later, same is found not meeting to specification requirement, then the executed work with said material shall be dismantled and re-executed at the cost of contractor.
- 1.3** Wherever there is a reference to I.S. Code/Specifications or any other Code, it shall refer to latest Code with Correction Slips, as in vogue on the date of tendering.
- 1.4** The contractor shall make his programme for completion of work in consultation with the Engineer-in-Charge, keeping in view the availability of materials and unavoidable hindrance. No claim, whatsoever will be entertained due to delay on this account.
- 1.5** The contractor shall take levels and record them in prescribed Level Book before commencement of work. Levels taken shall be got verified from Engineer-in-Charge or his representative.
- 1.6** Work shall be carried out in a manner complying in all respects with the requirements of prevalent by-laws of the local Municipality/Municipal Corporation/Industrial development board/development authority as the case may be.
- 1.7** Rates quoted by the Tenderers/Contractors shall be inclusive of GST or all applicable taxes, Building and Other Construction Workers Welfare Cess, Levies, Duties on materials or services and on complete works in respect of this contract and shall be payable by the contractor. Central Warehousing Corporation will not entertain any claim, whatsoever in this respect. This aspect should be included in the rates quoted by the contractor.
 - 1.7.1 However, contractor is required to submit Tax Invoice as per rules under GST law.
 - 1.7.2 CWC shall deduct GST at source at applicable rates in case transactions under this contract are liable to GST deduction at source.
 - 1.7.3 Under GST regime, the contractor is required to correctly and timely disclose the details of output supply to GST as per GST rules in his GST return. Non-compliance would result in mismatching of claims and denial of input tax credit to CWC. Notwithstanding, anything contained in the agreement/contract in case of such default by the contractor, the amount of input tax credit, denied in GST along with interest and penalty shall be recovered from the contractor.
 - 1.7.4 Unless expressly stated otherwise, where any identifiable cost saving are realized during the currency of contract by virtue of deduction:
 - (i) In rate of tax on supply of goods and services.
 - (ii) Any benefit of input tax credit accrued to the contractor; contractor shall pass on such benefit to CWC by way of commensurate reduction in prices.

2.0 Period Of Completion

Time is the essence of the contract. The work is required to be completed within stipulated time schedule to be reckoned from the **15th day from date of issue of Letter of Acceptance.**

- 2.1** The contractor shall stick to the final completion date and will be liable to action for any delay due to contractor as per Conditions of Contract for stage as well as overall completion of the work.
- 2.2** In case of termination of contract due to default by contractor, available EMD, PG & Security Deposit with the department against the said contract will be forfeited. Contractor will be debarred from participating in any of the tenders/procurement process of CWC for a period of Two years from the date of debarring.

3.0 Delay or Deferments

- 3.1** Where the Contractor has to work alongwith other agencies in and around the area allotted for his works, he shall execute all his works in complete coordination and cooperation with all such agencies, so that at no time either his work or the works of other agencies is stopped or delayed. In case of any dispute in this regard, decision of CWC or their representative will be final and binding on the Contractor. No claim for idle labour, plant and machinery, under any circumstances will be entertained by CWC.
- 3.2** During execution of the work, this Warehouse will be operational. Contractor has to execute all works in complete coordination and cooperation with all activities confined to the area within the scope of this work, so as not to affect the operation of Warehouse under any circumstances. In case of any dispute in this regard, decision of CWC or their representative will be final and binding on the contractor. Contractor shall also note that work shall progress in phased manner as per operational requirement of CWC, if any.
- 3.3** It is understood that Contractor has assessed CWC operations at site of work and shall deploy the needful resources after proper planning in such a way that work is completed within stipulated time schedule despite running transactions/ operations of CWC.

4.0 Measurements for Works/Record Measurements

- 4.1** The contractor shall ensure that measurements for all works, which may be partially or wholly hidden in the course of construction are duly recorded in the Measurement book before that portion of work becomes inaccessible for measurement.
- 4.2** For works running/on-account payments can be made on the basis of detailed measurements recorded in the measurement books for the actual work executed. Bills will be submitted by the contractor as per Bill Proforma enclosed and the date of submission of bills will be considered as the date of acceptance of bill / signing of bill, which is to be recommended & forwarded by the Engineer-in-Charge concerned for arranging payment.

5.0 Payment to be Made by CWC

- 5.1** The price variation Clauses 10B(ii), (iii), (iv), 10C, 10CA and 10CC under GCC Clauses of CPWD Contract will not be applicable under this contract and any claim by the contractor in this regard will not be entertained.
- 5.2** (a) The contractor will submit running account/final bill of value not less than **5% value of the contract amount** towards the work done (excluding secured advance, if any).
(b) If the Contractor(s) does/do not prefer his/their specific and final claims in writing, within a period as stipulated in Clause 9 of GCC, he/they will deemed to have waived his/their claim(s) and CWC shall be discharged and released of all liabilities under the contract in respect of these claims.
- 5.3** Following are the mandatory documents for payment of Running Account Bills.

- copy of paid challans of PF/ESI,
- Royalty (if applicable),
- paid bills of water & electricity,
- copy of Workmen Compensation Policy,
- copy of Labour License,
- Theoretical Consumption Statement of cement, steel & bitumen (if used in the work),
- Invoice of Cement, Paint, Floor Hardener, Steel & bitumen (as brought for use at Site)
- Test reports (Mandatory Items as per field quality plan)
- Proof of deployment of Site Engineer etc.

Above documents shall be required at the time of 1st RA bill & final bill.

For intermediate RA bills, above documents, if not available due to reasons stated by contractor with undertaking to comply and submit, may be relaxed by Engineer-in-charge. However, contractor must comply the statutory and other provisions. Contractor shall indemnify the CWC against all losses / damages due to non-compliance of any of above provisions at intermediate stage, if any.

5.4 Income tax as well as Goods and Service Tax or any other Tax / Levy, as applicable by the Central / State Govt., shall be recovered on the gross amount of each bill.

5.5 To enhance the transparency in processing and settlement of bills /Invoices, Central Warehousing Corporation have introduced a bill tracking system for its contractors or vendors. The contractor will have to register on CWC BTS (Bill tracking system). His registration will enable the contractor and CWC officials to see the bill status with dates which is under process of payment through various stages of processing of bills, the stage at which it is lying, the amount for which it is passed and other details. The BTS system includes history feature also so that a contractor can see the history of the bills submitted by them. Contractor will register to BTS through following link. He may take the assistance of the CWC officials to ensure his registration on BTS.

Link : www.cwceportal.com/bts .

Contractor already registered, shall be provided with login id and password, on their registered email accounts which can be changed by contractor on 1st login to ensure the safety of their account.

Uploading of Invoices/bills: Contractor will submit his invoice for payment through BTS only

- a) In case the invoices/bills are digitally signed, as per Govt. guidelines, the vendor shall not be required to submit the hard copy of invoices/bills. The vendor can directly submit the digitally signed invoice along with the supporting documents by selecting the concerned Region/ Corporate Office & the concerned Division, for which invoice is intended. However, the supporting documents as per the requirement of contract/work order/purchase order etc. to be submitted in hard copy also.
- b) In case of ink signed invoices/bills, the vendor shall be required to upload the invoice/bill including supporting documents in BTS and also submit the hard copy of the original Invoice/bill and supporting documents.
- c) The dealing assistant/officials of CWC upon examining the invoice and supporting documents will take action on the invoice as per contract terms which can be returned to contractor If (a)the invoice is wrong/ calculation mistake/ wrong GSTIN etc
(b) If the uploaded invoice by the vendor is not digitally signed and digital signatures cannot be verified online.

6.0 Testing of Materials

6.1 Contractor will be required to establish a field laboratory for new works of Building Construction or Road /Floor up gradation works or in all such composite works containing

concrete. Setting of field laboratory for the new works of value more than Rs.2 crore is a mandatory requirement. Contractor shall be responsible for setting up laboratory facilities, equipment's and arranging technical manpower at his cost, as directed by the Engineer-in-charge for conducting site/field test. All the equipments shall be BIS approved makes and will be got checked & calibrated regularly. All equipments of the laboratory shall be kept in good working conditions.

If contractor fails to provide field laboratory for new works within one month of commencement of work, shall attract a penalty of Rs. 25,000 per month, recoverable from the running bills. In all routine tests, which can normally be done in the field laboratory/in situ, testing charges will be borne by the contractor. In case contractor fails to conduct field laboratory test for new works, all required tests shall be carried out in the reputed / approved outside laboratory. So far as conducting required test for upgradation / repairing works, same would be carried out in the reputed/approved outside laboratory. Payment of testing charges of such tests will be borne by the contractor in both the cases.

- 6.2** Testing and acceptance criteria for cement, steel and any other materials, supplied by contractor should be as per BIS codes/Technical Specification or as decided by Engineer-in-charge as per stipulated testing frequency given in enclosed list (field quality Plan) or CPWD Specifications.
- 6.3** Sample of material for testing will be supplied free of cost by the contractor, including its transportation to the approved test houses/laboratory, as directed by the Engineer-in-Charge or inspecting officials.
- 6.4** For outside testing, test of materials and stipulated samples shall be carried out by one of the following laboratories/tests houses - (1) IIT, (2) NIT, (3) National Test Houses, (4) National Council of Cement & Building Material, (5) Govt. Engg. College/National Accreditation Board Approved Lab (NABL), as per decision of the Project-in-charge/Site Engineer. Testing charges shall be borne by the contractor.
- 6.5** All Routine tests on various materials shall be carried out as per the field quality plan -List of Mandatory Tests (enclosed) at the cost of the contractor. Wherever it is not specified, it will be carried out as per decision of Site Engineer, which will be final and binding on the contractor.
- 6.6** In addition to the tests required under above clauses thereof, the Engineer or his representative may order tests to be carried out by an independent person appointed by him at such place or in such laboratory, as he may determine in accordance with the appropriate Clauses of relevant Standard Specifications and cost of such tests shall be borne by the contractor.
- 6.7** Testing record shall be maintained as per standard Testing Performa, enclosed in tender document for proper testing and their record by the contractor.
- 6.8** In case, test results indicate that the cement, steel, bitumen or any other material brought or arranged by the contractor for incorporation in work does not conform to the relevant BIS Codes, the same shall stand rejected and shall be removed from site by the contractor at his own cost within a week's time of written order from the Engineer-in-charge to do so.

7.0 Plant & Machinery Required for the Work

- 7.1 It will be responsibility of the Contractor to arrange all plants & machinery, trucks, vibratory, Road roller etc. as required by him for execution of works.
- 7.2 Contractor will also arrange for getting permission of such plant & machinery, if required from local or other concerned authorities for use as well as for their transportation to site.
- 7.3 All expenditure incurred in this connection will be borne by the Contractor.

8.0 Arrangement of Water for Execution of Works

8.1 Contractor will have to make his own arrangements for obtaining water to be used for execution of the works or CWC may supply water, if available for execution of work as per provision of Clause 30 of General Conditions of Contract. However, CWC may allow labourers to use drinking water facility of the Warehouse, if necessary.

8.2 CWC may permit to contractor to install bore-well at site at his own cost for execution of work. In this case contractor will ensure compliance of statutory requirements of the regulatory authority. After work completion, he shall restore the ground to its original condition after the bore-well is dismantled as per Clause 30 A of General conditions of Contract.

9.0 Arrangements for Electric Connection, Lighting & Other Purpose

9.1 If for reasons of urgency to expedite or complete the work within time, work has to be executed at night, contractor shall make his own arrangement for illuminating the site. Nothing extra will be paid for doing works at night.

9.2 Contractor will have to make his own arrangements for arranging electricity, if the same is required for illumination purposes or for running of any plant or machinery and nothing extra will be paid for the same.

9.3 CWC may allow electric power, if available on actual electric energy consumption basis by putting separate electric energy meter with due permission of Site Engineer and payment of such electricity consumption shall be done by Contractor.

10.0 Maintenance after Completion: All works executed under this agreement shall be maintained by the contractor at his own cost during the maintenance period of as mentioned below. This period shall be reckoned from the actual date of completion or during defect liability period as per Clause 17 of GCC.

- 12 Months in case of all works executed for Building or other infrastructure except CC Floor, metal Roof Sheet
- 36 Months in case of CC Floor, metal roof sheets, Paved/Concrete /Bituminous Road.

11.0 Miscellaneous

11.1 Customary standards/local traditions will not be the criteria for the standards. All works shall be up to the CPWD standards and as ordered by Engineer-in-charge and where any doubt may exist, specifications, as given in CPWD's Specifications Vol. I & II should be followed. Should there be any difference in the particular specifications for individual items of work and the description of the item as given in the schedule of quantities, the latter shall prevail. In case of items not covered by the general specifications referred to above or particular specifications attached, reference shall be made to the appropriate B.I.S. Code and decision of the Engineer-in-Charge shall be final and binding on the contractor.

11.2 CWC may provide space for setting up Construction Plants, T & P, Site office, Laboratory, Storage of material, Labour etc. free of cost, if the surplus land is available and with prior permission from the Engineer-in-charge during construction period of the project.

11.3 No areas outside work site/depot will be made available to the contractor for storage of construction materials, site office construction etc. and if required, contractor will make his own arrangement for the same by personal negotiation with the owners at his own cost.

11.4 Rates for different items of work shall be for all heights and depths, except where otherwise specified.

11.5 Contractor shall quote his rate taking into account the restrictions due to warehouse operation, if any on entry/exist of vehicles and labour to/from the site of work, as laid down by Central Warehousing Corporation and other Govt. authorities. If any entry fee/other charges are levied by any authority on entry of the vehicle/material/labour, same shall be

paid by the contractor. No claim or compensation on this account shall be entertained from the contractor.

- 11.6 Contractor must take all precautions to avoid accidents by exhibiting day and night the necessary caution boards, speed limit boards, red flags / red lights and providing barriers. He shall be responsible for all damages and accidents caused due to negligence on his part. No hindrance shall be caused to traffic during execution of work.
- 11.7 Any damage done by the contractor or his work-men to any existing work during the course of execution of the work, tendered for, shall be made good by him at his own cost.
- 11.8 Contractor shall maintain in good condition all works executed till the completion of entire work, allotted to the contractor.
- 11.9 Contractor shall clean the site thoroughly of all rubbish etc. left out of his materials on completion of the work and roughly dress the site around the building line to the satisfaction of the Engineer-in-Charge.

12.0 Handling of Materials

- 12.1 No lead is payable on water for works done and scheduled under any section of DSR or for the work done under any Non-Scheduled Item (NSI) of DSR.
- 12.2 If food grains / goods stored in Warehouse are lost, stolen or damaged during execution of construction work by the contractor or his labourers, cost of the same @ twice of the prevailing market rate will be recovered from the Contractor's dues and Contractor will have no claim, whatsoever on this account.
- 12.3 During execution of work, if CWC materials (cables, pipelines, drains etc.) are damaged, same will be set right by contractor at his cost within a reasonable time, as decided by the Engineer-in-charge. In case contractor fails to rectify the damages caused during construction/under their custody, cost of the damaged material shall be recovered from the contractor @ twice of prevailing market rates from the contractor dues/bills due with CWC under any contract and contractor will not have any claim whatsoever on this account.
- 12.4 The contractor shall consult the Engineer-in-Charge in writing regarding collection and stacking of materials required for the work. He should not stack materials at any place other than those approved by the Engineer-in-Charge. No excavated earth or building material shall be stacked on area, where other buildings, roads, services or compound wall are to be constructed.

13.0 Adherence to Labour Law and Regulations

The Contractors, who are working in the establishments through Contract Labour and/or employing labour themselves directly, should get themselves registered with and obtain a license from the Assistant Labour Commissioner concerned, as required under Contract Labour (Regulation and Abolition) Act 1971 and produce the same to Engineer-in-charge, in compliance to above and the Conditions of Contract. The copy of application for obtaining labour license may be submitted to Engineer-in-Charge within the period as specified in Schedule 'F' against clause 1 of GCC.

14.0 Employment of Labour from Scarcity Area

If the Government declares a state of scarcity or famine to exist in any village situated within 15 kms of the work, piece worker/contractor shall employ upon such parts of the works as unskilled labour any person found suitable and certified to him by the Engineer-in-charge or by any person to whom the Engineer-in-charge may have delegated in writing, to be in need to relief and shall be bound to pay to such person, the wages not below the minimum, which Government may have fixed in this behalf. Any dispute which may arise in connection with the implementation of this Clause shall be decided by the CWC, whose decision shall be final and binding on the piece worker/contractor.

15.0 Provision of Substituted/Extra Items & Quantity variation

Any item of work carried out by contractor on the instructions of the Engineer which is not included in the accepted schedule of Rates shall be executed at the rates set forth in the accepted schedule ie DSR Civil /DSR E&M (as mentioned in Financial bid) modified by tender percentage and for such items not contained in the later, as per following procedure:

If the substituted / altered/additional work, required to be executed as per CWC's requirements, for which there are no established rates in Schedule of Rates; the same shall be payable as per provisions stated hereunder –

(a) As far as possible the rates for such items shall be derived from agreed schedule of Rates ie Delhi schedule of rates (Civil/E&M) as mentioned in financial bid modified by quoted percentage for sub schedule DSR (Civil)/ DSR (E&M) as the case may be.

(b) If direct working of rates from DSR is not possible, the contractor shall be paid on the basis as under:

(i) Material, labor either or both: Reasonable cost of materials plus reasonable cost of labor inclusive of tools, plants, machinery, and GST & Labor Cess as applicable and plus 15% of so derived cost to cover contractor profit, supervision, overheads, establishments, etc.

(ii) The rates so worked out shall be modified by quoted percentage in sub schedule of Market rates Civil /E&M as available.

Engineer-in-Charge's decision regarding reasonable labor cost and material consumption/cost shall be final and binding on contractor.

(d) Variation in quantities & Vitiating:

As there are more than one sub schedule in Tender, there is possibility of vitiating of contract due to quantity variation. Therefore, in case of variation in quantities, the vitiating statement will be prepared at the time of approval of deviation statement / Payment and the vitiating amount i.e (the difference in amount to keep L1 remains L1 after variation in quantity) will be recovered from contractor bill and no compensation on ground of quantity variation or recovery of such amount shall be payable.

The rates upon variation in quantity shall be governed by Clause 12.2 (C) of general condition of Contract.

16.0 Completion Drawings

16.1 Completion drawings on as built basis of all the completed works for showing the layout of the area with dimensions, slopes and details of building, reinforcements used, pavement, drain, cable trenches, machine foundations etc. shall be prepared by the contractor at his own cost.

16.2 Contractor will supply three copies of completion drawings alongwith soft copy in CD / Pen-drive with the final bill. In case, contractor does not submit the completion drawing within 30 days of completion of the work or alongwith submission of final bill (whichever is later), he shall be liable to pay a sum, as prescribed in Schedule F against clause 8(a) of GCC and in this respect, decision of the Engineer-in-charge shall be final and binding on the contractor.

17.0 Storage of Inflammable Articles

No inflammable materials, such as petroleum, oil etc. within the meaning of the Indian Petroleum Act and Indian Explosives Act shall be stored at site or adjacent land, until approval of the CWC and necessary license under the Act has been obtained by the contractor. All due precautions, as required under the Acts shall be taken by contractor.

18.0 Night Work

Contractor shall plan and deploy his all resources to complete the work within time as per agreed program of completion. If the CWC is, however, satisfied that the work is not likely

to be completed in time except by resorting to night work; by special order, the contractor would be required to carry out the work even at night, without conferring any right on the contractor for claiming for extra payment for introducing night working. The decision of the Site Engineer in this regard will be final and binding on the contractor.

19.0 Notice to Public Bodies

Contractor shall give to the Municipality, Police and other authorities, all notices that may be required by the law and obtain all requisite licenses for temporary obstructions, enclosures and pay all fees, taxes and charges, which may be leviable on account of his own operations in executing the contract. He should make good any damage to adjoining premises, whether public or private and provide & maintain any light etc. required at night and no extra payment will be made on this account.

20.0 Plea of Custom

The plea of 'Custom' prevailing will not, on any account, be permitted as an excuse for infringement of any of the conditions of contract or specifications.

21.0 Care of Staff

No guarantee will be provided by CWC for accommodation of the contractor or any of his staff employed on the work. The contractor may, however, be allowed to erect labour camps for housing the labour at or near the site of work on available CWC's land. The contractor shall at his own cost make all necessary and adequate arrangements for importation, feeding and preservation of the hygiene of his staff. Contractor shall permit inspection of the Engineer-in-Charge or his assistant or any official of the CWC at all times for all sanitary arrangements, made by him. If the contractor fails to make adequate medical and sanitary arrangements, these will be provided by the CWC and cost thereof will be recovered from the contractor.

22.0 First Aid

The contractor shall maintain in a readily accessible place First Aid Appliance including an adequate supply of sterilized dressing & sterilized cotton wool. Appliances shall be placed under charge of responsible person who shall be readily available during working hours.

23.0 Trespass

The contractor shall, at all times, be responsible for any damages or trespass, committed by his agents and workmen in carrying out the work, unless such trespass is authorized by the Engineer at site.

24.0 Damage from Accidents or Floods or Tides

24.1 The contractor shall take all precautions against damages from accidents, floods or tides. No compensation will be payable by CWC to the contractor for his tools, plants, materials, machines and other equipment lost or damaged by any cause, whatsoever. The contractor shall be liable to make good the damages to any structure or part of structure, plant or material of every description belonging to the CWC administration, lost or damaged by any cause during the course of contractor's work.

24.2 The CWC will not be liable to pay to the contractor any charges for rectification or repairs to any damages, which may have occurred from any cause whatsoever, to any part of the new structures during construction. No claims in this regard will be arbitrable.

24.3 The contractor shall bail out rain water collected during execution of work from the excavated trenches at his own cost. Nothing extra shall be payable on this account.

25.0 Use of CWC Materials Secured with Government Assistance

Where any raw materials for the execution of the contract are procured with the assistance of Govt. either by issue from Govt., stocks or purchases under arrangements made or permit(s) or license(s) issued by the Govt., the contractor shall hold the materials as trustee for the Govt. and use such materials economically and solely for the purpose of contract against which they are issued and not dispose them off without permission of the Govt. and return, if required by the Govt. all surplus or unserviceable materials that may be left by him after completion of the contract or at its termination for any reason whatsoever on his being paid such price as Govt. may fix with due regard to the condition of the materials. Freight charges for the return of the material, according to the direction of the purchaser, shall be borne by the contractor; in the event of contract being cancelled for any default on his part, decision of the Govt. shall be final and conclusive.

26.0 Insurance for Works, Persons and Property

26.1 Insurance for Works

The contractor at the scheduled date of start of work, without limiting his obligations and responsibilities, shall insure the works at his own cost and keep them insured until the virtual completion of the contract against all Acts of God including Fire, Theft, Riots, War, Floods etc. with an Insurance Agency, approved by Insurance Regulatory & Development Authority (IRDA) in the joint names of the Employer and Contractor (name of the former being placed first in the policy) for the minimum thirty percent amount of the originally awarded contract value irrespective of revised / modified contract value later on. Such policy shall cover the property of the CWC and fees for assessing the claim and in connection with his services generally therein and shall not cover any property of the Contractor or of any sub-contractor.

The Contractor shall deposit the policy and receipt for the premiums with the CWC within 30 days from the date of signing the contract or commencement of execution of work, whichever is earlier, or unless otherwise instructed by the CWC. In default of the Contractor insuring as provided above, the CWC on his behalf may so insure and may deduct the premiums paid from any moneys due or which may become due to the Contractor. The Contractor shall, as soon as any claim under the policy is settled or the works reinstated by the Insurance Office should elect to do so, proceed with all due diligence with the completion of works in the same manner as though the misfortune/ accident had not occurred and in all respects under the same conditions of contract. The Contractor in case of rebuilding or reinstatement after accident, shall be entitled to such extension of time for completion, as the CWC deems fit.

26.2 Insurance in Respect of Damages to Persons and Property

- (i) The Contractor shall be responsible for all injury to persons, animals or things and for all structural & decorative damage to property which may arise from the operation or neglect of himself or of any approved sub-contractors or employees, whether such injuries or damage arise from carelessness, accident or any other cause whatsoever in any way connected with carrying out of this contract. The Clause shall be held to include any damage to buildings, whether immediately adjacent or otherwise and damage to road, streets, footpaths, bridges and works forming the subject of this contract by frost or other inclemency of the weather.

The Contractor shall indemnify the CWC and hold him harmless in respect of all and any expenses arising from any such injury or damage to persons or property, as aforesaid and in respect of any claims made in respect of injury or damage under any Acts of Govt. or otherwise and also in respect of any award of compensation of damage consequent upon such claims.

- (ii) The Contractor shall reinstate all damages of every sort so as to deliver up the whole of the contract works complete and perfect in every respect and so as to make good or otherwise satisfy all claims for damage to the property of third parties.
- (iii) The Contractor shall indemnify the CWC against all claims which may be made against the CWC by the member of the public or other third party in respect of works in consequence

thereof and shall, at his own expense, arrange to effect and maintain, until the virtual completion of the contract, an Insurance Policy with Insurance Agency approved by IRDA in the joint names of the CWC and Contractor against such risks and deposit such policy or policies with the CWC from time to time during the currency of this contract.

The contractor shall similarly indemnify the CWC against all claims which may be made upon the CWC whether under the Workman's Compensation Act or any other statute in force during the currency of this contract or at common law in respect of any employee of the Contractor or any sub-contractor and shall at his own expense effect and maintain with an approved office a policy of insurance in the joint names of the CWC and the Contractor against such risks and deposit such policy or policies with the CWC from time to time during the currency of the Contract.

The Contractor shall be responsible for anything which may be excluded from the Insurance policies above referred to and also for all other damages to any property arising out of an incidental to the negligent or defective carrying out of this contract. He shall also indemnify the CWC in respect of any costs, charges or expenses arising out of any claim re-proceedings and also in respect of any award of or compensation of damages arising there from.

- (iv) The Employer shall be at liberty and is empowered to deduct the amount of any damage, compensation costs, charges and expenses arising or accruing from or in respect of any such claim or damage of any sum or sums due to or become due to the Contractor including the Security Deposit.
- (v) If the Contractor fails to comply with the terms of these conditions, the Employer may insure the works and may deduct amount of the premiums paid from any money that may be or become payable to the Contractor or may at the option, do not release running payment to Contractor until Contractor shall have complied with terms of this condition.

27.0 Any Other Insurance Required Under Law or Regulations or by CWC

Contractor shall also carry and maintain any other insurance which he may be required under law or regulation from time to time. He shall also carry and maintain any other insurance which may be required by CWC.

28.0 Site Office

Contractor shall have to provide temporary site office with requisite furniture & appliances and godown for storing/stacking construction materials at their own cost for which no extra payment will be made.

29.0 PF Compliance

It will be responsibility of the contractor to obtain separate code/identification No. for contractor's deposit of PF dues, if applicable with concerned authority directly. Copy of PF Registration / Code no. alongwith copy of PF paid Challans, shall be submitted alongwith Running Account Bills or Final Bill.

30.0 Recoveries / Withholding of Amount

- 30.1** In case of any technical deficiencies, lapses on account of non-compliance of PF/ESI, Insurance (WC Policies), Labour License or any other reasons not covered in any Clause of tender documents etc. are noticed by the Engineer-in-charge/CWC Vigilance Deptt./CTE Organization, then a sum, as recommended or decided by Project in-charge/Site Engineer may be withheld, till rectification/remedy/compliance of the deficiencies.
- 30.2** Recoveries, if any, on account of uncovered period of insurance (WC Policies), defective work, loss to CWC or any other liability not fulfilled by contractor etc., shall be affected from the contractor's bill / any other due(s) amount (i.e. Final Bill, Security Deposit & Performance Bank Guarantee etc.).

31.0 Material Obtained from the Dismantlement

The contractors, in the course of their own work, should understand that all materials, e.g. stone and other materials obtained in the work of dismantling and excavation etc. will be considered property of Central Warehousing Corporation and would be issued to the contractor (if they require the same for use in the work) at the rates approved by the Engineer-in-Charge, as the case may be.

32.0 A bidder shall be debarred if he has been convicted of an offence or breach the contract as below:

1. if Bidder has been convicted of an offence
 - (a) under the Prevention of Corruption Act, 1988; or
 - (b) the Indian Penal Code or any other law for the time being in force, for causing any loss of life or property or causing a threat to public health as part of execution of a contract.
2. If Bidder breaches the Code of Integrity.
3. In the event of any of the documents submitted by Bidder along with their bid is found fabricated/tempered/forged/alterd/manipulated/false during the evaluation of bid or later at any stage even after award of work.
4. In case the bidder fails to submit the requisite Performance Guarantee even after the period specified in Clause 1 of Schedule 'F' from the date of issue of Letter of Acceptance (LOA).
5. In case the contract is terminated due to default in performance under the provision of contract.

NOTE:

- A bidder debarred under sub-section (1) or any successor of the bidder shall not be eligible to participate in future tender of Central warehousing corporation for three years commencing from the date of debarment.
- A bidder debarred under sub-section (2) or any successor of the bidder shall not be eligible to participate in future tender of Central warehousing corporation for two years commencing from the date of debarment.
- A bidder debarred under sub-section (3) or any successor of the bidder shall not be eligible to participate in future tender of Central warehousing corporation for Five years commencing from the date of debarment.
- A bidder debarred under sub-section (4) & (5) or any successor of the bidder shall not be eligible to participate in future tender /procurement process of Central warehousing corporation for two years commencing from the date of debarment.

The bidder under provision of sub section 1 , 2 & 3 shall not be debarred unless such bidder has been given a reasonable opportunity to represent against such debarment

Section-V
CWC's GENERAL CONDITIONS OF CONTRACT

CENTRAL WAREHOUSING CORPORATION

(A Govt. of India Undertaking)

General Rules & Directions

General Rules & Directions	<ol style="list-style-type: none">1. All works proposed for execution by contract will be notified in a form of invitation to tender pasted in public places and signed by the officer inviting tender or by publication in Newspapers or posted on website as the case may be. This form will state the work to be carried out, as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of Earnest Money to be deposited with the tender and amount of the Security Deposit and Performance Guarantee to be deposited by the successful tenderer and the percentage, if any, to be deducted from bills. Copies of the specifications, designs and drawings and any other documents required in connection with the work signed for the purpose of identification by the officer inviting tender shall also be open for inspection by the contractor at the office of officer inviting tender during office hours.2. In the event of the tender being submitted by a Firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power of attorney authorizing him to do so, such power of attorney to be produced with the tender and it must disclose that the Firm is duly registered under the Indian Partnership Act, 1932.3. Receipts for payment made on account of work, when executed by a Firm, must also be signed by all the partners, except where contractors are described in their tender as a Firm, in which case the receipts must be signed in the name of the Firm by one of the partners or by some other person having due authority to give effectual receipts for the Firm.3A. The bidder, who have changed the name of firm/merged/acquired/purchased any firm whose credential papers are being used/submitted for qualification of tender, should submit the following documents in this regard :<ol style="list-style-type: none">(a) The copy of certificate of Incorporation of Firm or Registration certificate of Firm.(b) Copy of Memorandum and Articles of Association of Firm.(c) Copy of Board Resolution regarding change of name of Firm/ take over/merger of the Firm.(d) Copy of sale deed/Memorandum of Understanding for Purchase/ sale/merger of Firm alongwith assets and liabilities.(e) Copy of PF Registration and PAN Card.(f) Affidavit regarding change of name of Firm alongwith all assets and liabilities, if any.(g) Affidavit regarding closure of business of old Firm/merged Firm.
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	<p>(h) Copy of Certificate of CA/Company Secretary regarding Sale/ Merger/Change of name of Firm.</p> <p>In absence of the complete documentary evidence, such offer shall be summarily rejected.</p>
<p>Applicable for Item Rate Tender only</p>	<p>4. The rate(s) must be quoted in decimal coinage. Amounts must be quoted in full rupees by ignoring fifty paisa and considering more than fifty paisa as rupee one.</p> <p>In case the lowest tendered amount (worked out on the basis of quoted rate of Individual items) of two or more contractors is same, then such lowest contractors may be asked to submit sealed revised offer quoting rate of each item of the schedule of quantity for all sub sections/sub heads, as the case may be, but the revised quoted rate of each item of schedule of quantity for all sub sections/sub heads should not be higher than their respective original rate quoted already at the time of submission of tender. The lowest tender shall be decided on the basis of revised offer.</p> <p>If the revised tendered amount (worked out on the basis of quoted rate of individual items) of two or more contractors received in revised offer is again found to be equal, then the lowest tender, among such contractors, shall be decided by draw of lots in the presence of Tender Evaluation Committee and the lowest contractors those have quoted equal amount of their tenders.</p> <p>In case of any such lowest contractor in his revised offer quotes rate of any item more than their respective original rate quoted already at the time of submission of tender, then such revised offer shall be treated invalid. Such case of revised offer of the lowest contractor or case of refusal to submit revised offer by the lowest contractor shall be treated as withdrawal of his tender before acceptance and 50% of his earnest money shall be forfeited.</p> <p>In case all the lowest contractors those have same tendered amount (as a result of their quoted rate of individual items), refuse to submit revised offers, then tenders are to be recalled after forfeiting 50% of EMD of each lowest contractor.</p> <p>Contractor, whose earnest money is forfeited because of non-submission of revised offer, or quoting higher revised rate(s) of any item(s) than their respective original rate quoted already at the time of submission of his tender, shall not be allowed to participate in the retendering process of the work.</p>
<p>Applicable for Percentage Rate Tender only</p>	<p>4A. In case of Percentage Rate Tenders, contractor shall fill up the usual printed form, stating at what percentage below/above (in figures) the total estimated cost given in Schedule of Quantities at Schedule-A, he will be willing to execute the work. The tender submitted shall be treated as invalid if :</p> <ul style="list-style-type: none"> (i) The contractor does not quote percentage above/below on the total amount of tender or any section/sub head of the tender. (ii) The percentage above/below is not quoted on the total amount of tender or any section/sub head of the tender. <p>Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying</p>

	<p>out the work, or which contain any other conditions of any sort including conditional rebates, will be summarily rejected.</p> <p>4B. In case the lowest tendered amount (estimated cost + amount worked on the basis of percentage above/below) of two or more contractors is same, such lowest contractors will be asked to submit sealed revised offer in the form of letter mentioning percentage above/below on estimated cost of tender including all sub sections/ sub heads as the case may be, but the revised percentage quoted above/below on tendered cost or on each sub section/sub head should not be higher than the percentage quoted at the time of submission of tender. The lowest tender shall be decided on the basis of revised offers.</p> <p>In case any of such contractor refuses to submit revised offer, then it shall be treated as withdrawal of his tender before acceptance and 50% of earnest money shall be forfeited.</p> <p>If the revised tendered amount of two more contractors received in revised offer is again found to be equal, the lowest tender, among such contractors, shall be decided by draw of lots in the presence of Tender Evaluation Committee & the lowest contractors those have quoted equal amount of their tenders.</p> <p>In case all the lowest contractors those have quoted same tendered amount, refuse to submit revised offers, then tenders are to be recalled after forfeiting 50% of EMD of each contractor. Contractor(s), whose earnest money is forfeited because of non-submission of revised offer, shall not be allowed to participate in the re-tendering process of the work.</p> <p>5. The officer inviting tender or his duly authorized assistant, will open tenders in the presence of any intending contractors who may be present at the time.</p> <p>6. The officer inviting tenders shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest or any other tender.</p> <p>7. The receipt of an accountant or clerk for any money paid by the contractor will not be considered as any acknowledgment or payment to the officer inviting tender and the contractor shall be responsible for seeing that he procures a receipt signed by the officer inviting tender or a duly authorized Cashier.</p>
<p>Applicable for Item Rate Tender only</p>	<p>8. In the case of Item Rate Tenders, only rates quoted shall be considered. Any tender containing percentage below/above the rates quoted is liable to be rejected. Rates quoted by the contractor in item rate tender in figures shall be accurately filled in so that there is no discrepancy in the rates. However, if a discrepancy is found, the rates which correspond with the amount worked out by the contractor shall, unless otherwise proved, be taken as correct. If the amount of an item is not worked out by the contractor or it does not correspond with the rates written in figures, then the rates quoted by the contractor shall be taken as correct. Where the rates quoted by the contractor in figures tally, but the amount is not worked out correctly, the rates quoted by the contractor will, unless otherwise proved, be taken as correct and not the amount. In event no rate has been quoted for any item(s), leaving space blank; it will be presumed that</p>

	<p>the contractor has included the cost of this/these item(s) in other items and rate for such item(s) will be considered as zero and work will be required to be executed accordingly.</p> <p>However, if a tenderer quotes Nil rates against each item in Item Rate Tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.</p>
Applicable for Percentage Rate Tender only	<p>9. In case of Percentage Rate Tenders, only percentage quoted shall be considered. Any tender containing item rates is liable to be rejected. Percentage quoted by the contractor in percentage rate tender shall be accurately filled in figures, so that there is no discrepancy.</p>
Applicable for Percentage Rate Tender only	<p>10. In Percentage Rate Tender, the tenderer shall quote percentage below/above (in figures) at which he will be willing to execute the work. He shall also work out the total amount of his offer and the same should be written in figures in such a way that no interpolation is possible. In case of figures, the word 'Rs.' should be written before the figure of rupees and word 'P' after the decimal figures, e.g. 'Rs. 2.15P.</p> <p>11. (i) The Contractor whose tender is accepted, will be required to furnish Performance Guarantee of 5% (Five Percent) of the tendered amount within the period specified in Schedule 'F'. This Guarantee shall be in the form of cash (in case Guarantee amount is less than Rs. 10,000) or Deposit at Call Receipt of any Scheduled Bank/ Banker's Cheque of any Scheduled Bank/Demand Draft of any Scheduled Bank/Pay Order of any Scheduled Bank (in case Guarantee amount is less than Rs. 1,00,000) or Government Securities or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form.</p> <p>(ii) The contractor whose tender is accepted will also be required to furnish by way of Security Deposit for the fulfilment of his contract, an amount equal to 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 in Schedule 'E'. The Security amount will also be accepted in cash or in the shape of Government Securities. Fixed Deposit Receipt of a Scheduled Bank or State Bank of India will also be accepted for this purpose provided confirmatory advice is enclosed.</p> <p>12. On acceptance of the tender, name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Engineer-in-Charge, shall be communicated in writing to the Engineer-in-Charge.</p> <p>13. GST or any other tax applicable in respect of inputs procured by contractor for this contract, shall be payable by the Contractor and CWC will not entertain any claim whatsoever in respect of same. However, component of GST at time of supply of service (as provided in CGST Act 2017) provided by the contract shall be varied, if different from that applicable on the last date of receipt of tender including extension if any.</p>

	14. The contractor shall give a list of both gazetted and non-gazetted CWC employees related to him.				
	15. Tender for composite work includes, in addition to building work, all other works such as sanitary, water supply and drainage installations, electrical work, horticulture work, roads, paths etc.				
	16. The contractor shall submit list of works which are in hand (progress) in the following form :				
	Name of Work	Name & Particulars of Deptt. where Work Done	Value of Work	Position of Works in Progress	Remarks
	1	2	3	4	5

CONDITIONS OF CONTRACT

Definitions	<p>1. The Contract means the documents forming the tender and acceptance thereof and the formal agreement executed between the Central Warehousing Corporation 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.</p> <p>2. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them :</p> <p>(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.</p> <p>(ii) The Site shall mean the land/or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract.</p> <p>(iii) The Contractor 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.</p> <p>(iv) The Corporation/ Corpn. / Department means the Central Warehousing Corporation.</p> <p>(v) The Engineer-in-Charge means the Chief Engineer / Superintending Engineer who shall monitor and be in-charge of the work and who shall sign the contract on behalf of the Central Warehousing Corporation.</p>
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	<p>(vi) Accepting Authority shall mean the authority mentioned in Schedule 'F'.</p> <p>(vii) 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 Govt., 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 Corporation of the part of the works in respect of which a certificate of completion has been issued or a cause solely due to faulty design of works.</p> <p>(viii) 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 mentioned in Schedule 'F' to cover, all overheads and profits.</p> <p>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.</p> <p>(ix) Schedule(s) referred to in these conditions shall mean the relevant Schedule(s) annexed to the tender papers or the Standard Schedule of Rates applicable mentioned in Schedule 'F' hereunder, with the amendments thereto issued upto date of receipt of tender.</p> <p>(x) Department means CWC or any department of Government of India which invites tenders on behalf of Corporation, as specified in Schedule 'F'.</p> <p>(xi) District Specifications means the Specifications followed by the State Government in the area where the work is to be executed.</p> <p>(xii) Tendered Value or Contract Value means the value of the entire work, as stipulated in the letter of acceptance.</p> <p>(xiii) Date of Commencement of Work: The date of commencement of work shall be date of start as specified in Schedule 'F' 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.</p> <p>(xiv) GST shall mean Goods and Service Tax - Central, State and Inter State</p>
<p>Scope and Performance</p>	<p>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.</p> <p>4. Headings and Marginal notes to these General Conditions of Contract shall not be deemed to form part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.</p> <p>5. The contractor shall be furnished, free of cost one certified copy of the contract documents except Standard Specifications, Schedule of Rates and such other printed and published documents, together with all drawings, as may be forming part of the tender papers. None of these documents shall be used for any purpose other than that of this contract.</p>

<p>Works to be Carried Out</p>	<p>6. The work to be carried out under the Contract shall, except as otherwise provided in these conditions, include all labour, 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.</p> <p>The descriptions given in the Schedule of Quantities (Schedule-A) shall, unless otherwise stated, be held to include wastage on materials, carriage and cartage, carrying and return of empties, hoisting, setting, fitting & fixing in position and all other labours necessary in & for the full and entire execution & completion of the work as aforesaid in accordance with good practice and recognized principles.</p>
<p>Sufficiency of Tender</p>	<p>7. 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.</p>
<p>Discrepancies and Adjustment of Errors</p>	<p>8. 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.</p> <p>8.1 In the case of discrepancy between the Schedule of Quantities, the Specifications and/or the Drawings, the following order of preference shall be observed –</p> <ul style="list-style-type: none"> (i) Bill of Quantities (BOQ) (ii) Technical Specifications (iii) Drawings (iv) Special Conditions of Contract (v) General Conditions of Contract (vi) Instructions to Tenderers <p>8.2 If there are varying or conflicting provisions made in any one document forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention of the document and his decision shall be final & binding on contractor.</p> <p>8.3 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.</p>
<p>Signing of Contract</p>	<p>9. The successful tenderer/contractor, on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of :</p> <ul style="list-style-type: none"> (i) The Notice Inviting Tender, all the documents including drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof, together with any correspondence leading thereto.

	<p>(ii) Standard Form, as mentioned in Schedule 'F' consisting of :</p> <p>(a) Various Standard Clauses with corrections upto the date stipulated in Schedule 'F' alongwith Annexures thereto</p> <p>(b) Safety Code</p> <p>(c) Model Rules for the protection of health, sanitary arrangements for workers, employed by CWC or its contractors</p> <p>(d) CPWD's Contractor's Labour Regulations shall Mutatis Mutandis apply to the work of CWC.</p> <p>(e) List of Acts and Omissions for which fines can be imposed</p> <p>(iii) No payment for the work done will be made unless contract is signed by the contractor.</p>
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CLAUSES OF CONTRACT

CLAUSE 1	
Performance Guarantee	<p>(i) The contractor shall submit an irrevocable Performance Guarantee of 5% (Five percent) of the contracted amount 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 Schedule 'F' from the date of issue of Letter Of Acceptance. This period can be further extended by the Engineer-in-Charge upto a maximum period as specified in Schedule 'F' on written request of the contractor stating the reason for delays in procuring the Performance Guarantee, to the satisfaction of the Engineer-in-Charge. This Guarantee cannot be in the form of Cash but can be deposited vide Demand Draft of any Scheduled Bank/Pay Order of any Scheduled Bank (in case Guarantee amount is less than Rs. 1,00,000) or Government Securities or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the form annexed hereto.</p> <p>(ii) The Performance Guarantee shall be initially valid up to the stipulated date of completion plus 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. However, in case of contracts involving maintenance of building and services/any other work after construction of same building and services/other work, then Performance Guarantee shall be retained as Security Deposit (to the extant total SD of 5 % is made available to CWC for the maintenance period/defect liability period). The same shall be returned year wise proportionately.</p> <p>(iii) The Engineer-in-Charge shall make a claim under the Performance Guarantee except for amounts to which the Corporation is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of :</p>

	<p>(a) 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.</p> <p>(b) Failure by the contractor to pay Corporation 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.</p> <p>(iv) 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 Corporation.</p> <p>(v) 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.</p> <p>This Provisional Completion Certificate shall be recorded by the concerned Engineer-in-charge with the approval of Chief Engineer / Superintending Engineer, 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.</p> <p>However, in case of contracts involving maintenance of building and services / any other work after construction of same building and services / other work and Full SD amount is available with CWC at the time of last RA Bill/Final Bill payment, then 100% of Performance Guarantee shall be returned to the contractor, without any interest after recording the provisional Completion Certificate.</p>
	CLAUSE 1-A
Recovery of Security Deposit (SD)	<p>Total SD under the contract with maintenance or defect liability period as per special condition of contract shall be 5 % of Contract value. The person/persons whose tender(s) may be accepted (hereinafter called the Contractor) shall permit Corporation at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 10% of the gross amount of each running and final bill till the sum deducted will amount to Security Deposit of 5% of the tendered value of the work. Such deductions will be made and held by Corporation 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 Government Securities or Fixed Deposit Receipts. In case a Fixed Deposit Receipt of any Bank is furnished by the contractor to the Corporation 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 Corporation to make good the deficit.</p> <p>All compensations or the other sums of money payable by the contractor under the terms of this contract may be deducted from, or paid by the sale of a sufficient part of his Security Deposit or from the interest arising there</p>

	<p>from, or from any sums which may be due to or may become due to the contractor by Corporation 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 or Government Securities (if deposited for more than 12 months) endorsed in favour of the Engineer-in-Charge, any sum or sums which may have been deducted from, or raised by sale of his Security Deposit or any part thereof. The Security Deposit shall be collected from the running bills and the final bill of the contractor at the rates mentioned above.</p> <p>The Security Deposit as deducted above can be released against Bank Guarantee issued by a Scheduled Bank, on its accumulations to a minimum of Rs. 5 lacs subject to the condition that amount of such Bank Guarantee, except last one, shall not be less than Rs. 5 lacs. Provided further that the validity of Bank Guarantee including the one given against the Earnest Money shall be in conformity with provisions contained in Clause 17 which shall be extended from time to time depending upon extension of contract granted under provisions of Clause 2 and Clause 5.</p> <p>In case of contracts involving maintenance of building and services/any other work after construction of same building and services/other work, then Performance Guarantee shall be retained as Security Deposit (to the extent total SD of 5 % is made available to CWC for the maintenance period/defect liability period). The same shall be returned year wise proportionately.</p> <p>Note –</p> <ol style="list-style-type: none"> 1. Government papers tendered as security will be taken at 5% (five per cent) below its market price or at its face value, whichever is less. The market price of Government paper would be ascertained by the Chief Engineer/Superintending Engineer at the time of collection of interest and the amount of interest to the extent of deficiency in value of the Government paper will be withheld, if necessary. 2. Government Securities will include all forms of Securities mentioned in Rule no. 274 of the G.F. Rules except Fidelity Bond. This will be subject to the observance of the condition mentioned under the Rule against each form of security. 3. Note 1 & 2 above shall be applicable for both Clause 1 and 1A.
	CLAUSE 2
Compensation for Delay	<p>If the contractor fails to maintain the required progress in terms of Clause 5 or to complete the work and clear the site on or before the contract completion or justified extended date of completion as per Clause 5 (excluding any extension under Clause 5.5) as well as any extension granted under Clauses 12 and 15; he shall, without prejudice to any other right or remedy available under the law to the CWC on account of such breach, pay as compensation the amount calculated at the rates stipulated below as the authority specified in schedule 'F' 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 Clause 5 or that the work remains incomplete –</p> <p>(i) Compensation for delay of work: With maximum rate @ 1% (one percent) per month of delay to be computed on per day basis.</p>

Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10% of the accepted Tendered Value of work or of the accepted Tendered Value of the sectional part of work as mentioned in Schedule 'F' for which a separate period of completion is originally given. GST as applicable under law shall be in addition to the above LD amount.

(ii) In case no compensation has been decided by the authority in Schedule 'F' during the progress of work, this shall be no waiver of right to levy compensation by the said authority, if the work remains incomplete on final justified extended date of completion. If the Engineer in Charge decides to give further extension of time allowing performance of work beyond the justified extended date, the contractor shall be liable to pay compensation for such extended period.

If any variation in amount of contract takes place during such extended period beyond justified extended date and the contractor becomes entitled to additional time under Clause 12, the net period for such variation shall be accounted for while deciding the period for levy of compensation. However, during such further extended period beyond the justified extended period, if any delay occurs by events under Sub-Clause 5.2, the contractor shall be liable to pay compensation for such delay.

Provided that compensation during the progress of work before the justified extended date of completion for delay under this clause shall be for non-achievement of sectional completion or part handing over of work on stipulated/justified extended date for such part work or if delay affects any other works/services. This is without prejudice to right of action by the Engineer-in-Charge under Clause 3 for delay in performance and claim of compensation under that Clause.

In case action under Clause 2 has not been finalized and the work has been determined under Clause 3, the right of action under this Clause shall remain post determination of contract, but levy of compensation shall be for days the progress is behind the schedule on date of determination, as assessed by the authority in Schedule 'F', after due consideration of justified extension. The compensation for delay, if not decided before the determination of contract, shall be decided after of determination of contract.

The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other contract with the Corporation. In case, the contractor does not achieve a particular milestone mentioned in **Schedule 'F'**, or the re-scheduled milestone(s) in terms of Clause 5.4, the amount shown against that milestone shall be withheld, to be adjusted against the compensation levied as above.

With-holding of this amount on failure to achieve a milestone, shall be automatic without any notice to the contractor. However, if the contractor catches up with the progress of work on the subsequent milestone(s), the withheld amount shall be released. In case the contractor fails to make up for the delay in subsequent milestone(s), amount mentioned against each milestone missed subsequently also shall be withheld. However, no interest, whatsoever, shall be payable on such withheld amount

	Clause 2A
Incentive for Early completion	<p>In case, the contractor completes the work ahead of stipulated date of completion a bonus @1% (one percent) of the tendered value per month computed on per day basis, shall be payable to the contractor, subject to a maximum limit of 5%(five percent) of the tendered value. Provided that justified time for extra work shall be calculated on pro-rata basis as cost of extra Work X stipulated period/tendered value. The amount of bonus, if payable, shall be paid along with final bill after completion of work. Provided always that provision of the clause 2A shall be applicable only when so provided in Schedule F.</p> <p>Bonus under this clause shall be applicable only if all the works covered under contract included required extra works are completed in all respect without any minor defect/pending /punch points etc and completion report has been submitted by contractor to Chief Engineer, concerned warehouse manager and CWC Regional Manager digitally within 2 days of completion of work. Bonus under this clause shall not be applicable if extension of contract takes place for any reason attributable to department or contractor or third party whatsoever, and in all such cases no incentive will be paid.</p>
	CLAUSE 3
When Contract can be Determined	<p>3.1 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 (Appendix G- XX & XXI) in writing absolutely determine the contract in any of the following cases :</p> <p>(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.</p> <p>(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.</p> <p>(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.</p> <p>(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 & conditions of the contract and does not remedy it or take</p>

	<p>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.</p> <p>(v) If the contractor shall offer or give or agree to give to any person in Corporation 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 Corporation.</p> <p>(vi) If the contractor shall enter into a contract with Corporation 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.</p> <p>(vii) If the contractor had secured the contract with Corporation as a result of wrong tendering or other non-bonafide methods of competitive tendering or commits breach of Integrity Agreement.</p> <p>(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.</p> <p>(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.</p> <p>(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.</p> <p>(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.</p> <p>3.2 When the contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in-Charge on behalf of the Corporation shall have powers (Annex-X):</p> <p>(a) To determine the contract as aforesaid so far as performance of work by the Contractor is concerned (of which determination notice in writing to the contractor under the hand of the Engineer-in-Charge shall be conclusive evidence). Upon such determination, the Earnest Money Deposit, Security Deposit already recovered, Security Deposit</p>
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	<p>payable and Performance Guarantee under the contract shall be liable to be forfeited and shall be absolutely at the disposal of the Central Warehousing Corporation</p> <p>(b) 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 determined 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.</p> <p>3.3 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.</p> <p>3.4 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.</p>
	CLAUSE 3A
	<p>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. In such eventuality, the Performance Guarantee of the contractor shall be refunded within following time limits:</p> <p>(i) If the Tended value of work is upto Rs. 1 crore : 15 days</p> <p>(ii) If the Tended value of work is more than Rs. 1 crore and upto Rs. 10 crore : 21 days</p> <p>(iii) If the Tended value of work exceeds Rs. 10 crore : 30 days</p> <p>➤ Neither party shall claim any compensation for such eventuality.</p> <p>➤ This Clause is not applicable for any breach of the contract by either Party.</p>
	CLAUSE 4
<p>Contractor Liable to Pay Compensation even if Action not taken under Clause 3</p>	<p>In any case in which any of the powers conferred upon the Engineer-in-Charge by Clause 3 thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor and the liability of the contractor for compensation shall remain unaffected.</p> <p>In the event of the Engineer-in-Charge putting in force all or any of the powers vested in him under the preceding Clause he may, if he so desires after giving a notice in writing to the contractor, take possession of (or at the sole discretion of the Engineer-in-Charge which shall be final and</p>

	<p>binding on the contractor) use as on hire (the amount of the hire money being also in the final determination of the Engineer-in-Charge) all or any tools, plant, materials and stores, in or upon the works, or the site thereof belonging to the contractor, or procured by the contractor and intended to be used for the execution of the work/or any part thereof, paying or allowing for the same in account at the contract rates, or, in the case of these not being applicable, at current market rates to be certified by the Engineer-in-Charge, whose certificate thereof shall be final, and binding on the contractor, clerk of the works, foreman or other authorized agent to remove such tools, plant, materials or stores from the premises (within a time to be specified in such notice). In the event of the contractor failing to comply with any such requisition, the Engineer-in-Charge may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and his risk in all respects and the certificate of the Engineer-in-Charge as to the expenses of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the contractor.</p>
	<p>CLAUSE 5</p>
<p>Time and Extension for Delay</p>	<p>The time allowed for execution of the Works as specified in the Schedule 'F' 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 Schedule 'F' or from the date of handing over of the site, notified by the Engineer-in-Charge, whichever is later.</p> <p>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 Corporation without prejudice to any other right or remedy available in law.</p> <p>5.1 As soon as possible, but within 7 (seven) working days of award of work and in consideration of –</p> <ul style="list-style-type: none"> (a) Schedule of handing over of site, as specified in the Schedule 'F' (b) Schedule of issue of designs, as specified in the Schedule 'F' (i) The Contractor shall submit a Time and Progress Chart for each milestone. 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. <p>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 Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of work and may be amended as necessary by agreement between the Engineer-in-Charge and the Contractor within the limitations of time imposed in the Contract documents.</p>

- (ii) 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.
- (iii) The approval by the Engineer-in-Charge of such programme shall not relieve the contractor of any of the obligations under the contract.
- (iv) The contractor shall submit the Time & Progress Chart and Progress Report using the mutually agreed software or in other format decided by Engineer-in-Charge for the work done during previous month to the Engineer-in-charge on or before 5th day of each month, failing which a recovery as per Schedule 'F' to be decided by the NIT approving authority, shall be made on per week or part basis in case of delay in submission of the monthly progress report.

5.2 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), if any for events listed in Sub-Clause 5.2.

5.3 In case, the work is hindered by the Department or for any reasons / event, for which the Department is responsible, the authority as indicated in Schedule 'F' shall, if justified, give a fair and reasonable extension of time and reschedule the milestones for completion of work.

Such extension of time or rescheduling of milestone/s shall be without prejudice to any other right or remedy of the parties in contract or in law; provided further that for concurrent delays under this Sub-Clause and Sub-Clause 5.2 to the extent the delay is covered under Sub-Clause 5.2, the contractor shall be entitled to only extension of time and no damages.

5.4 Request for rescheduling of milestones or extension of time, to be eligible for consideration, shall be made by the Contractor in writing within fourteen days of the happening of the event causing delay on the prescribed forms, i.e. Form of application by the contractor for seeking rescheduling of milestones or Form of application by the contractor for seeking extension of time (**Appendix-G-XVII**) respectively to the authority, as indicated in Schedule 'F'. Contractor

	<p>shall indicate in such a request period by which rescheduling of milestone/s or extension of time is desired.</p> <p>With every request for rescheduling of milestones, or if at any time the actual progress of work falls behind the approved programme by more than 10% of the stipulated period of completion of contract, the contractor shall produce a revised programme which shall include all details of pending drawings and decisions required to complete the contract and also the target dates by which these details should be available without causing any delay in execution of the work. A recovery, as specified in Schedule 'F' shall be made on per day basis in case of delay in submission of the revised programme.</p> <p>5.4.1 In any such case, the authority as indicated in Schedule 'F' may give a fair and reasonable extension of time for completion of work or reschedule the milestones (Appendix-G-XVIII). Engineer-in-Charge shall finalize/reschedule a particular milestone before taking an action against subsequent mile stone. Such extension or rescheduling of the milestones shall be communicated to the Contractor by the authority, as indicated in Schedule 'F' in writing, within 21 days of the date of receipt of such request from the Contractor in prescribed form. In event of non-application by the contractor for extension of time Engineer-in-Charge, after affording opportunity to the contractor, may give, supported with a programme (as specified under Clause 5.4 above), a fair and reasonable extension within a reasonable period of occurrence of the event.</p> <p>5.5 In case, the work is delayed by any reasons, in the opinion of the Engineer-in-Charge, by the contractor for reasons beyond the events mentioned in Clause 5.2 or Clause 5.3 or Clause 5.4 and beyond the justified extended date; without prejudice to right to take action under Clause 3, the Engineer-in-Charge may grant extension of time required for completion of work without rescheduling of milestones. The contractor shall be liable for levy of compensation for delay for such extension of time.</p>
	CLAUSE 6
Measurements of Work Done	<p>Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement, the value of work done in accordance with the contract.</p> <p>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.</p> <p>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</p>

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 MBs for the purpose of reference and record by the various officers of the department.

The contractor shall also submit to the department separately his computerized Abstract of Cost and the bill based on these measurements, duly bound, and its pages machine numbered alongwith two spare copies of the "Bill". Thereafter, this bill will be processed by the Division Office and allotted a number as per the computerized record in the same way as done for the measurement book meant for measurements.

The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for checking of measurements/levels by the Engineer-in-Charge or his representative.

Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of Measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available, then a mutually agreed method shall be followed.

The contractor shall give, not less than seven days' notice to the Engineer-in-Charge or his authorized representative in charge of the work, before covering up or otherwise placing beyond the reach of checking and/or test checking the measurement of any work in order that the same may be checked and/or test checked and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of checking and/or test checking measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-Charge or his authorized representative in charge of the work who shall, within the aforesaid period of seven days, inspect the work, and if any work shall be covered up or placed beyond the reach of checking

	<p>and/or test checking measurements without such notice having been given or the Engineer-in-Charge's consent being obtained in writing, the same shall be uncovered at the Contractor's expense, or in default thereof, no payment or allowance shall be made for such work or the materials with which the same was executed.</p> <p>Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the department to check the measurements recorded by contractor and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.</p> <p>It is also a term of this contract that checking and/or test checking the measurements of any item of work in the Measurement Book and/or its payment in the interim, on account of final bill, shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.</p>
	CLAUSE 7
<p>Payment on Intermediate Certificate to be Regarded as Advances</p>	<p>No payment shall be made for work, estimated to cost Rs. Two lac or less till after the whole of the work shall have been completed and certificate of completion given. For works estimated to cost over Rs. Two lac, the 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 Department 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 Schedule 'F', in which case the interim bill shall be prepared on the appointed date of the month after the requisite progress is achieved.</p> <p>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. Payment on account of amount admissible shall be made by the Engineer-in-Charge certifying the sum to which the contractor is considered entitled by way of interim payment at such rates as decided by the Engineer-in-Charge. The amount admissible shall be paid by 10th working day after the day of presentation of the bill by the Contractor to the Engineer-in-Charge or his Authorised Engineer together with the account of the material issued by the department, or dismantled materials, if any. In case of works outside the headquarters of the Engineer-in-Charge, the period of ten working days will be extended to fifteen working days.</p> <p>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</p>

	<p>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 anyway 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.</p> <p>Pending consideration of extension of date of completion, interim payments shall continue to be made as herein provided without prejudice to the right of the department to take action under the terms of this contract for delay in the completion of work, if the extension of date of completion is not granted by the competent authority.</p> <p>The Engineer-in-Charge in his sole discretion on the basis of a certificate from the Assistant Engineer / Executive Engineer to the effect that the work has been completed upto the level in question make interim advance payments without detailed measurements for work done (other than foundations, items to be covered under finishing items) upto lintel level (including sunshade etc.) and slab level, for each floor working out at 75% of the assessed value. The advance payments so allowed shall be adjusted in the subsequent interim bill to be submitted by the contractor within 10 days of the interim payment. In case of delay in submission of bill by the contractor, a simple interest @ 10% per annum shall be paid to the Corporation from the date of expiry of prescribed time limit which will be compounded on yearly basis.</p>
Payment in Composite Contracts	<p>In case of composite tenders, running payment for the major component shall be made by EE of major discipline to the main contractor. Running payment for minor component shall be made by the Engineer-in-Charge of the discipline of minor component directly to the main contractor.</p> <p>In case main contractor fails to make the payment to the contractor associated by him within 15 days of receipt of each running account payment, then on the written complaint of contractor associated for such minor component, Engineer in charge of minor component shall serve the show cause to the main contractor and if reply of main contractor either not received or found unsatisfactory, he may make the payment directly to the contractor associated for minor component as per the terms and conditions of the agreement drawn between main contractor and associate contractor fixed by him. Such payment made to the associate contractor shall be recovered by Engineer-in-charge of major or minor component from the next R/A/ final bill due to main contractor as the case may be.</p>
	CLAUSE 7A
	No Running Account Bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable are submitted by the contractor to the Engineer-in-Charge.
	CLAUSE 8
Completion Certificate and Completion Plans	<p>Within ten days of the completion of the work, the contractor shall give notice of 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</p>

	<p>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.</p> <p>But 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.</p> <p>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.</p>
	CLAUSE 8A
<p>Completion Plans to be Submitted by the Contractor</p>	<p>The contractor shall submit completion plans for Internal and External Civil, Electrical and Mechanical Services, within thirty days of the completion of the work, provided that the service plans having been issued for execution by the Engineer-in-Charge, unless the contractor, by virtue of any other provision in the contract, is required to prepare such plans.</p> <p>In case, the contractor fails to submit the completion plan, as aforesaid, he shall be liable to pay a sum of 0.1% (zero-point one percent) of accepted Tendered Value or limit prescribed in Schedule 'F', whichever is more as may be fixed by the authority as mentioned in Schedule 'F' and in this respect the decision of that authority shall be final and binding on the contractor. GST as applicable under law shall be in addition to the above amount.</p>
	CLAUSE 9
<p>Payment of Final Bill</p>	<p>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. Final bill beyond above mentioned period, may be considered by department, in exceptional circumstances on request of contractor. 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.</p> <p>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 the period specified herein under, the period being reckoned from the date of receipt of the bill by the Engineer-in-Charge or his authorized Assistant Engineer/ Executive</p>

	<p>Engineer, complete with account of materials issued by the Department and dismantled materials.</p> <p>(i) If the tendered value of work is upto Rs. 1 crore : 2 months</p> <p>(ii) If the tendered value of work is more than Rs. 1 crore and up to Rs. 10 crore : 3 months</p> <p>(iii) If the tendered value of work exceeds Rs. 10 crore : 6 months</p>
	CLAUSE 9A
Payment of Contractor's Bills to Banks	<p>Payments due to the contractor may, if so desired by him, be made to his bank, registered financial, co-operative or thrift societies or recognized financial institutions instead of direct to him provided that the contractor furnishes to the Engineer-in-Charge –</p> <p>(1) an authorization in the form of a legally valid document such as a power of attorney conferring authority on the bank; registered financial, co-operative or thrift societies or recognized financial institutions to receive payments and</p> <p>(2) his own acceptance of the correctness of the amount made out as being due to him by Corporation or his signature on the bill or other claim preferred against Corporation before settlement by the Engineer-in-Charge of the account or claim by payment to the bank, registered financial, co-operative or thrift societies or recognized financial institutions.</p> <p>While the receipt given by such banks; registered financial, co-operative or thrift societies or recognized financial institutions shall constitute a full and sufficient discharge for the payment, the contractor shall whenever possible present his bills duly receipted and discharged through his bank, registered financial, co-operative or thrift societies or recognized financial institutions.</p> <p>Nothing herein contained shall operate to create in favour of the bank; registered financial, co-operative or thrift societies or recognized financial institutions any rights or equities vis-a-vis the Corporation.</p>
	CLAUSE 10A
Materials to be provided by the Contractor	<p>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 Corporation.</p> <p>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.</p> <p>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</p>

	<p>accordance with specifications, approval of the Engineer-in-Charge shall be issued after the test results are received.</p> <p>The Contractor shall at his risk & cost submit the samples of materials to be tested or analysed 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.</p> <p>The contractor shall, at his risk & 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.</p> <p>The Engineer-in-Charge shall have full powers to require the removal from the premises of all materials which in his opinion are not in accordance with the specifications and in case of default, the Engineer-in-Charge shall be at liberty to employ at the expense of the contractor, other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials. The Engineer-in-Charge shall also have full powers to require other proper materials to be substituted thereof and in case of default, the Engineer-in-Charge may cause the same to be supplied and all costs which may attend such removal and substitution shall be borne by the Contractor.</p> <p>The contractor shall at his own expense, provide a material testing lab. at the site for conducting routine field tests. The lab. shall be equipped at least with the testing equipment, as specified in Schedule 'F'.</p>
	CLAUSE 10B
Secured Advance on Materials	<p>(i) The contractor, on signing an indenture in the form to be specified by the Engineer-in-Charge, shall be entitled to be paid during the progress of the execution of the work upto 75% of the assessed value of any materials or an amount not exceeding 75% of the material element cost in the tendered rate of the finished item of the work, whichever is lower, which are, in the opinion of the Engineer-in-Charge, non-perishable, non-fragile and non-combustible and are in accordance with the contract and which have been brought on the site in connection therewith and are adequately stored and/or protected against damage by weather or other causes, but which havenot at the time of advance been incorporated in the works. When materials on account of which an advance has been made under thisSub-Clause are incorporated in the work, the amount of such advanceshall be recovered / deducted from the next payment made under anyof the Clause or Clauses of this contract.</p>

	Such secured advance shall also be payable on other items of perishable nature, fragile and combustible with the approval of the Engineer-in-Charge provided contractor provides a comprehensive insurance cover for the full cost of such materials. Decision of the Engineer-in-Charge shall be final and binding on the contractor in this matter. No secured advance, shall however, be paid on high-risk materials such as ordinary glass, sand, petrol, diesel etc.
	Clause 10B(ii) - Mobilisation Advance; Clause 10B(iii) - Interest & Recovery; Clause 10B(iv) ; Clause 10C - Payment on Account of Increase in Prices/Wages due to Statutory Order(s); Clause 10CA - Payment due to Variation in Prices of materials after Receipt of Tender and Clause 10CC - Payment due to Increase/Decrease in Prices/Wages (excluding materials covered under Clause 10CA) after Receipt of Tender for Works are DELETED
	CLAUSE 10D
Dismantled Material Govt. Property	The contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work etc. as Corporation's property and such materials shall be disposed off to the best advantage of Corporation according to the instructions in writing issued by the Engineer-in-Charge.
	CLAUSE 11
Work to be Executed in Accordance with Specifications, Drawings, Orders etc.	<p>The contractor shall execute the whole and every part of the work in the most substantial and workman like 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 and the contractor shall be furnished free of charge one copy of the contract documents together with specifications, designs, drawings and instructions, as are not included in the standard specifications of Central Public Works Department, specified in Schedule 'F' or in any Bureau of Indian Standard or any other, published standard or code or Schedule of Rates or any other printed publication referred to elsewhere in the contract.</p> <p>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.</p>
	CLAUSE 12
Deviations/ Variations Extent and Pricing	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

	<p>may appear to him to be necessary or advisable during the progress of the work, and</p> <p>(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.</p>
12.1	<p>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 :</p> <p>(i) In the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value plus</p> <p>(ii) 25% of the time calculated in (i) above or such further additional time, as may be considered reasonable by the Engineer-in-Charge</p>
12.2	A. In 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 specifications for the work, failing which the rate approved later by the Engineer-in-charge shall be binding and the Engineer-in-charge shall within a reasonable 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 as defined in clause 15 of special condition of Contract and the contractor shall be paid in accordance with the rates so determined.
Deviation, Extra Items and Pricing	
Deviation, Substituted Items and Pricing	B. refer: Clause 15 of Special Condition of Contract
Deviation, Deviated Quantities and Pricing	<p>C. Powers of Modification to Contract:</p> <p>The Engineer on behalf of the Corporation shall be entitled by order in writing to enlarge or extend, diminish or reduce the works or make any alterations in their design, character position, site, quantities, dimensions or in the method of their execution or in the combination and use of materials for the execution thereof or to order any additional work to be done or any works not to be done and the Contractor will not be entitled, to any compensation for any increase/reduction in the quantities of work but will be paid only for the actual amount of work done and for approved materials supplied against a specific order.</p> <p>(i) Unless otherwise specified in the special conditions of the contract, the accepted variation in quantity of items of the contract would be up to +25% of the quantity originally contracted i.e the Contract rates</p>

	<p>shall remain firm till the value of contract changes as mentioned in (iv) below.</p> <p>(ii) The Contractor shall be bound to carry out the work at the agreed rates and shall not be entitled to any claim or any compensation whatsoever up to the limit of -100% variation in quantity of items of works i.e there will be no claim or compensation in case the quantity of items of works are reduced or becomes '0' zero.</p> <p>(iii) In case an increase in quantities by more than 25% of the agreement quantities is considered unavoidable, then same shall be executed at following rates -</p> <p>(a) Quantities operated in excess of 125% but upto 140% of the agreement quantities, shall be paid at 98% of the rate awarded for the items in that particular tender;</p> <p>(b) Quantities operated in excess of 140% but upto 150% of the agreement quantities, shall be paid at 96% of the rate awarded for the items in that particular tender;</p> <p>(c) Variation in quantities of items beyond 150% will be avoided and would be permitted only in exceptional unavoidable circumstances and shall be paid at 96% of the rate awarded for the items in that particular tender.</p> <p>(iv) As far as DSR items are concerned, the limit of +25% would apply to the value of DSR schedule as a whole and not on individual DSR items. i.e when there is an excess in total value of all Contract items scheduled in DSR (as mentioned in Schedule F) by 25 % or more, the limits on individual items as mentioned on (iii) a, (b), (c) shall be applicable and contract rates shall be modified accordingly. However, in case of Market rate Items, the limit of 25% would apply on the individual items irrespective of the manner of quoting the rate (single percentage rate or individual item rate) and rates of such items in contract shall be modified irrespective of change in overall value of contract.</p>
<p>12.3</p>	<p>The provisions of the preceding paragraph shall also apply to the decrease in the rates of items for the work in excess of the limits laid down in Schedule 'F' and the Engineer in Charge shall, after giving notice to the contractor within one month of occurrence of the excess and after taking into consideration any reply received from him within fifteen days of the receipt of the notice, revise the rates for the work in question within one month of the expiry of the said period of fifteen days having regard to the market rates. (Not applicable)</p>
<p>12.4</p>	<p>For the purpose of operation of Schedule 'F', the following works shall be treated as works relating to foundation, unless & otherwise defined in the contract:</p> <p>(i) For Buildings: All works upto 1.2 metres above ground level or upto floor 1 level, whichever is lower</p> <p>(ii) For Abutments, Piers and Well Staining: All works upto 1.2 m above the bed level</p>

	<p>(iii) For Retaining Walls, Wing Walls, Compound Walls, Chimneys, Overhead Reservoirs/Tanks and other elevated structures: All works upto 1.2 metres above the ground level</p> <p>(iv) For Reservoirs/Tanks (other than overhead reservoirs/tanks): All works upto 1.2 metres above the ground level</p> <p>(v) For Basement: All works upto 1.2 m above ground level or upto floor 1 level, whichever is lower</p> <p>(vi) For Roads: All items of excavation and filling including treatment of sub-base</p>
12.5	Any operation incidental to or necessarily has to be in contemplation of tenderer while quoting tender or necessary for proper execution of the item included in the Schedule of Quantities or in the Schedule of Rates mentioned above, whether or not, specifically indicated in the Description of the Item and the relevant Specifications, shall be deemed to be included in the rates quoted by the tenderer or the rate given in the said Schedule of Rates, as the case may be. Nothing extra shall be admissible for such operations.
	CLAUSE 13
Foreclosure of Contract due to Abandonment or Reduction in Scope of Work	<p>If at any time after acceptance of the tender or during the progress of work, the purpose or object for which the work is being done changes due to any supervening cause and as a result of which the work has to be abandoned or reduced in scope, the Engineer-in-Charge shall give notice in writing to that effect to the contractor stating the decision as well as the cause for such decision and the contractor shall act accordingly in the matter. The contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the works in full, but which he did not derive in consequence of the foreclosure of the whole or part of the works.</p> <p>The contractor shall be paid at contract rates, full amount for works executed at site and in addition, a reasonable amount as certified by the Engineer-in-Charge for the items hereunder mentioned which could not be utilized on the work to the full extent in view of the foreclosure :</p> <p>(i) Any expenditure incurred on preliminary site work, e.g. temporary access roads, temporary labour huts, staff quarters and site office; storage accommodation and water storage tanks.</p> <p>(ii) Corporation shall have the option to take over contractor's materials or any part thereof either brought to site or of which the contractor is legally bound to accept delivery from suppliers (for incorporation in or incidental to the work) provided, however Corporation shall be bound to take over the materials or such portions thereof as the contractor does not desire to retain. For materials taken over or to be taken over by Corporation, cost of such materials as detailed by Engineer-in-Charge shall be paid. The cost shall, however, take into account purchase price, cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the contractor.</p> <p>(iii) Reasonable compensation for transfer of T&P from site to contractor's permanent stores or to his other works, whichever is</p>

	<p>less. If T&P are not transported to either of the said places, no cost of transportation shall be payable.</p> <p>(iv) Reasonable compensation for repatriation of contractor's site staff and imported labour to the extent necessary.</p> <p>The contractor shall, if required by the Engineer-in-Charge, furnish to him, books of account, wage books, time sheets and other relevant documents and evidence, as may be necessary to enable him to certify the reasonable amount payable under this condition.</p> <p>The reasonable amount of items on (i), (iii) and (iv) above shall not be in excess of 2% of the cost of the work remaining incomplete on the date of closure, i.e. total stipulated cost of the work as per accepted tender less the cost of work actually executed under the contract and less the cost of contractor's materials at site taken over by the Corporation as per item (ii) above.</p> <p>Provided always that against any payments due to the contractor on this account or otherwise, the Engineer-in-Charge shall be entitled to recover or be credited with any outstanding balances due from the contractor for advance paid in respect of any tool, plants and materials and any other sums which at the date of termination were recoverable by the Corporation from the contractor under the terms of the contract.</p> <p>In the event of action being taken under Clause 13 to reduce the scope of work, the contractor may furnish fresh Performance Guarantee on the same conditions, in the same manner and at the same rate for the balance tendered amount and initially valid up to the extended date of completion or stipulated date of completion, if no extension has been granted plus 60 days beyond that. Wherever such a fresh Performance Guarantee is furnished by the contractor, the Engineer-in-Charge may return the previous Performance Guarantee.</p>
	CLAUSE 14
<p>Carrying out Part Work at Risk & Cost of Contractor</p>	<p>A. (i) If the Contractor:</p> <ul style="list-style-type: none"> (a) 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 days in this respect from the Engineer-in-Charge; or (b) Commits default in complying with any of the terms & conditions of the contract and does not remedy it or takes effective steps to remedy it within 7 days even after a notice in writing is given in that behalf by the Engineer-in-Charge; or (c) 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, <p>(ii) The Engineer-in-Charge without invoking action under Clause 3 may, without prejudice to another right or remedy against the contractor which have either accrued or accrue thereafter to Corporation, 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 :</p>

	<p>(a) Take possession of the site and any materials, constructional plant, implements, stores, etc. thereon; and/or</p> <p>(b) Carry out the part work / part incomplete work of any item(s) by any means at the risk & cost of the contractor.</p> <p>(iii) 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 & cost of the contractor, the liability of contractor on account of loss or damage suffered by Corporation because of action under this Clause shall not exceed 10% of the tendered value of the work.</p> <p>(iv) In determining the amount, credit shall be given to the contractor with the value of work done in all respect in the same manner and at the same rate as if it had been carried out by the original contractor under the terms of his contract, the value of contractor's materials taken over and incorporated in the work and use of plant & machinery belonging to the contractor.</p> <p>(v) The certificate of the Engineer-in-Charge as to the value of work done shall be final and conclusive against the contractor, provided always that action under this Clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by the department are less than the amount payable to the contractor at his agreement rates, the difference shall not be payable to the contractor.</p> <p>(vi) Any excess expenditure incurred or to be incurred by Corporation in completing the part work / part incomplete work of any item(s) or the excess loss of damages suffered or may be suffered by Corporation as aforesaid after allowing such credit shall, without prejudice to another right or remedy available to Corporation in law or per as agreement, be recovered from any money due to the contractor on any account, and if such money is insufficient, the contractor shall be called upon in writing and shall be liable to pay the same within 30 days.</p> <p>(vii) If the contractor fails to pay the required sum within the aforesaid period of 30 days, the Engineer-in-Charge shall have the right to sell any or all of the contractors' unused materials, constructional plant, implements, temporary building at site etc. and adjust the proceeds of sale thereof towards the dues recoverable from the contractor under the contract and if thereafter, there remains any balance outstanding, it shall be recovered in accordance with the provisions of the contract.</p> <p>(viii) In the event of above course being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advance on any account or with a view to the execution of the work or the performance of the contract.</p> <p>B. (i) At the final stage of completion and commissioning of work, in case the contractor's failure is limited to only some of the works costing not more than 2% of the original contract value, and the Contractor request the engineer that such works may be offloaded from him and got executed through another agency and additional cost incurred, if any, should be recovered from his dues; the Engineer</p>
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	<p>on being convinced that the anticipated additional cost for such works will not be substantial and can be recovered from the dues of the contractor and that such offloading will help in completion and commissioning of work, may agree to such offloading without any adverse repercussion on the performance guarantee and security deposit of the Contractor. However, the Engineer will not be under any compulsion to agree to such a request.</p> <p>(ii) Further, before issuing letter of acceptance to another agency for such work, the Contractor shall be informed of the rates at which the work will be got executed and the Contractor should give his consent to do so and certify that he would have no future claim on this account and that the extra expenditure so incurred, if any, by the Engineer in getting the offloaded work done, shall be recovered from subsequent Bills or any other dues of the Contractor. In case the Contractor fails to give such consent within three working days, the Engineer may treat the same as not acceptable to Contractor and proceed accordingly.</p> <p>(iii) In any case, CWC shall deduct 10% of cost of such work or Rs. one lakh whichever is lower, from the Contractor's dues as administrative charges for the process of finalizing new agency for such work irrespective of whether or not such work is finally offloaded from Contractor or not.</p>
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CLAUSE 15	
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<p>Suspension of Work</p>	<p>(i) 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 :</p> <ul style="list-style-type: none"> (a) on account of any default on the part of the contractor or; (b) for proper execution of the works or part thereof for reasons other than the default of the contractor; or (c) for safety of the works or part thereof. <p>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.</p> <p>(ii) If the suspension is ordered for reasons (b) and (c) in sub-para (i) above :</p> <ul style="list-style-type: none"> (a) 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; (b) 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
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	<p>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.</p> <p>(iii) If the works or part thereof is suspended on the orders of the Engineer-in-Charge for more than three months at a time, except when suspension is ordered for reason (a) in sub-para (i) above, the contractor may, after receipt of such order, serve a written notice on the Engineer-in-Charge requiring permission within fifteen days from receipt by the Engineer-in-Charge of the said notice, to proceed with the work or part thereof in regard to which progress has been suspended and if such permission is not granted within that time, the contractor, if he intends to treat the suspension, where it affects only a part of the works as an omission of such part by Corporation or where it affects whole of the works, as an abandonment of the works by Corporation, shall within ten days of expiry of such period of 15 days give notice in writing of his intention to the Engineer-in-Charge.</p> <p>In the event of the contractor treating the suspension as an abandonment of the contract by Corporation, he shall have no claim to payment of any compensation on account of any profit or advantage which he might have derived from the execution of the work in full, but which he could not derive in consequence of the abandonment. He shall, however, be entitled to such compensation, as the Engineer-in-Charge may consider reasonable, in respect of salaries and/or wages paid by him to his employees and labour at site, remaining idle in consequence adding to the total thereof 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within 30 days of the expiry of the period of 3 months.</p>
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CLAUSE 16	
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<p>Action in case Work not done as per Specifications</p>	<p>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, officer of the Quality Assurance Unit of the Department or any organization engaged by the Department 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. 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.</p> <p>If it shall appear to the Engineer-in-charge or his authorized subordinates -in-charge of the worker to the Chief Engineer-in-charge of Quality Assurance or his subordinate officers or the officers of the organization engaged by the Department 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</p>
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	<p>contract, the contractor shall, on demand in writing which shall be made within twelve months (six months in the case of work costing Rs. 10 Lac and below except roadwork) 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. In the event of the failing to do so within a period specified by the Engineer-in-Charge in his demand aforesaid, then the contractor shall be liable to pay compensation at the same rate as under Clause 2 of the contract (for non-completion of the work in time) for this default.</p> <p>In such case, the Engineer-in-Charge may not accept the item of work at the rates applicable under the contract, but may accept such items at reduced rates as the authority specified in Schedule 'F' may consider reasonable during the preparation of on account bills or final bill, if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work outright without any payment and/or get it and other connected and incidental items rectified, or removed and re-executed at the risk & cost of the contractor. Decision of the Engineer-in-Charge to be conveyed in writing in respect of the same will be final and binding on the contractor.</p>
	CLAUSE 17
<p>Contractor Liable for Damages, Defects during Defect Liability Period</p>	<p>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 stipulated maintenance period , as specified in Special conditions of Contract. 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.</p> <p>The Security Deposit of the contractor shall not be refunded before the expiry of stipulated maintenance period as per Special condition of Contract, 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. Provided that in the case of Road, CC Floor and Metal roofing sheets work when executed along with other Building works , if in the opinion of the Engineer-in-Charge, the Security Deposit , calculated proportionately for value of these road/CC floor/Metal roof Sheet works with respect to Gross is sufficient, to meet all liabilities of the contractor under this contract, such amount against Security Deposit will be retained and</p>

	<p>balance will be refunded after expiry of maintenance period as per Special conditions of Contract or upon the issue of the said certificate of completion or till the final bill has been prepared and passed, whichever is later.</p> <p>In case of Maintenance and Operation works of E&M services, the Security Deposit deducted from contractors shall be refunded within one month from the date of final payment or within one month from the date of completion of the maintenance contract, whichever is earlier.</p>
	CLAUSE 18
Contractor to Supply Tools & Plants etc.	<p>The contractor shall provide at his own cost all materials (except such special materials, if any, as may in accordance with the contract be supplied from the Engineer-in-Charge's stores), machinery, tools & plants as specified in Schedule 'F'.</p> <p>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.</p> <p>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.</p>
	CLAUSE 18A
Recovery of Compensation paid to Workmen	<p>In every case in which by virtue of the provisions sub-section (1) of Section 12, of the Workmen's Compensation Act, 1923, the Corporation is obliged to pay compensation to workman employed by the contractor, in execution of the works, Corporation will recover from the contractor, the amount of the compensation so paid; and, without prejudice to the rights of the Corporation under sub-section (2) of Section 12 of the said Act, the Corporation 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 the Corporation to the contractor whether under this contract or otherwise.</p> <p>The Corporation 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 Corporation full security for all costs for which the Corporation might become liable in consequence of contesting such claim.</p>
	CLAUSE 18B

<p>Ensuring Payment and Amenities to Workers, if Contractor Fails</p>	<p>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, the Corporation 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 CPWD's Contractor's Labour Regulations or under the Rules framed by Govt. from time to time for the protection of health and sanitary arrangements for workers employed by Central Warehousing Corporation's Contractors; the Corporation 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 Corporation under sub-section (2) of Section 20, and sub-section (4) of Section 21, of the Contract Labour (Regulation and Abolition) Act, 1970; Corporation 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 Corporation to the contractor whether under this contract or otherwise.</p> <p>Corporation shall not be bound to contest any claim made against it under sub-section (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 Corporation full security for all costs for which Corporation might become liable in contesting such claim.</p>
	<p>CLAUSE 19</p>
<p>Labour Laws to be Complied by the Contractor</p>	<p>The contractor shall obtain a valid licence 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.</p> <p>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.</p> <p>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.</p> <p>Any failure to fulfil these requirements shall attract the penal provisions of this contract arising out of the resultant non-execution of the work.</p>
	<p>CLAUSE 19A</p>
	<p>No labour below the age of fourteen years shall be employed on the work.</p>
	<p>CLAUSE 19B</p>
<p>Payment of Wages</p>	<p>Payment of Wages:</p> <p>(i) The contractor shall pay to labour employed by him either directly or through sub-contractors, wages not less than fair wages as defined in the CPWD's Contractor's Labour Regulations or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.</p>

	<p>(ii) The contractor shall, notwithstanding the provisions of any contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by his sub-contractors in connection with the said work, as if the labour had been immediately employed by him.</p> <p>(iii) In respect of all labour directly or indirectly employed in the works for performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with the CPWD's Contractor's Labour Regulations made by Govt. from time to time in regard to payment of wages, wage period, deductions from wages recovery of wages not paid and deductions unauthorisedly made, maintenance of wage books or wage slips, publication of scale of wage and other terms of employment, inspection and submission of periodical returns and all other matters of the like nature or as per the provisions of the Contract Labour (Regulation & Abolition) Act, 1970, and Contract Labour (Regulation & Abolition) Central Rules, 1971, wherever applicable.</p> <p>(iv) (a) The Engineer-in-Charge concerned shall have the right to deduct from the money due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfilment of the conditions of the contract for the benefit of workers, non-payment of wages or of deductions made from his or their wages which are not justified by their terms of the contract or non-observance of the Regulations.</p> <p>(b) Under the provision of Minimum Wages (Central) Rules, 1950, the contractor is bound to allow to the labours directly or indirectly employed in the works one-day rest for 6 days' continuous work and pay wages at the same rate as for duty. In the event of default, the Engineer-in-Charge shall have the right to deduct the sum or sums not paid on account of wages for weekly holidays to any labours and pay the same to the persons entitled thereto from any money due to the contractor by the Engineer-in-Charge concerned.</p> <p>In the case of Union Territory of Delhi, however, as the all-inclusive minimum daily wages fixed under Notification of the Delhi Admin. no. F.12(162) MWO/DAB/43884-91, dated 31.12.1979 as amended from time to time are inclusive of wages for the weekly day of rest, the question of extra payment for weekly holiday would not arise.</p> <p>(v) The contractor shall comply with the provisions of the Payment of Wages Act 1936, Minimum Wages Act 1948, Employees Liability Act 1938, Workmen's Compensation Act 1923, Industrial Disputes Act 1947, Maternity Benefits Act, 1961 and the Contractor's Labour (Regulation & Abolition) Act 1970 or the modifications thereof or any other laws relating thereto and the rules made thereunder from time to time.</p> <p>(vi) The contractor shall indemnify and keep indemnified Corporation against payments to be made under and for the observance of the laws aforesaid and the CPWD's Contractor's Labour Regulations without prejudice to his right to claim indemnity from his sub-contractors.</p> <p>(vii) The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.</p>
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	<p>(viii) Whatever is the minimum wage for the time being, or if the wage payable is higher than such wage, such wage shall be paid by the contractor to the workmen directly without the intervention of Jamadar and that Jamadar shall not be entitled to deduct or recover any amount from the minimum wage payable to the workmen as and by way of commission or otherwise.</p> <p>(ix) The contractor shall ensure that no amount by way of commission or otherwise is deducted or recovered by the Jamadar from the wage of workmen.</p>
	CLAUSE 19C
Safety Provisions	In respect of all labour directly or indirectly employed in the work for the performance of the contractor's part of this contract, the contractor shall at his own expense arrange for the safety provisions as per CPWD's Safety Code (Appendix-G-XVI), framed from time to time and shall at his own expense provide for all facilities in connection therewith. In case the contractor fails to make arrangement and provide necessary facilities as aforesaid, he shall be liable to pay a penalty as decided by the authority mentioned in Schedule 'F' for each default and in addition, the Engineer-in-Charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs incurred in that behalf from the contractor.
	CLAUSE 19D
Submission of Statements	<p>The contractor shall submit by the 4th and 19th of every month, to the Engineer-in-Charge, a true statement showing in respect of second half of the preceding month and the first half of the current month respectively :</p> <p>(i) the number of labourers employed by him on the work</p> <p>(ii) their working hours</p> <p>(iii) the wages paid to them</p> <p>(iv) the accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them</p> <p>(v) the number of female workers who have been allowed maternity benefit according to Clause 19F and the amount paid to them</p> <p>Failing which the contractor shall be liable to pay to Corporation, a sum as decided by the authority mentioned in Schedule 'F' for each default or materially incorrect statement. Decision of the Engineer-in-Charge shall be final in deducting from any bill due to the contractor, the amount levied as fine and be binding on the contractor.</p>
	CLAUSE 19E
Health and Sanitary Arrangements	In respect of all labour directly or indirectly employed in the works for the performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with all the rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by the CPWD and its contractors.
	CLAUSE 19F
Maternity Leave and Pay	Leave and Pay during leave shall be regulated as follows –

	<ol style="list-style-type: none"> 1. Leave: <ol style="list-style-type: none"> (i) in the case of delivery - maternity leave not exceeding 8 weeks, 4 weeks upto and including the day of delivery and 4 weeks following that day (ii) in the case of miscarriage - upto 3 weeks from the date of miscarriage 2. Pay: <ol style="list-style-type: none"> (i) in the case of delivery - leave pay during maternity leave will be at the rate of the women's average daily earnings, calculated on total wages earned on the days when full time work was done during a period of three months immediately preceding the date on which she gives notice that she expects to be confined or at the rate of Rupee one only a day whichever is greater. (ii) in the case of miscarriage - leave pay at the rate of average daily earning calculated on the total wages earned on the days when full time work was done during a period of three months immediately preceding the date of such miscarriage. 3. Conditions for the grant of Maternity Leave : No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period of not less than six months immediately preceding the date on which she proceeds on leave. 4. The contractor shall maintain a register of Maternity (Benefit) in the Prescribed Form as shown in Appendix-G- I & II, and the same shall be kept at the place of work
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CLAUSE 19G

Default & Breach of Provisions

In the event of the contractor(s) committing a default or breach of any of the provisions of the CPWD's Contractor's Labour Regulations and Model Rules for the protection of health and sanitary arrangements for the workers as amended from time to time or furnishing any information or submitting or filing any statement under the provisions of the above Regulations and Rules which is materially incorrect, he/they shall, without prejudice to any other liability, pay to the Corporation a sum as decided by the authority mentioned in Schedule 'F' for every default, breach or furnishing, making, submitting, filing such materially incorrect statements and in the event of the contractor(s) defaulting continuously in this respect, the penalty may be enhanced to as decided by the authority mentioned in Schedule 'F' per day for each day of default subject to a maximum of 5 per cent of the estimated cost of the work put to tender. Decision of the Engineer-in-Charge shall be final and binding on Parties.

Should it appear to the Engineer-in-Charge that the contractor(s) is/are not properly observing and complying with the provisions of the CPWD's Contractor's Labour Regulations & Model Rules and the provisions of the Contract Labour (Regulation & Abolition) Act 1970, and the Contract Labour (R&A) Central Rules 1971, for the protection of health & sanitary arrangements for work-people employed by the contractor(s) (hereinafter referred as "the said Rules") the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said Rules be complied with and the amenities prescribed therein be provided to the work-people within a reasonable time to be specified in the notice. If the contractor(s) shall fail within the period specified in the notice to comply

	<p>with and/observe the said Rules and to provide the amenities to the work-people as aforesaid, the Engineer-in-Charge shall have the power to provide the amenities herein before mentioned at the cost of the contractor(s).</p> <p>The contractor(s) shall erect, make & maintain at his/their own expense and to approved standards all necessary huts and sanitary arrangements required for his/their work-people on the site in connection with the execution of the works, and if the same shall not have been erected or constructed, according to approved standards, the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said huts and sanitary arrangements be remodelled and/or reconstructed according to approved standards, and if the contractor(s) shall fail to remodel or reconstruct such huts and sanitary arrangements according to approved standards within the period specified in the notice, the Engineer-in-Charge shall have the power to remodel or reconstruct such huts and sanitary arrangements according to approved standards at the cost of the contractor(s).</p>
	CLAUSE 19H
<p>Logistics for Labours</p>	<p>The contractor(s) shall at his/their own cost provide his/their labour with a sufficient number of huts (hereinafter referred to as the camp) of the following specifications on a suitable plot of land to be approved by the Engineer-in-Charge.</p> <p>(i) (a) The minimum height of each hut at the eaves level shall be 2.1m (7 ft) and the floor area to be provided will be at the rate of 2.7 sqm (30 sqft) for each member of the worker's family staying with the labourer.</p> <p>(b) The contractor(s) shall, in addition, construct suitable cooking places, having a minimum area of 1.80m x 1.50m (6'x5'), adjacent to the hut for each family.</p> <p>(c) The contractor(s) shall also construct temporary latrines and urinals for the use of the labourers each on the scale of not less than four per each one hundred of the total strength, separate latrines and urinals being provided for women.</p> <p>(d) The contractor(s) shall construct sufficient number of bathing and washing places, one unit for every 25 persons residing in the camp. These bathing and washing places shall be suitably screened.</p> <p>(ii) (a) All the huts shall have walls of sun-dried or burnt bricks, laid in mud mortar or other suitable local materials, as may be approved by the Engineer-in-Charge. In case of sun-dried bricks, the walls should be plastered with mud gobri on both sides. The floor may be kutcha, but plastered with mud gobri and shall be at least 15 cm (6") above the surrounding ground. The roofs shall be laid with thatch or any other materials, as may be approved by the Engineer-in-Charge and the contractor shall ensure that throughout the period of their occupation, the roofs remain water-tight.</p> <p>(b) The contractor(s) shall provide each hut with proper ventilation.</p> <p>(c) All doors, windows, and ventilators shall be provided with suitable leaves for security purposes.</p>

	<p>(d) There shall be kept an open space of at least 7.2m (8 yards) between the rows of huts which may be reduced to 6m (20 ft) according to the availability of site with the approval of the Engineer-in-Charge. Back-to-back construction will be allowed.</p> <p>(iii) Water Supply - The contractor(s) shall provide adequate supply of water for the use of labourers. The provisions shall not be less than two gallons of pure and wholesome water per head per day for drinking purposes and three gallons of clean water per head per day for bathing & washing purposes. Where piped water supply is available, supply shall be at stand posts and where the supply is from wells or river, tanks which may be of metal or masonry, shall be provided. The contractor(s) shall also, at his/ their own cost, make arrangements for laying pipe lines for water supply to his/ their labour camp from the existing mains wherever available and shall pay all fees and charges therefor.</p> <p>(iv) The site selected for the camp shall be high ground, removed from jungle.</p> <p>(v) Disposal of Excreta - The contractor(s) shall make necessary arrangements for the disposals of excreta from the latrines by trenching or incineration which shall be according to the requirements laid down by the Local Health Authorities. If trenching or incinerations is not allowed, the contractor(s) shall make arrangements for the removal of the excreta through the Municipal Committee/authority and inform it about the number of labourers employed so that arrangements may be made by such Committee /Authority for the removal of the excreta. All charges on this account shall be borne by the contractor and paid direct by him to the Municipality/Authority. The contractor shall provide one sweeper for every eight seats in case of dry system.</p> <p>(vi) Drainage - The contractor(s) shall provide efficient arrangements for draining away sewage water, so as to keep camp neat & tidy.</p> <p>(vii) The contractor(s) shall make necessary arrangements for keeping the camp area sufficiently lighted to avoid accidents to the workers.</p> <p>(viii) Sanitation - The contractor(s) shall make arrangements for conservancy and sanitation in the labour camps according to the rules of the Local Public Health and Medical Authorities</p>
	CLAUSE 19I
Conduct of Contractor Labours	<p>The Engineer-in-Charge may require the contractor to dismiss or remove from the site of the work any person or persons in the contractors' employ upon the work who may be incompetent or misconduct himself and the contractor shall forthwith comply with such requirements. In respect of maintenance/repair or renovation works etc. where the labour have an easy access to the individual houses, the contractor shall issue identity cards to the labourers, whether temporary or permanent and he shall be responsible for any untoward action on the part of such labour. AE will display a list of contractors working in the Colony/Blocks on the notice board in the colony and also at the service centre, to apprise the residents about the same.</p>
	CLAUSE 19J

<p>Removal of Illegal Occupation</p>	<p>It shall be the responsibility of the contractor to see that the building under construction is not occupied by anybody unauthorized during construction and is handed over to the Engineer-in-Charge with vacant possession of complete building. If such building though completed is occupied illegally, then the Engineer-in-Charge shall have the option to refuse to accept the said building/buildings in that position. Any delay in acceptance on this account will be treated as the delay in completion and for such delay, a levy upto 5% of tendered value of work may be imposed by Superintending Engineer whose decision shall be final both with regard to the justification & quantum and be binding on contractor.</p> <p>However, the Superintending Engineer, through a notice, may require the contractor to remove the illegal occupation any time on or before construction and delivery.</p>
<p>CLAUSE 19K</p>	
<p>Employment of Skilled / Semi-Skilled Workers</p>	<p>The contractor shall, at all stages of work, deploy skilled/semi-skilled tradesmen who are qualified and possess certificate in particular trade from CPWD Training Institute / Industrial Training Institute / National Institute of Construction Management and Research (NICMAR) / National Academy of Construction, CIDC or any similar reputed and recognized Institute managed/certified by State/Central Govt. Number of such qualified tradesmen shall not be less than 20% of total skilled/semi-skilled workers required in each trade at any stage of work. Contractor shall submit number of man-days required in respect of each trade, its scheduling and the list of qualified tradesmen alongwith requisite certificate from recognized Institute to Engineer-in-charge for approval.</p> <p>Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer-in-Charge. Failure on the part of contractor to obtain approval of Engineer-in-Charge or failure to deploy qualified tradesmen will attract a compensation to be paid by contractor at the rate specified in Schedule 'F' per such tradesman per day. Decision of Engineer-in-Charge, as to whether particular tradesman possesses requisite skill and amount of compensation in case of default, shall be final and binding.</p> <p>Provided always, that the provisions of this Clause shall not be applicable for works with estimated cost put to tender being less than Rs. 5 crore.</p> <p>For work costing more than Rs. 10 crore, and upto Rs. 50 crore, the contractor shall arrange on site training as per National Skill Development Corporation (NSDC) norms for at least 20% of the unskilled workers engaged in the project in co-ordination with the CPWD Regional Training Institute & National Skill Development Corporation (NSDC) for certification at the level of skilled/semi-skilled tradesmen.</p> <p>For work costing more than Rs. 50 Crores, the contractor shall arrange on site training as per National Skill Development Corporation (NSDC) norms for at least 30% of the unskilled worker engaged in the project in coordination with the CPWD Regional Training Institute & National Skill Development Corporation (NSDC) for certification at the level of skilled/semi-skilled tradesmen. The cost of such training as stated above shall be borne by the Government. The necessary space and workers shall be provided by the contractor and no claim whatsoever shall be entertained.</p>

	CLAUSE 19L
Contribution of EPF and ESI	The ESI and EPF contributions on the part of employer in respect of this contract shall be paid by the contractor. The ESI, EPF and other labour compliance will be sole responsibility of Contractor; CWC will not provide anything over and above rate quoted by contractor. Contractor will provide the proof to CWC for submission of ESI & EPF to respective authorities alongwith bills and proof of final amount deposited to respective authorities for ESI & EPF alongwith final bill compulsorily. If the contractor fails to do so, CWC will deduct appropriate amount from contractor's Bill / Security Deposit and pay to the respective authorities.
	CLAUSE 20
Minimum Wages Act to be Complied with	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 thereunder and other labour laws, affecting contract labour that may be brought into force from time to time.
	CLAUSE 21
Work not to be sublet. Action in case of Insolvency	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 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 employee of The Corporation 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 Corporation, shall have power to adopt the course specified in Clause 3 hereof in the interest of The Corporation and in the event of such course being adopted, the consequences specified in the said Clause 3 shall ensue.
	CLAUSE 22
	All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of the Corporation without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.
	CLAUSE 23
Changes in Firm's Constitution to be Intimated	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 carryout 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 21 hereof and the same action may be

	taken, and the same consequences shall ensue as provided in the said Clause 21.
	CLAUSE 24
Life Cycle Cost	<p>The contractor shall be responsible for safety, quality and soundness of the buildings including structural elements.</p> <p>All works to be executed under the contract shall be executed under the direction and subject to the approval in all respects of the Engineer-in-Charge who shall be entitled to direct at what point or points and in what manner they are to be commenced, and from time to time carried on.</p>
	CLAUSE 25
Settlement of Claims, Disputes & Arbitration	<p>25.1 Claims:</p> <p>If the Contractor intends to claim any additional payment under any Clause of these Conditions or otherwise, the Contractor shall give notice to the CWC's representative as soon as possible and in any event within 28 days of the start of the event giving rise to the claim.</p> <p>The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on site or at another location acceptable to the CWC's representative. Without admitting the CWC's liability, the CWC's representative shall, on receipt of such notice, inspect such records and may instruct the Contractor to keep further contemporary records. The Contractor shall permit the CWC's representative to inspect all such records, and shall (if instructed) submit copies to the CWC's representative.</p> <p>Within 28 days of such notice, or such other time as may be agreed by the CWC's representative, Contractor shall send to the CWC's representative an account, giving detailed particulars of the amount and basis of the claim. Where the event giving rise to the claim has a continuing effect, such account shall be considered as interim.</p> <p>The Contractor shall then, at such intervals as the CWC's representative may reasonably require, send further interim accounts giving the accumulated amount of the claim and any further particulars. Where interim accounts are sent to the CWC's representative, the Contractor shall send a final account within 28 days of the end of the effects resulting from the event.</p> <p>If the Contractor fails to comply with this Sub-Clause, he shall not be entitled to additional payment.</p>
	<p>25.2 Payment of Claims :</p> <p>The CWC's representative shall notify his decision on Contractor's claim after due consultation with the CWC within 60 days. If the particulars supplied are insufficient to substantiate the whole of the claim, the Contractor shall be entitled to payment for such part of the claim as has been substantiated. The Contractor shall be entitled to have included in any Interim Payment Certificate such amount for any claim as the CWC's representative considers due.</p>
	<p>25.3 Conciliation :</p> <p>If the CWC's representative shall fail to notify his decision in Sub-Clause 25.2 within a period of sixty days after being requested or if either the CWC or the Contractor be dissatisfied with any such decision of the</p>

	<p>Employer's representative, then the matter in dispute shall be referred to conciliation as herein provided.</p>
	<p>25.3.1 Referring of Disputes for Reconciliation :</p> <p>Within 60 days of receipt of Notice of Dispute, either party shall refer the matter in dispute to Conciliation.</p> <p>Conciliation proceedings shall be initiated within 30 days of one party inviting the other in writing to conciliation. Conciliation shall commence when the other party accepts in writing this invitation. If the invitation is not accepted then conciliation shall not take place. If the party initiating conciliation does not receive a reply within 30 days from the date on which it sent the invitation, it may elect to treat this as a rejection of the invitation to conciliate and inform the other party accordingly.</p> <p>The conciliation shall be undertaken by one Conciliator selected from a panel of Conciliators maintained by the CWC.</p> <p>The cost of conciliation shall be borne by the respective parties. The cost shall inter-alia include fee of the conciliator as per the rates fixed by the CWC from time to time.</p> <p>The Conciliator shall assist the parties to reach an amicable settlement in an independent and impartial manner.</p>
	<p>25.3.2 Conciliation Procedure :</p> <p>The CWC shall maintain a panel of Conciliators with requisite qualifications and professional experience who shall be from serving or retired engineers of Govt. departments, or of Public Sector Undertakings. Out of this panel, a list of three Conciliators shall be sent to the Contractor who shall choose one of them to act as Conciliator and conduct conciliation proceedings in accordance with "The Arbitration and Conciliation Act, 1996" of India.</p> <p>The Party serving notice of dispute on the other party shall also service such notice on the Conciliator chosen as per this Clause. The CWC at the time of offering the panel of Conciliator(s) to be appointed as Conciliator shall also supply the information with regard to the qualifications of the said Conciliator nominated in the panel alongwith their professional experience, phone numbers and addresses of the Contractor.</p> <p>The CWC and the Contractor shall in good faith cooperate with the Conciliator and in particular shall endeavour to comply with requests by the Conciliator to submit written materials, provide evidence and attend meetings. Each Party may, on his own initiative or at the invitation of the Conciliator, submit to the Contractor suggestions for the settlement of the dispute.</p> <p>When it appears to the Conciliator that there exist elements of a settlement which may be acceptable to the parties, he shall formulate the terms of a possible settlement and submit them to the parties for their observations. After receiving the observations of the parties, the Conciliator may reformulate the terms of a possible settlement in the light of such observations.</p> <p>If the parties reach agreement on a settlement of the dispute, they may draw up and sign a written settlement agreement. If requested by the parties, the Conciliator may draw up, or assist the parties in drawing up, the settlement agreement.</p>

	<p>When the parties sign the settlement agreement, it shall be final and binding on the parties and persons claiming under them respectively.</p> <p>The Contractor shall authenticate the settlement agreement and furnish a copy thereof to each of the parties.</p> <p>As far as possible, the Conciliation proceedings should be completed within 60 days of the receipt of notice by the Conciliator.</p> <p>The parties shall not initiate, during the conciliation proceedings, any arbitral or judicial proceedings in respect of a dispute that is the subject matter of the conciliation proceedings.</p>
	<p>25.3.3 Termination of Conciliation Proceedings :</p> <p>The Conciliation Proceedings shall be terminated :</p> <p>(a) By the signing of the settlement agreement by the parties on the date of agreement; or</p> <p>(b) By written declaration of the conciliator, after consultation with the parties, to the effect further efforts at re conciliation are no longer justified on the date of declaration; or</p> <p>(c) By a written declaration of the parties to the conciliator to the effect that the conciliation proceedings are terminated, on the date of declaration; or</p> <p>(d) By a written declaration of a party to the other party and the conciliator, if appointed, to the effect that the conciliation proceedings are terminated, on the date of declaration.</p>
	<p>25.4 Dispute Resolution Committee:</p> <p>Except where otherwise provided in the contract, all questions and disputes relating to the meaning of the specifications, design, drawings and instructions here-in before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof, shall be dealt with as mentioned hereinafter :</p> <p>(a) If the contractor considers any work demanded of him to be outside the requirements of the contract, or disputes any drawings, record or decision given in writing by the Engineer-in-Charge or if the Engineer-in-Charge considers any act or decision of the contractor on any matter in connection with or arising out of the contract or carrying out of the work, to be unacceptable and is disputed, such party shall promptly, within 15 days of the arising of the disputes, request the Chief Engineer or where there is no Chief Engineer, the Director who shall refer the disputes to Dispute Redressal Committee (DRC) within 15 days alongwith a list of disputes with amounts claimed if any in respect of each such dispute. The Dispute Redressal Committee (DRC) shall give its decision within a period of 60 days extendable by 30 days by consent of both the parties from the receipt of reference from CE.</p> <p>(b) The constitution of Dispute Redressal Committee (DRC) shall be as indicated in Schedule 'F'. Provided that no party shall be represented</p>

	<p>before the Dispute Redressal Committee by an advocate / legal counsel etc.</p> <p>(c) The DRC will submit its decision to the concerned CE/Director for acceptance. CE/Director, in a time limit of 30 days from receipt of DRC decision, will convey acceptance or otherwise on the said decision.</p>
	<p>25.5 Arbitration :</p> <p>(a) If the Dispute Redressal Committee (DRC) fails to give its decision within the aforesaid period or the CE/Director fails to give his decision in the aforesaid time limit or any party is dissatisfied with the decision of Dispute Redressal Committee (DRC) / CE / Director, then either party may within a period of 30 days from the receipt of the decision of Dispute Redressal Committee (DRC) / CE / Director or on expiry of aforesaid time limits available to DRC / CE / Director, may give notice to the Managing Director, CWC, New Delhi for appointment of arbitrator on prescribed proforma as per Appendix-G-XIX under intimation to the other party.</p> <p>(b) It is a term of contract that each party invoking arbitration must exhaust the aforesaid mechanism of settlement of claims / disputes prior to invoking arbitration.</p> <p>(c) The Managing Director, CWC, New Delhi shall in such case appoint the sole arbitrator or one of the three arbitrators as the case may be within 30 days of receipt of such a request and refer such disputes to arbitration. Wherever the Arbitral Tribunal consists of three Arbitrators, the contractor shall appoint one arbitrator within 30 days of making request for arbitration or of receipt of request by Engineer-in-charge to Managing Director, CWC, New Delhi for appointment of arbitrator, as the case may be, and the two appointed arbitrators shall appoint the third arbitrator who shall act as the Presiding Arbitrator.</p> <p>(d) In the event of –</p> <p>(i) A party fails to appoint the second Arbitrator, or</p> <p>(ii) The two appointed Arbitrators fail to appoint the Presiding Arbitrator,</p> <p>then the Managing Director, CWC, New Delhi shall appoint the second or Presiding Arbitrator as the case may be.</p> <p>(e) (i) Disputes or difference shall be referred for adjudication through arbitration by a Tribunal having Sole Arbitrator where claimed amount is Rs. 20 crore or less. Where claimed amount is more than Rs. 20 crore, Tribunal shall consist of three Arbitrators as above. The requirements of the Arbitration and Conciliation Act, 1996 (26 of 1996) and any further statutory modifications or re-enactment thereof and the rules made thereunder and for the time being in force, shall be applicable.</p> <p>(ii) It is a term of this contract that the party invoking arbitration shall give a list of disputes with amounts claimed, if any, in respect of each such dispute alongwith the notice for appointment of arbitrator and giving reference to the decision of the DRC.</p> <p>(iii) It is also a term of this contract that in case of sole arbitrator, the arbitrator and in case of Tribunal any member of the</p>

	<p>Arbitration Tribunal shall be a Graduate Engineer with experience in handling public works engineering contracts at a level not lower than Chief Engineer (Joint Secretary level of Govt. of India) retired from Govt. Service or working in any other Govt. Department/Ministry other than Corporation. This shall be treated as a mandatory qualification to be appointed as arbitrator.</p> <p>(iv) Parties, before or at the time of appointment of Arbitral Tribunal may agree in writing for fast-track arbitration as per the Arbitration and Conciliation Act, 1996 (26 of 1996) as amended in 2015.</p> <p>(v) Subject to provision in the Arbitration and Conciliation Act, 1996 (26 of 1996) as amended in 2015 whereby the counter-claims, if any can be directly filed before the Arbitrator without any requirement of reference by the appointing authority, the Arbitrator shall adjudicate on only such disputes as are referred to him by the appointing authority and give separate award against each dispute and claim referred to him and in all cases where the total amount of the claims by any party exceeds Rs. 1,00,000, the Arbitrator shall give reasons for the award.</p> <p>(vi) It is also a term of the contract that if any fees are payable to the Arbitrator, these shall be paid as approved by the Managing Director, CWC, New Delhi or if not available, as per the provisions of the Act.</p> <p>(vii) The place of arbitration shall be as mentioned in Schedule 'F'. In case, there is no mention of place of arbitration, the Arbitrator shall determine the place of arbitration.</p> <p>(viii) The venue of the arbitration shall be such place as may be fixed by the Arbitral Tribunal in consultation with both the parties. Failing any such agreement, then the Arbitral Tribunal shall decide the venue.</p>
	CLAUSE 26
Contractor to Indemnify Govt. against Patent Rights	The contractor shall fully indemnify and keep indemnified the Corporation against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claims made under or action brought against the Corporation in respect of any such matters as aforesaid, the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expense, to settle any dispute or to conduct any litigation that may arise therefrom, provided that the contractor shall not be liable to indemnify the Corporation, if infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the Engineer-in-Charge in this behalf.
	CLAUSE 27
Lumpsum Provisions in Tender	When the estimate on which a tender is made includes lump sum in respect of parts of the work, the contractor shall be entitled to payment in respect of the items of work involved or the part of the work in question at the same rates as are payable under this contract for such items, or if the part of the work in question is not, in the opinion of the Engineer-in-Charge

	<p>payable of measurement, the Engineer-in-Charge may at his discretion pay the lump-sum amount entered in the estimate, and the certificate in writing of the Engineer-in-Charge shall be final and conclusive against the contractor with regard to any sum or sums payable to him under the provisions of the Clause.</p>
	CLAUSE 28
Action where no Specifications are Specified	<p>In the case of any class of work for which there is no such specifications as referred to in Clause 11, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications.</p> <p>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.</p> <p>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.</p>
	CLAUSE 29
Withholding and Lien in Respect of Sum Due from Contractor	<p>(i) Whenever any claim or claims for payment of a sum of money arises out of or under the contract or against the contractor, the Engineer-in-Charge or the Corporation shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any deposited by the contractor and for the purpose aforesaid, the Engineer-in-Charge or the Corporation shall be entitled to withhold the Security Deposit, if any, furnished as the case may be and also have a lien over the same, pending finalisation or adjudication of any such claim.</p> <p>In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the contractor, the Engineer-in-Charge or the Corporation shall be entitled to withhold and have a lien to retain to the extent of such claimed amount or amounts referred to above, from any sum or sums found payable or which may at any time thereafter become payable to the contractor under the same contract or any other contract with the Engineer-in-Charge or the Corporation or any contracting person through the Engineer-in-Charge pending finalization of adjudication of any such claim.</p> <p>It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above by the Engineer-in-Charge or Corporation will be kept withheld or retained as such by the Engineer-in-Charge or Corporation till the claim arising out of or under the contract is determined by the arbitrator (if the contract is governed by the Arbitration Clause) by the competent court, as the case may be and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to above and duly notified as such to the contractor.</p> <p>For the purpose of this Clause, where the contractor is a Partnership Firm or a Limited Company, the Engineer-in-Charge or the Corporation shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum</p>

	<p>found payable to any Partner/Limited Company as the case may be, whether in his individual capacity or otherwise.</p> <p>(ii) The Corporation shall have the right to cause an audit and technical examination of the works and the final bills of the contractor including all supporting vouchers, abstract, etc. to be made after payment of the final bill and if as a result of such audit and technical examination, any sum is found to have been overpaid in respect of any work done by the contractor under the contract or any work claimed to have been done by him under the contract and found not to have been executed, the contractor shall be liable to refund the amount of over-payment and it shall be lawful for the Corporation to recover the same from him in the manner prescribed in Sub-Clause (i) of this Clause or in any other manner legally permissible; and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by Corporation to the contractor, without any interest thereon whatsoever.</p> <p>Provided that the Corporation shall not be entitled to recover any sum overpaid, nor the contractor shall be entitled to payment of any sum paid short where such payment has been agreed upon between the Superintending Engineer or Executive Engineer on one hand and the contractor on other under any term of the contract permitting payment for work after assessment by the Superintending Engineer or the Executive Engineer.</p>
	CLAUSE 29A
Lien in Respect of Claims in other Contracts	<p>Any sum of money due and payable to the contractor (including the Security Deposit returnable to him) under the contract may be withheld or retained by way of lien by the Engineer-in-Charge or the Corporation or any other contracting person or persons through Engineer-in-Charge against any claim of the Engineer-in-Charge or Corporation or such other person or persons in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Engineer-in-Charge or the Corporation or with such other person or persons.</p> <p>It is an agreed term of the contract that the sum of money so withheld or retained under this Clause by the Engineer-in-Charge or the Corporation will be kept withheld or retained as such by the Engineer-in-Charge or the Corporation or till his claim arising out of the same contract or any other contract is either mutually settled or determined by the arbitration clause or by the competent court, as the case may be and that the contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this Clause and duly notified as such to the contractor.</p>
	CLAUSE 29B
Employment of Coal Mining or Controlled Area Labour Not Permissible	<p>The contractor shall not employ coal mining or controlled area labour falling under any category whatsoever on or in connection with the work or recruit labour from area within a radius of 32 km (20 miles) of the controlled area. Subject as above the contractor shall employ imported labour only, i.e. deposit imported labour or labour imported by contractors from area, from which import is permitted.</p>

	<p>Where ceiling price for imported labour has been fixed by State or Regional Labour Committees, not more than that ceiling price shall be paid to the labour by the contractor.</p> <p>The contractor shall immediately remove any labourer who may be pointed out by the Engineer-in-Charge as being a coal mining or controlled area labourer. Failure to do so shall render the contractor liable to pay to the Corporation a sum calculated at the rate of Rs. 10 per day per labourer. The certificate of the Engineer-in-Charge about the number of coal mining or controlled area labourer and the number of days for which they worked shall be final & binding upon all parties to this contract.</p> <p>It is declared and agreed between the Parties that the aforesaid stipulation in this Clause is one in which the Public are interested within the meaning of the exception in Section 74 of Indian Contract Act, 1872.</p> <p><u>Explanation</u> : Controlled Area means the following areas :</p> <p>Districts of Dhanbad, Hazaribagh, Jamtara - a Sub-Division under Santhal Pargana Commissionery, Districts of Bankuara, Birbhum, Burdwan, District of Bilaspur.</p> <p>Any other area which may be declared a Controlled Area by or with the approval of the Central Government.</p>
	<p>CLAUSE 30</p>
<p>Water for Works</p>	<p>(a) 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 :</p> <p>(i) That the water used by the contractor(s) shall be fit for construction purposes to the satisfaction of the Engineer-in-Charge.</p> <p>(ii) The Engineer-in-Charge shall make alternative arrangements for supply of water at the risk & cost of contractor(s), if arrangements made by the contractor(s) for procurement of water are in the opinion of the Engineer-in-Charge, unsatisfactory.</p> <p>(b) Departmental water supply, if available :</p> <p>Water on the request of Contractor and, if available may be supplied to the contractor by the Corporation, subject to the following conditions :</p> <p>(i) The water charges @ 1% shall be recovered on gross amount of the work done.</p> <p>(ii) The contractor(s) shall make his/their own arrangement of water connection and laying of pipelines from existing main of source of supply.</p> <p>(iii) The Corporation do not guarantee to maintain uninterrupted supply of water and it will be incumbent on the contractor(s) to make alternative arrangements for water at his/their own cost in the event of any temporary break down in the Corporation water main so that the progress of his/their work is not held up for want of water. No claim of damage or refund of water charges will be entertained on account of such break down.</p>
	<p>CLAUSE 30A</p>

Alternate Water Arrangements	The contractor shall be allowed to construct temporary wells in Corporation land for taking water for construction purposes only after he has got permission of the Engineer-in-Charge in writing. No charges shall be recovered from the contractor on this account, but the contractor shall be required to provide necessary safety arrangements to avoid any accidents or damage to adjacent buildings, roads and service lines. He shall be responsible for any accidents or damage caused due to construction and subsequent maintenance of the wells and shall restore the ground to its original condition after the wells are dismantled on completion of the work.
	CLAUSE 31
Hire of Plant & Machinery	The contractor shall arrange at his own expense all tools, plants, machinery and equipment (hereinafter referred to as T&P) required for execution of the work.
	CLAUSE 32
Employment of Technical Staff and Employees	<p>Contractor's Superintendence, Supervision, Technical Staff & Employees :</p> <p>(i) The contractor shall provide all necessary superintendence during execution of the work and all along thereafter, as may be necessary for proper fulfilling of the obligations under the contract.</p> <p>The contractor shall immediately after receiving letter of acceptance of the tender and before commencement of the work, intimate in writing to the Engineer-in-Charge, the name(s), qualifications, experience, age, address(s) and other particulars alongwith certificates, of the principal technical representative to be in charge of the work and other technical representative(s) who will be supervising the work. Minimum requirement of such technical representative(s) and their qualifications and experience shall not be lower than specified in Schedule 'F'. Even of the contractor {or partner(s) in case of firm/company} is himself / herself an Engineer, it is necessary on the part of the contractor to employ principal technical representative / technical representative(s) as per stipulation in Schedule 'F'.</p> <p>The Engineer-in-Charge shall, within 3 days of receipt of such communication, intimate in writing his approval or otherwise of such a representative(s) to the contractor.</p> <p>Any such approval may at any time be withdrawn and in case of such withdrawal, the contractor shall appoint another such representative(s) according to the provisions of this Clause. Decision of the Tender Accepting Authority shall be final and binding on the contractor in this respect. Such a principal technical representative and other technical representative(s) shall be appointed by the contractor soon after receipt of the approval from Engineer-in-Charge and shall be available at site before start of work.</p> <p>All the provisions applicable to the principal technical representative under the Clause will also be applicable to other technical representative(s) The principal technical representative and other technical representative(s) shall be present at the site of work for supervision at all times when any construction activity is in progress and also present himself/themselves, as required to the Engineer-in-Charge and/or his designated representative to take instructions. Instructions given to the principal technical representative or other</p>

	<p>technical representative(s) shall be deemed to have the same force as if these have been given to the contractor.</p> <p>The principal technical representative and other technical representative(s) shall be actually available at site fully during all stages of execution of work, during recording/checking/test checking of measurements of works and whenever so required by the Engineer-in-Charge and shall also note down instructions conveyed by the Engineer-in-Charge or his designated representative(s) in the site order book and shall affix his/their signature in token of noting down the instructions and in token of acceptance of measurements / checked measurements / test checked measurements. The representative(s) shall not look after any other work. Substitutes, duly approved by Engineer-in-Charge of the work in similar manner as aforesaid, shall be provided in event of absence of any of the representative(s) by more than two days.</p> <p>If the Engineer-in-Charge, whose decision in this respect is final and binding on the contractor, is convinced that no such technical representative(s) is/are effectively appointed or is/are effectively attending or fulfilling the provision of this Clause, a recovery (non-refundable) shall be effected from the contractor, as specified in Schedule 'F' and the decision of the Engineer-in-Charge, as recorded in the site order book and measurement recorded checked/test checked in Measurement Books shall be final and binding on the contractor.</p> <p>Further, if the contractor fails to appoint suitable technical Principal technical representative and/or other technical representative(s) and if such appointed persons are not effectively present or are absent by more than two days without duly approved substitute or do not discharge their responsibilities satisfactorily, the Engineer-in-Charge shall have full powers to suspend the execution of the work until such date as suitable other technical representative(s) is/are appointed and the contractor shall be held responsible for the delay so caused to the work. The contractor shall submit a certificate of employment of the technical representative(s) (in the form of copy of Form-16 or CPF deduction issued to the Engineers employed by him) alongwith every on-account bill / final bill and shall produce evidence if at any time so required by the Engineer-in-Charge.</p> <p>(ii) The contractor shall provide and employ on the site only such technical assistants as are skilled and experienced in their respective fields and such foremen and supervisory staff, as are competent to give proper supervision to the work. The contractor shall provide and employ skilled, semiskilled and unskilled labour as is necessary for proper and timely execution of the work. The Engineer-in-Charge shall be at liberty to object to and require the contractor to remove from the works any person who in his opinion misconducts himself, or is incompetent or negligent in the performance of his duties or whose employment is otherwise considered by the Engineer-in-Charge to be undesirable. Such person shall not be employed again at works site without the written permission of the Engineer-in-Charge and the persons so removed shall be replaced as soon as possible by competent substitutes.</p>
	<p>CLAUSE 33</p>

<p>Levy/Taxes Payable by Contractor</p>	<p>(i) GST, Building and other Construction Workers Welfare Cess or any other Tax, Levy or Cess in respect of input for or output by this contract shall be payable by the contractor. The Corporation shall not entertain any claim whatsoever in this respect except as provided under Clause 34.</p> <p>(ii) The contractor shall deposit Royalty and obtain necessary permit for supply of the red bajri, stone, kankar etc. from local authorities.</p> <p>If pursuant to or under any law, notification or order any royalty, cess or the like becomes payable by the Corporation and does not any time become payable by the contractor to the State Govt., Local Authorities in respect of any material used by the contractor in the works, then in such a case, it shall be lawful to the Corporation and it will have the right and be entitled to recover the amount paid in the circumstances as aforesaid from dues of the contractor.</p>
	<p>CLAUSE 34</p>
<p>Conditions for Reimbursement of Levy/Taxes, if Levied after Receipt of Tenders</p>	<p>(i) All tendered rates shall be inclusive of any tax, levy or cess applicable on last stipulated date of receipt of tender including extension, if any. No adjustment, i.e. increase or decrease shall be made for any variation in the rate of GST, Building & Other Construction Workers Welfare Cess or any tax, levy or cess applicable on inputs.</p> <p>However, effect of variation in rates of GST or Building & Other Construction Workers Welfare Cess or imposition or repeal of any other tax, levy or cess applicable on output of the works contract shall be adjusted on either side increase or decrease.</p> <p>Provided further that for Building & Other Construction Workers Welfare Cess or any tax (other than GST), levy or cess varied or imposed after the last date of receipt of tender including extension, if any, any increase shall be reimbursed to the contractor only if the contractor necessarily and properly pays such increased amount of taxes/levies/cess.</p> <p>Provided further that such increase including GST shall not be made in the extended period of contract for which the contractor alone is responsible for delay, as determined by Authority for extension of time under Clause 5 in Schedule 'F'.</p> <p>(ii) The contractor shall keep necessary books of accounts and other documents for the purpose of this condition, as may be necessary and shall allow inspection of the same by a duly authorized representative of the Corporation and/or the Engineer-in-Charge and shall also furnish such other information/document as the Engineer-in-Charge may require from time to time.</p> <p>(iii) The contractor shall, within a period of 30 days of the imposition of any such further tax or levy or cess or variation or repeal of such tax or levy or cess give a written notice thereof to the Engineer-in-Charge that the same is given pursuant to this condition, together with all necessary information relating thereto.</p>
	<p>CLAUSE 35</p>
<p>Termination of Contract on</p>	<p>Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the Chief Engineer / Superintending Engineer on behalf</p>

Death of Contractor	of the Corporation shall have the option of terminating the contract without levy of compensation to the contractor.
	CLAUSE 36
If relative Working in CWC then the Contractor not Allowed to Tender	<p>The contractor shall not be permitted to tender for works in the CWC in which his near relative is posted as Accounts Officer or as an officer in any capacity between the grades of the Chief Engineer and Assistant Engineer (both inclusive), responsible for award and execution of contracts. He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any Officer in the Central Warehousing Corporation or in the Ministry of Food, Consumer Affairs & Public Distribution, Govt. of India, New Delhi. The contractor would also be debarred from tendering in CWC for five years for any breach of this condition</p> <p><u>Note:</u> By the term "near relatives" is meant wife, husband, parents & grandparents, children & grandchildren, brothers & sisters, uncles, aunts & cousins and their corresponding in-laws.</p>
	CLAUSE 37
No Gazetted Engineer to Work as Contractor within One Year of Retirement	No engineer of Gazetted rank or other Gazetted officers employed in engineering or administrative duties in Central Warehousing Corporation shall work as a contractor or employee of a contractor for a period of one year after his retirement from Corporation service without the previous permission of the Corporation of in writing. This contract is liable to be cancelled, if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of Central Warehousing Corporation as aforesaid, before submission of the tender or engagement in the contractor's service, as the case may be.
	CLAUSE 38
Theoretical Consumption of Material	<p>(i) After completion of the work and also at any intermediate stage in the event of non-reconciliation of materials issued, theoretical quantity of materials used in the work shall be calculated on the basis and method given hereunder:</p> <p>(a) Quantity of cement & bitumen shall be calculated on the basis of quantity of cement & bitumen required for different items of work as shown in the Schedule of Rates mentioned in Schedule 'F'. In case any item is executed for which standard constants for the consumption of cement or bitumen are not available in the above-mentioned schedule/statement or cannot be derived from the same, shall be calculated on the basis of standard formula, to be laid down by the Engineer-in-Charge.</p> <p>(b) Theoretical quantity of steel reinforcement or structural steel sections shall be taken as the quantity required as per design or as authorized by Engineer-in-Charge, including authorized lappages, chairs etc. plus 3% wastage due to cutting into pieces, such theoretical quantity being determined and compared with the actual issues each diameter wise, section-wise and category wise separately.</p> <p>(c) Theoretical quantity of G.I. & C.I. or other pipes, conduits, wires and cables, pig lead and G.I./M.S. sheets shall be taken as quantity actually required and measured plus 5% for wastage</p>

	<p>due to cutting into pieces (except in the case of G.I./ M.S. sheets it shall be 10%), such determination & comparison being made diameter wise & category wise.</p> <p>(d) For any other material, as per actual requirements.</p> <p>(ii) Over the theoretical quantities of materials so computed a variation shall be allowed as specified in Schedule 'F'.</p> <p>For Non-Scheduled items, decision of the Superintending Engineer regarding theoretical quantities of materials which should have been actually used, shall be final and binding on the contractor.</p> <p>The said action under this Clause is without prejudice to the right of the Corporation to take action against the contractor under any other conditions of contract for not doing the work according to the prescribed specifications.</p>
	CLAUSE 39
<p>Compensation During War-like Situations</p>	<p>The work (whether fully constructed or not) and all materials, machines, tools & plants, scaffolding, temporary buildings and other things connected therewith shall be at the risk of the contractor until the work has been delivered to the Engineer-in-Charge and a certificate from him to that effect obtained. In the event of the work or any materials properly brought to the site for incorporation in the work being damaged or destroyed in consequence of hostilities or warlike operation, the contractor shall when ordered (in writing) by the Engineer-in-Charge to remove any debris from the site, collect and properly stack or remove in store all serviceable materials salvaged from the damaged work and shall be paid at the contract rates in accordance with the provision of this agreement for the work of clearing the site of debris, stacking or removal of serviceable material and for reconstruction of all works ordered by the Engineer-in-Charge, such payments being in addition to compensation upto the value of the work originally executed before being damaged or destroyed and not paid for.</p> <p>In case of works damaged or destroyed, but not already measured and paid for, the compensation shall be assessed by the Engineer-in-Charge upto Rs. 2,00,000 and by the next higher officer concerned for a higher amount. The contractor shall be paid for the damages/destruction suffered and for restoring the material at the rate based on analysis of rates tendered for in accordance with the provision of the contract. The certificate of the Engineer-in-Charge regarding the quality and quantity of materials and the purpose for which they were collected shall be final and binding on all parties to this contract.</p> <p>Provided always that no compensation shall be payable for any loss in consequence of hostilities or warlike operations –</p> <p>(a) unless the contractor had taken all such precautions against air raid, as are deemed necessary by the A.R.P. (Air Rail Precaution) Officers or the Engineer-in-Charge</p> <p>(b) for any material etc. not on the site of the work or for any tools, plant, machinery, scaffolding, temporary building and other things not intended for the work</p> <p>In the event of the contractor having to carry out reconstruction as aforesaid, he shall be allowed such extension of time for its completion, as is considered reasonable by the Engineer-in-Charge.</p>

	CLAUSE 40
Apprentices Act Provisions to be Complied With	<p>The contractor shall comply with the provisions of the Apprentices Act, 1961 and the rules and orders issued thereunder from time to time. If he fails to do so, his failure will be a breach of the contract and the Chief Engineer / Superintending Engineer may, in his discretion, cancel the contract.</p> <p>The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.</p>
	CLAUSE 41
Release of Security Deposit after Labour Clearance	<p>Release of Security Deposit of the work shall not be made till the contractor produces a clearance deposit after labour certificate from the Labour Officer. 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.</p>

Section - VI

**(MODEL RULES FOR THE PROTECTION OF HEALTH AND
SANITARY ARRANGEMENTS FOR WORKERS)**

Model Rules

For the Protection of Health and Sanitary Arrangements for Workers Employed by Central Warehousing Corporation or its Contractors

1. APPLICATION

These rules shall apply to all buildings and construction works in charge of Central Warehousing Corporation in which twenty or more workers are ordinarily employed or are proposed to be employed in any day during the period when the contract work is in progress.

2. DEFINITION

Work place means a place where twenty or more workers are ordinarily employed in connection with construction work on any day during the period when the contract work is in progress.

3. FIRST-AID FACILITIES

- (i) At every work place, there shall be provided and maintained, so as to be easily accessible during working hours, First-Aid Boxes at the rate of not less than one box for 150 contract labour or part thereof ordinarily employed.
- (ii) The First-Aid Box shall be distinctly marked with a red cross on white background and shall contain the following equipments :
 - (a) For work-places in which no. of contract labour employed does not exceed 50 –
 - (1) 6 small sterilised dressings
 - (2) 3 medium size sterilised dressings
 - (3) 3 large size sterilised dressings
 - (4) 3 large sterilised burn dressings
 - (5) 1 (30 ml) bottle containing a two per cent alcoholic solution of iodine
 - (6) 1 (30 ml) bottle containing Salvolatile having the dose and mode of administration, indicated on the label
 - (7) 1 snakebite lancet
 - (8) 1 (30 gm) bottle of potassium permanganate crystals
 - (9) 1 pair scissors
 - (10) 1 copy of the first-aid leaflet issued by the Director General, Factory Advice Service and Labour Institutes, Govt. of India
 - (11) 1 bottle containing 100 tablets (each of 5 gm) of aspirin
 - (12) Ointment for burns
 - (13) A bottle of suitable surgical antiseptic solution
 - (b) For work places in which the no. of contract labour exceed 50 –
 - (1) 12 small sterilised dressings
 - (2) 6 medium size sterilised dressings
 - (3) 6 large size sterilised dressings
 - (4) 6 large size sterilised burn dressings
 - (5) 6 (15 gm) packets sterilised cotton wool
 - (6) 1 (60 ml) bottle containing a two per cent alcoholic solution iodine

- (7) 1 (60 ml) bottle containing Salvolatile having the dose and mode of administration, indicated on the label
 - (8) 1 roll of adhesive plaster
 - (9) 1 snake bite lancet
 - (10) 1 (30 gm) bottle of potassium permanganate crystals
 - (11) 1 pair scissors
 - (12) 1 copy of the first-aid leaflet issued by the Director General Factory Advice Service and Labour Institutes /Government of India
 - (13) A bottle containing 100 tablets (each of 5 gm) of aspirin
 - (14) Ointment for burns
 - (15) A bottle of suitable surgical antiseptic solution
- (iii) Adequate arrangements shall be made for immediate recoupment of the equipment when necessary.
 - (iv) Nothing except the prescribed contents shall be kept in the First-aid box.
 - (v) The First-Aid Box shall be kept in the charge of a responsible person who shall always be readily available during the working hours of the work place.
 - (vi) A person in charge of the First-aid box shall be a person trained in First-aid treatment in the work places where the number of contract labour employed is 150 or more.
 - (vii) In work places where the number of contract labour employed is 500 or more and hospital facilities are not available within easy distance from the works; First-aid posts shall be established and run by a trained compounder. The compounder shall be on duty and shall be available at all hours when the workers are at work.
 - (viii) Where work places are situated in places which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or person suddenly taken ill to the nearest hospital.

4. DRINKING WATER

- (i) In every work place, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water, fit for drinking.
- (ii) Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.
- (iii) Every water supply or storage shall be at a distance of not less than 15 metre from any latrine drain or other source of pollution. Where water has to be drawn from an existing well, which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap door which shall be dust & water proof.
- (iv) A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for cleaning or inspection, which shall be done at least once a month.

5. WASHING FACILITIES

- (i) In every work place, adequate and suitable facilities for washing shall be provided and maintained for the use of contract labour employed therein.
- (ii) Separate and adequate cleaning facilities shall be provided for the use of male and female workers.
- (iii) Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition.

6. LATRINES AND URINALS

- (i) Latrines shall be provided in every work place on the following scale, namely :
 - (a) Where females are employed, there shall be at least one latrine for every 25 females.
 - (b) Where males are employed, there shall be at least one latrine for every 25 males. Provided that, where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25 males or females as the case may be upto the first 100 and one for every 50 thereafter.
- (ii) Every latrine shall be under cover and so partitioned off as to secure privacy and shall have a proper door and fastenings.
- (iii) Construction of Latrines : The inside walls shall be constructed of masonry or some suitable heat-resisting non-absorbent materials and shall be cement washed inside and outside at least once a year, Latrines shall not be of a standard lower than borehole system.
- (iv) (a) Where workers of both sexes are employed, there shall be displayed outside each block of latrine and urinal, a notice in the language understood by the majority of the workers "For Men Only" or "For Women Only" as the case may be.
 - (b) The notice shall also bear the figure of a man or of a woman, as the case may be.
- (v) There shall be at least one urinal for male workers upto 50 and one for female workers upto 50 employed at a time, provided that where the number of male or female workmen, as the case may be, exceeds 500, it shall be sufficient, if there is one urinal for every 50 males or females upto the first 500 and one for every 100 or part thereafter.
- (vi) (a) The latrines and urinals shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times.
 - (b) Latrines and urinals other than those connected with a flush sewage system, shall comply with the requirements of the Public Health Authorities.
- (vii) Water shall be provided by means of tap or otherwise, so as to be conveniently accessible in or near the latrines and urinals.
- (viii) Disposal of Excreta : Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternately excreta may be disposed of by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15 cm layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn to manure).
- (ix) The contractor shall at his own expense, carry out all instructions issued to him by the Engineer-in-Charge to effect proper disposal of night soil and other conservancy work in respect of the contractor's workmen or employees on the site. The contractor shall be responsible for payment of any charges which may be levied by Municipal or Cantonment Authority for execution of such on his behalf.

7. PROVISION OF SHELTER DURING REST

At every place there shall be provided, free of cost, four suitable sheds, two for meals and the other two for rest, separately for the use of men and women labour. The height of each shelter shall not be less than 3 metres (10 ft) from the floor level to the lowest part of the roof. These shall be kept clean and the space provided shall be on the basis of 0.6 sqm (6 sft) per head.

Provided that the Engineer-in-Charge may permit, subject to his satisfaction, a portion of the building under construction or other alternative accommodation, to be used for the purpose.

8. CRECHES

- (i) At every work place, at which 20 or more women worker are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years. One room shall be used as a play room for the children and the other as their bedroom. The rooms shall be constructed with specifications as per Clause 19H (ii) a, b & c.
- (ii) The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean.
- (iii) The contractor shall supply adequate number of toys and games in the play room and sufficient number of cots and beddings in the bed room.
- (iv) The contractor shall provide one Ayaa to look after the children in the Creche when no. of women workers does not exceed 50 and two when the no. exceeds 50.
- (v) Use of the rooms earmarked as Creche shall be restricted to children, their attendants and mothers of the children.

9. CANTEENS

- (i) In every work place where the work regarding the employment of contract labour is likely to continue for six months and where in contract labour, numbering one hundred or more are ordinarily employed, an adequate canteen shall be provided by the contractor for the use of such contract labour.
- (ii) The canteen shall be maintained by the contractor in an efficient manner.
- (iii) The canteen shall consist of at least a dining hall, kitchen, storeroom, pantry and washing places separately for workers and utensils.
- (iv) The canteen shall be sufficiently lighted at all times when any person has access to it.
- (v) The floor shall be made of smooth and impervious materials and inside walls shall be lime washed or colour washed at least once in each year. Provided that the inside walls of the kitchen shall be lime-washed every four months.
- (vi) Premises of the canteen shall be maintained in a clean and sanitary condition.
- (vii) Waste water shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance.
- (viii) Suitable arrangements shall be made for the collection and disposal of garbage.
- (ix) The dining hall shall accommodate at a time 30 per cent of the contract labour working at a time.
- (x) Floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs shall not be less than one square metre (10 sqft) per diner to be accommodated as prescribed in Sub-Rule 9.
- (xi) (a) A portion of the dining hall and service counter shall be partitioned off and reserved for women workers in proportion to their number.
(b) Washing places for women shall be separate and screened to secure privacy.
- (xii) Sufficient tables, stools, chairs or benches shall be available for the number of diners to be accommodated as prescribed in Sub-Rule 9.
- (xiii) (a) 1. There shall be provided and maintained sufficient utensils, crockery, furniture and any other equipment, necessary for the efficient running of the canteen.
2. The furniture utensils and other equipment shall be maintained in a clean and hygienic condition.
(b) 1. Suitable clean clothes for the employees serving in the canteen shall be provided and maintained.

2. A service counter, if provided, shall have top of smooth & impervious material.
 3. Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils & equipments.
- (xiv) Food stuffs and other items to be served in the canteen shall be in conformity with the normal habits of the contract labour.
- (xv) The charges for food stuffs, beverages and any other items served in the canteen shall be based on 'No Profit, No Loss' and shall be conspicuously displayed in the canteen.
- (xvi) In arriving at the price of foodstuffs and other article served in the canteen, the following items shall not be taken into consideration as expenditure namely :
- (a) Rent of land and building
 - (b) Depreciation and maintenance charges for the building & equipments provided for the canteen
 - (c) Cost of purchase, repairs and replacement of equipments including furniture crockery, cutlery and utensils
 - (d) Water charges and other charges incurred for lighting and ventilation
 - (e) Interest and amounts spent on the provision and maintenance of equipments provided for the canteen
- (xvii) Accounts pertaining to the canteen shall be audited once every 12 months by registered accountants and auditors.

10. ANTI-MALARIAL PRECAUTIONS

The contractor shall at his own expense, conform to all anti-malarial instructions given to him by the Engineer-in-Charge including the filling up of any borrow pits which may have been dug by him.

- 11.** The above rules shall be incorporated in the contracts and in notices inviting tenders and shall form integral part of the contracts.

12. AMENDMENTS

Government may, from time to time, add to or amend these rules and issue directions, it may consider necessary for the purpose of removing any difficulty which may arise in the administration thereof.

13. COVID– CONSTRUCTION SITES PROTOCOLS

Contractor shall maintain health safety of their employees, labour, workers, vendors deployed by them at the site of work and shall follow all guidelines & protocol issued by State & Central Govt. with respect of COVID. Contractor shall ensure vaccination of workers deployed for the job at construction site. All protocols related to the Covid covering preventive measure, health advisory etc as issued by local administration, Govt. shall be followed without any additional claim or compensation.

Section - VII
(Contractor's Labour Regulations)

CWC's/CPWD's Contractor's Labour Regulations

THESE REGULATIONS SHALL MUTATIS-MUTANDIS APPLY TO THE WORK OF THE CENTRAL WAREHOUSING CORPORATION

1. SHORT TITLE

These regulations may be called the CPWD / PWD (DA) Contractors' Labour Regulations.

2. DEFINITIONS

(i) **Workman** means any person employed by C.P.W.D. / PWD (DA) or its contractor directly or indirectly through a sub-contractor with or without - knowledge of the Central Public Works Department / PWD (DA) to do any skilled, semiskilled or unskilled manual, supervisory, technical or clerical work for hire or reward, whether the terms of employment are expressed or implied, but does not include any person :

(a) Who is employed mainly in a managerial or administrative capacity; or

(b) Who, being employed in a supervisory capacity draws wages exceeding five hundred rupees per mensem or exercises either by the nature of the duties attached to the office or by reason of powers vested in him, functions mainly of managerial nature; or

(c) Who is an out worker, that is to say, person to whom any article or materials are given out by or on behalf of the principal employers to be made up cleaned, washed, altered, ornamental finished, repaired adopted or otherwise processed for sale for the purpose of the trade or business of the principal employers and the process is to be carried out either in the home of the out worker or in some other premises, not being premises under the control and management of the Principal Employer.

No person below the age of 14 years shall be employed to act as a workman.

(ii) **Fair Wages** means wages whether for time or piece work, fixed and notified under the provisions of the Minimum Wages Act from time to time.

(iii) **Contractors** shall include every person who undertakes to produce a given result other than a mere supply of goods or articles of manufacture through contract labour or who supplies contract labour for any work and includes a sub-contractor.

(iv) **Wages** shall have the same meaning as defined in the Payment of Wages Act.

3. (i) Normally working hours of an adult employee should not exceed 9 hours a day. The working day shall be so arranged that inclusive of interval for rest, if any, it shall not spread over more than 12 hours on any day.

(ii) When an adult worker is made to work for more than 9 hours on any day or for more than 48 hours in any week, he shall be paid over time for the extra hours put in by him at double the ordinary rate of wages.

(iii) (a) Every worker shall be given a weekly holiday normally on a Sunday, in accordance with the provisions of the Minimum Wages (Central) Rules 1960 as amended from time to time irrespective of whether such worker is governed by the Minimum Wages Act or not.

(b) Where the minimum wages prescribed by the Govt. under the Minimum Wages Act are not inclusive of the wages for the weekly day of rest, the worker shall be entitled to rest day wages at the rate applicable to the next preceding day, provided he has worked under the same contractor for a continuous period of not less than 6 days.

- (c) Where a contractor is permitted by the Engineer-in-Charge to allow a worker to work on a normal weekly holiday, he shall grant a substituted holiday to him for the whole day on one of the five days immediately before or after the normal weekly holiday and pay wages to such worker for the work performed on the normal weekly holiday at overtime rate.

4. DISPLAY OF NOTICE REGARDING WAGES ETC.

The contractor shall, before he commences his work on contract, display and correctly maintain and continue to display and correctly maintain in a clear & legible condition in conspicuous places on the work, notices in English and in the local Indian languages spoken by the majority of the workers giving the minimum rates of wages fixed under Minimum Wages Act, the actual wages being paid, the hours of work for which such wage are earned, wages periods, dates of payments of wages and other relevant information as per **Appendix-G-III**.

5. PAYMENT OF WAGES

- (i) The contractor shall fix wage periods in respect of which wages shall be payable.
- (ii) No wage period shall exceed one month.
- (iii) The wages of every person employed as contract labour in an establishment or by a contractor where less than one thousand such persons are employed shall be paid before the expiry of seventh day and in other cases before the expiry of tenth day after the last day of the wage period in respect of which the wages are payable.
- (iv) Where the employment of any worker is terminated by or on behalf of the contractor, the wages earned by him shall be paid before the expiry of the second working day from the date on which his employment is terminated.
- (v) All payment of wages shall be made on a working day at the work premises and during the **working** time and on a date notified in advance and in case the work is completed before the expiry of the wage period, final payment shall be made within 48 hours of the last working day.
- (vi) Wages due to every worker shall be paid to him direct by contractor through bank or ECS or online transfer to his Bank account.
- (vii) All wages shall be paid through Bank or ECS or online transfer
- (viii) Wages shall be paid without any deductions of any kind except those specified by the Central Government by general or special order in this behalf or permissible under the Payment of Wages Act, 1956.
- (ix) A notice showing the wages period and the place and time of disbursement of wages shall be displayed at the place of work and a copy sent by the contractor to the Engineer-in-Charge under acknowledgment.
- (x) It shall be the duty of the contractor to ensure the disbursement of wages through bank account of labour.
- (xi) The contractor shall obtain from the Junior Engineer or any other authorised representative of the Engineer-in-Charge as the case may be, a certificate under his signature at the end of the entries in the "Register of Wages" or the "Wage-cum-Muster Roll" as the case may be in the following form :

"Certified that the amount shown in Column No. _____ has been paid to the workman concerned **through his/her bank account** on ___/___/___ at _____."

6. FINES AND DEDUCTIONS WHICH MAY BE MADE FROM WAGES

- (i) The wages of a worker shall be paid to him without any deduction of any kind except the following:

- (a) Fines
 - (b) Deductions for absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion the period for which he was absent.
 - (c) Deduction for damage to or loss of goods expressly entrusted to the employed person for custody, or for loss of money or any other deduction which he is required to account, where such damage or loss is directly attributable to his neglect or default.
 - (d) Deduction for recovery of advances or for adjustment of overpayment of wages, advances granted shall be entered in a register.
 - (e) Any other deduction which the Central Government may from time to time allow.
- (ii) No fines should be imposed on any worker save in respect of such acts and omissions on his part as have been approved of by the Chief Labour Commissioner.
- Note : An approved list of Acts and Omissions for which fines can be imposed is enclosed at **Appendix-G-X**.
- (iii) No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.
 - (iv) The total amount of fine which may be imposed in any one wage period on a worker shall not exceed an amount equal to three paise in a rupee of the total wages, payable to him in respect of that wage period.
 - (v) No fine imposed on any worker shall be recovered from him by instalment, or after the expiry of sixty days from the date on which it was imposed.
 - (vi) Every fine shall be deemed to have been imposed on the day of the act or omission in respect of which it was imposed.

7. LABOUR RECORDS

- (i) The contractor shall maintain a **Register of persons employed** on work on contract in Form XIII of the CL (R&A) Central Rules 1971 (**Appendix-G-IV**).
- (ii) The contractor shall maintain a Muster Roll register in respect of all workmen employed by him on the work under Contract in Form XVI of the CL (R&A) Rules 1971 (**Appendix-G-V**).
- (iii) The contractor shall maintain a Wage Register in respect of all workmen employed by him on the work under contract in Form XVII of the CL (R&A) Rules 1971 (**Appendix-G-VI**).
- (iv) Register of Accident - The contractor shall maintain a register of accidents in such form as may be convenient at the work place but the same shall include the following particulars :
 - (a) Full particulars of the labourers who met with accident
 - (b) Rate of Wages
 - (c) Sex
 - (d) Age
 - (e) Nature of accident and cause of accident
 - (f) Time and date of accident
 - (g) Date and time when admitted in Hospital
 - (h) Date of discharge from the Hospital
 - (i) Period of treatment and result of treatment

- (j) Percentage of loss of earning capacity and disability as assessed by Medical Officer
 - (k) Claim required to be paid under Workmen's Compensation Act
 - (l) Date of payment of compensation
 - (m) Amount paid with details of the person to whom the same was paid
 - (n) Authority by whom the compensation was assessed
 - (o) Remarks
- (v) The contractor shall maintain a Register of Fines in the Form XII of the CL (R&A) Rules 1971 (**Appendix-G- XI**)
 - (vi) The contractor shall display in a good condition and in a conspicuous place of work the approved list of Acts & Omissions for which fines can be imposed (**Appendix-G- X**)
 - (vii) The contractor shall maintain a Register of Deductions for damage or loss in Form XX of the CL (R&A) Rules 1971 (**Appendix-G-XII**)
 - (viii) The contractor shall maintain a Register of Advances in Form XXIII of the CL (R&A) Rules 1971 (**Appendix-G-XIII**)
 - (ix) The contractor shall maintain a Register of Overtime in Form XXIII of the CL (R&A) Rules 1971 (**Appendix-G-XIV**)

8. ATTENDANCE CARD-CUM-WAGE SLIP

- (i) The contractor shall issue an Attendance Card-cum-Wage Slip to each workman employed by him in the specimen form at (**Appendix-G-VII**).
- (ii) The Card shall be valid for each wage period.
- (iii) The contractor shall mark attendance of each workman on the card twice each day, once at the commencement of the day and again after the rest interval, before he actually starts work.
- (iv) The Card shall remain in possession of the worker during the wage period under reference.
- (v) The contractor shall complete the Wage Slip portion on the reverse of the card at least a day prior to the disbursement of wages in respect of the wage period under reference.
- (vi) The contractor shall obtain signature or thumb impression of the worker on the Wage Slip at the time of disbursement of wages and retain the card with himself.

9. EMPLOYMENT CARD

The contractor shall issue an Employment Card in Form XIV of the CL (R&A) Central Rules 1971 to each worker within three days of the employment of the worker (**Appendix-G-VIII**).

10. SERVICE CERTIFICATE

On termination of employment for any reason whatsoever, the contractor shall issue to the workman whose services have been terminated, a Service Certificate in Form XV of the CL (R&A) Central Rules 1971 (**Appendix-G-IX**).

11. PRESERVATION OF LABOUR RECORDS

All records required to be maintained under Regulations Nos. 6 & 7 shall be preserved in original for a period of three years from the date of last entries made in them and shall be made available for inspection by the Engineer-in-Charge or Labour Officer or any other officers authorised by the Ministry of Urban Development in this behalf.

12. POWER OF LABOUR OFFICER TO MAKE INVESTIGATIONS OR ENQUIRY

The Labour Officer or any person authorised by Corporation on their behalf shall have power to make enquires with a view to ascertaining and enforcing due and proper observance of Fair Wage Clauses and the Provisions of these Regulations. He shall investigate into any complaint regarding the default made by the contractor or subcontractor in regard to such provision.

13. REPORT OF LABOUR OFFICER

The Labour Officer or other persons authorised as aforesaid shall submit a report of result of his investigation or enquiry to the Executive Engineer concerned indicating the extent, if any, to which the default has been committed with a note that necessary deductions from the contractor's bill be made and the wages and other dues be paid to the labourers concerned. In case an appeal is made by the contractor under Clause 13 of these regulations, actual payment to labourers will be made by the Executive Engineer after Chief Engineer / Superintending Engineer has given his decision on such appeal.

The Executive Engineer shall arrange payments to the labour concerned within 45 days from the receipt of the report from the Labour Officer or the Chief Engineer / Superintending Engineer, as the case may be.

14. APPEAL AGAINST THE DECISION OF LABOUR OFFICER

Any person aggrieved by the decision and recommendations of the Labour Officer or other person so authorised may appeal against such decision to the Chief Engineer / Superintending Engineer concerned within 30 days from date of decision, forwarding simultaneously a copy of his appeal to the Executive Engineer, but subject to such appeal, the decision of the officer shall be final and binding upon the contractor.

15. PROHIBITION REGARDING REPRESENTATION THROUGH LAWYER

- (i) A workman shall be entitled to be represented in any investigation or enquiry under these regulations by :
 - (a) An officer of a registered Trade Union of which he is a member.
 - (b) An officer of a federation of Trade Unions to which the Trade Union referred to in Clause (a) is affiliated.
 - (c) Where the employer is not a member of any registered Trade Union, by an officer of a registered trade union, connected with the industry in which the worker is employed or by any other workman employed in the industry in which the worker is employed.
- (ii) An employer shall be entitled to be represented in any investigation or enquiry under these regulations by :
 - (a) An officer of an association of employers of which he is a member.
 - (b) An officer of a Federation or Associations of Employers to which association referred to in Clause (a) is affiliated.
 - (c) Where the employer is not a member of any association of employers, by an officer of association of employer connected with the industry in which the employer is engaged or by any other employer, engaged in the industry in which the employer is engaged.
- (iii) No party shall be entitled to be represented by a legal practitioner in any investigation or enquiry under these regulations.

16. INSPECTION OF BOOKS AND SLIPS

The contractor shall allow inspection of all the prescribed labour records to any of his workers or to his agent at a convenient time and place after due notice is received or

to the Labour Officer or any other person, authorised by the Central Government on his behalf.

17. SUBMISSIONS OF RETURNS

The contractor shall submit periodical returns as may be specified from time to time.

18. AMENDMENTS

The Central Government may from time to time add to or amend the regulations and on any question as to the application / interpretation or effect of those regulations, the decision of the Superintending Engineer concerned shall be final.

ADDITIONAL PROVISIONS FOR LABOUR

- 19. Apprentices Act:** The Contractor shall be responsible to ensure compliance with the provisions of the Apprentices Act, 1961 and the Rules and Orders issued thereunder from time to time in respect of apprentices directly or through petty Contractors or sub-contractors employed by him for the purpose of carrying out the Contract.

If the Contractor directly or through petty Contractors or sub-contractors fails to do so, his failure will be a breach of the contract and the Corporation may, in its discretion, rescind the contract. The Contractor shall also be liable for any pecuniary liability arising on account of any violation of the provisions of the Act.

- 20. Provisions of Payments of Wages Act :** The Contractor shall comply with the provisions of the Payment of Wages Act, 1936 and the rules made thereunder in respect of all employees employed by him either directly or through petty Contractors or sub-contractors in the works. If in compliance with the terms of the contract, the Contractor directly or through petty Contractors or sub-contractors shall supply any labour to be used wholly or partly under the direct orders and control of the Engineer whether in connection with the works to be executed hereunder or otherwise for the purpose of the Engineer, such labour shall nevertheless be deemed to comprise persons employed by the Contractor and any moneys which may be ordered to be paid by the Engineer shall be deemed to be moneys payable by the Engineer on behalf of the Contractor and the Engineer may on failure of the Contractor to repay such money to the Corporation deduct the same from any moneys due to the Contractor in terms of the contract. The Corporation shall be entitled to recover the same from Contractor's bills/Security Deposit or any other dues of Contractor with the Govt. of India all moneys paid or payable by the Corporation by way of compensation of aforesaid or for costs of expenses in connection with any claim thereto and the decision of the Engineer upon any question arising out of the effect or force of this Clause shall be final and binding upon the Contractor.

21. Provisions of Contract Labour (Regulation and Abolition) Act, 1970 :

- 21.(1)** The Contractor shall comply with the provision of the Contract Labour (Regulation and Abolition) Act, 1970 and the Contract Labour (Regulation and Abolition) Central Rules 1971 as modified from time to time, wherever applicable and shall also indemnify the Corporation from and against any claims under the aforesaid Act and the Rules.

- 21.(2)** The Contractor shall obtain a valid license under the aforesaid Act as modified from time to time before the commencement of the work and continue to have a valid license until the completion of the work. Any failure to fulfil the requirement shall attract the penal provision of the Act.

- 22. Provisions of Employees Provident Fund and Miscellaneous Provisions Act, 1952 :** The Contractor shall comply with the provisions of Para 30 & 36-B of the Employees

Provident Fund Scheme, 1952; Para 3 & 4 of Employees' Pension Scheme, 1995; and Para 7 & 8 of Employees Deposit Linked Insurance Scheme, 1976; as modified from time to time through enactment of "Employees Provident Fund & Miscellaneous Provisions Act, 1952", wherever applicable and shall also indemnify the Corporation from and against any claims under the aforesaid Act and the Rules.

23. Provisions of "The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996" and "The Building and Other Construction Workers' Welfare Cess Act, 1996":

The tenderers, for carrying out any construction work, shall get themselves registered with the Registering Officer under Section-7 of the Building and Other Construction Workers Act, 1996 and Rules made thereto by the concerned State Govt., and submit Certificate of Registration issued by Registering Officer of the concerned State Govt. (Labour Dept.). The Cess shall be deducted from contractor's bills as per provisions of the Act.

24. Reporting of Accidents: The Contractor shall be responsible for the safety of all employees directly or through petty Contractors or sub-contractor employed by him on the works and shall report serious accidents to any of them however and wherever occurring on the works to the Engineer or the Engineers Representative and shall make every arrangement to render all possible assistance.

25. Provision of Workmen's Compensation Act : In every case in which by virtue of the provisions of Section 12 Sub-Section (1) of the Workmen's Compensation Act 1923, Contractor is to abide by the provisions of various labour laws in terms of above clause.

26. Corporation not to Provide Quarters for Contractors: No quarters shall normally be provided by the Corporation for the accommodation of the Contractor or any of his staff employed on the work. In exceptional cases where accommodation is provided to the Contractor at the Corporation's discretion, recoveries shall be made at such rates as may be fixed by the Corporation for the full rent of the buildings and equipments therein as well as charges for electric current, water supply and conservancy.

27. Labour Camps: The Contractor shall at his own expense make adequate arrangements for the housing, supply of drinking water and provision of latrines and urinals for his staff and workmen, directly or through the petty Contractors or sub-contractors and for temporary creche (Bal-Mandir) where 50 or more women are employed at a time. Suitable sites on Corporation land, if available, may be allotted to the Contractor for the erection of labour camps, either free of charge or on such terms and conditions that may be prescribed by the Corporation. All camp sites shall be maintained in clean and sanitary conditions by the Contractor at his own cost.

28. Compliance to Rules for Employment of Labour : The Contractor(s) shall conform to all laws, bye-laws rules and regulations for the time being in force pertaining to the employment of local or imported labour and shall take all necessary precautions to ensure and preserve the health and safety of all staff employed directly or through petty contractors or sub-contractors on the works.

29. Preservation of Peace : The Contractor shall take requisite precautions and use his best endeavours to

- (i) Prevent any riotous or unlawful behaviour by or amongst his workmen and other employed directly or through the petty Contractors or sub-contractors on the works and for the preservation of peace and protection of the inhabitants and
- (ii) Security of property in the neighbourhood of the works. In the event of the Corporation requiring the maintenance of a Special Police Force at or in the vicinity of the site during

the tenure of works, the expenses thereof shall be borne by the Contractor and if paid by the Corporation shall be recoverable from the Contractor.

- 30. Sanitary Arrangements:** The Contractor shall obey all sanitary rules and carry out all sanitary measures that may from time to time be prescribed by the Corporation Medical Authority and permit inspection of all sanitary arrangements at all times by the Engineer, the Engineer's Representative or the Medical Staff of the Corporation. Should the Contractor fail to make the adequate sanitary arrangements, these will be provided by the Corporation and the cost thereof recovered from the Contractor.
- 31. Outbreak of Infectious Disease:** The Contractor shall remove from his camp such labour and their families as refuse protective inoculation and vaccination when called upon to do so by the Engineer or the Engineer's Representative on the advice of the Corporation Medical Authority. Should cholera, plague, or other infectious disease break out, the Contractor shall burn the huts, beddings, clothes and other belongings of or used by the infected parties and promptly erect new huts on healthy sites as required by the Engineer, failing which within the time specified in the Engineer's requisition, the work may be done by the Corporation and the cost thereof recovered from the Contractor.
- 32. Medical Facilities at Site:** The Contractor shall provide medical facilities at the site as may be prescribed by the Engineer on the advice of the Corporation's Medical Authority in relation to the strength of the Contractor's resident staff and workmen.

REGISTER OF MATERNITY BENEFITS [Clause 19F]

Name and Address of the Contractor(s) _____

Name and Location of the Work _____

Name of the Employee	Father's/Husband's Name	Nature of Employment	Period of Actual Appointment	Date on which Notice of Confinement Given
1	2	3	4	5

Date on which Maternity Leave Commenced and Ended

Date of Delivery	In case of Delivery		In case of Miscarriage	
	Commenced	Ended	Commenced	Ended
6	7	8	9	10

Leave Pay Paid to the Employee

In case of Delivery		In case of Miscarriage		Remarks
Rate of Leave Pay	Amount Paid	Rate of Leave Pay	Amount Paid	
11	12	13	14	15

**SPECIMEN FORM OF THE REGISTER
REGARDING MATERNITY BENEFIT ADMISSIBLE TO THE CONTRACTOR'S LABOUR
IN CENTRAL WAREHOUSING CORPORATION WORKS**

Name and address of the contractor _____

Name and location of the work _____

1. Name of the woman and her husband's name
2. Designation
3. Date of appointment
4. Date with months and years in which she is employed
5. Date of discharge/dismissal, if any
6. Date of production of certificates in respect of pregnancy
7. Date on which the woman informs about the expected delivery
8. Date of delivery/miscarriage/death
9. Date of production of certificate in respect of delivery/miscarriage
10. Date with the amount of maternity/death benefit paid in advance of expected delivery
11. Date with amount of subsequent payment of maternity benefit
12. Name of the person nominated by the woman to receive the payment of the maternity benefit after her death
13. If the woman dies, the date of her death, the name of the person to whom maternity benefit amount was paid, the month thereof and the date of payment
14. Signature of the contractor authenticating entries in the register
15. Remarks column for the use of Inspecting Officer

Labour Board

- ❖ Name of Work _____
- ❖ Name of Contractor _____
- ❖ Address of Contractor _____
- ❖ Name and Address of Corporate Office _____
- ❖ Name and Address of CWC Labour Officer _____
- ❖ Name of Labour Enforcement Officer _____
- ❖ Address of Labour Enforcement Officer _____

SL	Category	Minimum Wage Fixed	Actual Wage Paid	Number Present	Remarks

- ❖ Weekly Holiday _____
- ❖ Wage Period _____
- ❖ Date of Payment of Wages _____
- ❖ Working Hours _____
- ❖ Rest Interval _____

FORM XIII [See Rule 75]

Register of Workman Employed by Contractor

Name & Address of Contractor _____

Name & Address of Establishment under which Contract is Carried on _____

Nature & Location of Work _____

Name & Address of Principal Employer _____

SL	Name & Surname of Workman	Age & Sex	Father' s/ Husband' s Name	Nature of Employment/ Designation	Permanent Home Address of the Workman (Village and Tehsil, Taluk and District)	Local Address	Date of Commencement of Employment	Signature or Thumb Impression of the Workman	Date of Termination of Employment	Reasons for Termination	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

FORM XVI [(See Rule 78 (2) (a)]

MUSTER ROLL

- ❖ Name & Address of Contractor _____
- ❖ Name & Address of Establishment under which Contract is Carried on _____
- ❖ Nature & Location of Work _____
- ❖ Name & Address of Principal Employer _____ For the Month/Fortnight _____

SL	Name of Workman	Sex	Father's/Husband's Name	Dates					Remarks
				1	2	3	4	5	
1	2	3	4	5					6

FORM XVII [See Rule 78 (2) (a)]

REGISTER OF WAGE

- ❖ Name & Address of Contractor _____
- ❖ Name & Address of Establishment under which Contract is Carried on _____
- ❖ Nature & Location of Work _____
- ❖ Name & Address of Principal Employer _____ Wage Period : Monthly / Fortnightly _____

SL	Name of Workman	SL in the Register of Workman	Designation / Nature of Work done	No. of Days Worked	Unit of Work Done	Daily Rate of Wages / Piece Rate	Amount of Wages Earned				Total	Deduction, if any (Indicate Nature)	Net Amount Paid	Signature / Thumb Impression of Workman	Initials of Contractor or his Representative
							Basic Wages	Dearness Allowance	Over-time	Other Cash Payments (Indicate Nature)					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

WAGE CARD

Wage Card No. _____

Name & Address of Contractor _____

Date of issue _____

Name and Location of Work _____

Designation _____

Name of Workman _____

Month / Fortnight _____

Rate of Wages _____

Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Morning																															
Evening																															
Initial																															

Received from _____ the sum of Rs. _____ on account of my wages.

Signature

FORM XIX

[See Rule 78(2) (b)]

WAGES SLIP

Name and Address of Contractor _____

Name and Father's / Husband's Name of Workman _____

Nature and Location of Work _____

For the Week / Fortnight / Month Ending _____

1. No. of Days Worked _____

2. No. of Units Worked in case of Piece Rate Workers _____

3. Rate of Daily Wages/piece Rate _____

4. Amount of Overtime Wages _____

5. Gross Wages Payable _____

6. Deduction, if any _____

7. Net Amount of Wages Paid _____

**Initial of the Contractor
or His Representative**

FORM XIV

[See Rule 76]

EMPLOYMENT CARD

Name and Address of Contractor _____

Name and Address of Establishment under which Contract is carried on _____

Name of Work and Location of Work _____

Name and Address of Principal Employer _____

1. Name of the Workman _____

2. SL in the Register of Workman Employed _____

3. Nature of Employment / Designation _____

4. Wage Rate (with particulars of unit in case of piece work) _____

5. Wage Period _____

6. Tenure of Employment _____

7. Remarks _____

Signature of Contractor

FORM XV [See Rule 77]
SERVICE CERTIFICATE

Name & Address of Contractor _____

Nature & Location of Work _____

Name & Address of Workman _____

Age or Date of Birth _____

Identification Mark _____

Father's / Husband's Name _____

Name and Address of Establishment in/under which Contract is carried on _____

Name and Address of Principal Employer _____

SL	Total Period for which Employed		Nature of Work Done	Rates of Wage (with Particulars of Unit in case of Piece Work)	Remarks
	From	To			
1	2	3	4	5	6

Signature

LIST OF ACTS AND OMISSIONS FOR WHICH FINES CAN BE IMPOSED

{In accordance with Rule 7 (v) of CPWD's Contractor's Labour Regulations, to be displayed prominently at the site of Work, both in English and local Language}

1. Wilful insubordination or disobedience, whether alone or in combination with other
2. Theft, fraud or dis-honesty in connection with the contractors beside a business or property of Central Warehousing Corporation
3. Taking or giving bribes or any illegal gratifications
4. Habitual late attendance
5. Drunkenness, fighting, riotous or disorderly or indifferent behaviour
6. Habitual negligence
7. Smoking near or around the area where combustible or other materials are locked
8. Habitual indiscipline
9. Causing damage to work in the progress or to property of the Central Warehousing Corporation or of the Contractor
10. Sleeping on duty
11. Malingering or slowing down work
12. Giving of false information regarding name, age, father's name etc.
13. Habitual loss of wage cards, supplied by the employers
14. Unauthorised use of employer's property of manufacturing or making of unauthorised particles at the work place
15. Bad workmanship in construction and maintenance by skilled workers which is not approved by the Corporation and for which the contractors are compelled to undertaken rectifications
16. Making false complaints and/or misleading statements
17. Engaging on trade within the premises of the establishments
18. Any unauthorised divulgence of business affairs of the employees
19. Collection or canvassing for collection of any money within the premises of an establishment unless authorised by the employer
20. Holding meeting inside the premises without previous sanction of the employers
21. Threatening or intimidating any workman or employee during the working hours within the premises

FORM XII

[See Rule 78 (2)(d)]

REGISTER OF FINES

Name & Address of Contractor _____

Name & Address of Establishment in/under which Contract is carried on _____

Name & Location of Work _____

Name & Address of Principal Employer _____

SL	Name of Workman	Father' s / Husbands Name	Designation / Nature of Employment	Act / Omission for which Fine Imposed	Date of Offence	Whether Workman Showed Cause Against Time	Name of Person in whose Presence Employee' s Explanation was Heard	Wage Periods and Wages Payable	Amount of Fine Imposed	Date on which Fine Realised	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

FORM XX

[See Rule 78 (2)(d)]

REGISTER OF DEDUCTION FOR DAMAGE OR LOSS

Name & Address of Contractor _____

Name & Address of Establishment in/under which Contract is carried on _____

Name & Location of Work _____

Name & Address of Principal Employer _____

SL	Name of Workman	Father' s /Husband' s Name	Designation/ Nature of Employment	Particulars of Damage or Loss	Date of Damage or Loss	Whether Workman showed Cause against Deduction	Name of Person in Whose Presence Employee' s Explanation was Heard	Amount of Deduction Imposed	No. of Instalments	Date of Recovery		Remarks
										First Instalment	Last Instalment	
1	2	3	4	5	6	7	8	9	10	11	12	13

FORM XXII

[See Rule 78 (2)(d)]

REGISTER OF ADVANCE

Name & Address of Contractor _____

Name & Address of Establishment in/under which Contract is carried on _____

Name & Location of Work _____

Name & Address of Principal Employer _____

SL	Name of Workman	Father' s / Husband' s Name	Designation/ Nature of Employment	Wage Period and Wages Payable	Date & Amount of Advance Given	Purpose(s) for which Advance Made	No. of Instalments by Which Advance to be Repaid	Date & Amount of each Instalment Repaid	Date on which Last Instalment was Repaid	Remarks
1	2	3	4	5	6	7	8	9	10	11

FORM XXIII

[See Rule 78 (2)(e)]

REGISTER OF OVER TIME

Name & Address of Contractor _____

Name & Address of Establishment in/under which Contract is carried on _____

Name & Location of Work _____

Name & Address of Principal Employer _____

SL	Name of Workman	Father' s/ Husband' s Name	Sex	Designation/ Nature of Employment	Date on which Overtime Worked	Total Over Time Worked or Production in Case of Piece Rated	Normal Rate of Wages	Overtime Rate of Wages	Overtime Earnings	Rate on which Overtime Wages Paid	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

FORM 31

INDENTURE FOR SECURED ADVANCES

(Ref : Para 10.2.20 and 10.2.22 of CPW A Code)

{For use in cases in which the contract is for finished work and the contractor has entered into an agreement for execution of a certain specified quantity of work in a given time}

THIS INDENTURE made the _____ day of _____, 20__ BETWEEN

_____ (hereinafter called the Contractor which expression shall where the context so admits or implies, be deemed to include his executors administrators and assigns) of the one part and the WAREHOUSING CORPORATION (hereinafter called the Corporation which expression shall where the context so admits or implies, be deemed to include his successors in office and assigns) of the other part.

WHEREAS by an agreement dated __/__/__ (hereinafter called the said agreement), the Contractor has agreed AND WHEREAS the Contractor has applied to the Corporation that he may be allowed advances on the security of materials absolutely belonging to him and brought by him to the site of the works, the subject of the said agreement for use in the construction of such of the works as he has undertaken to execute at rates fixed for the finished work (inclusive of the cost of materials and labour and other charges) AND WHEREAS, the Corporation has agreed to advance to the Contractor the sum of Rupees _____ on the security of materials, the quantities and other particulars of which are detailed in Accounts of Secured Advances, attached to the Running Account Bill for the said works signed by the Contractor on _____ and the Corporation has reserved to himself the option of making any further advance or advances on the security of other materials brought by the Contractor to the site of the said works.

Now THIS INDENTURE WITNESSETH that in pursuance of the said agreement and in consideration of the sum of Rupees _____ on or before the execution of these presents, paid to the Contractor by the Corporation (the receipt whereof the Contractor doth hereby acknowledge) and of such further advances (if any) as may be made to him as aforesaid the Contractor doth hereby covenant and agree with the Corporation and declare as follows :

- (1) That the said sum of Rupees _____, so advanced by the Corporation to the Contractor as aforesaid and all or any further sum or sums advanced as aforesaid shall be employed by the Contractor in or towards expediting the execution of the said works and for no other purpose whatsoever.
- (2) That the materials detailed in the said Account of Secured Advances which have been offered to and accepted by the Corporation as Security are absolutely the Contractor's own property and free from encumbrances of any kind and the contractor will not make any application for or receive a further advance on the security of materials which are not absolutely his own property and free from encumbrances of any kind and the Contractor indemnifies the Corporation against all claims to any materials in respect of which an advance has been made to him as aforesaid.
- (3) That the materials detailed in the said Account of Secured Advances and all other materials on the security of which any further advance or advances may hereafter be made as aforesaid (hereinafter called the said materials) shall be used by the Contractor solely in the execution of the said works in accordance with the directions of the Chief Engineer / Superintending Engineer, Corporate Office (hereinafter called the Chief Engineer / Superintending Engineer) and in the term of the said agreement.
- (4) That the Contractor shall make at his own cost all necessary and adequate arrangements for the proper watch, safe custody and protection against all risks of the said materials and that until used in construction as aforesaid, the said materials shall remain at the site of the said works in the Contractor's custody and on his own responsibility and shall at all times be open to inspection by the Chief Engineer / Superintending Engineer or any officer authorised by him. In the event of the said materials or any part thereof being stolen, destroyed or damaged or becoming deteriorated in a greater degree than is due to reasonable use and wear thereof, the Contractor will forthwith replace the same with other materials of like quality or repair and make good the same as required by the Chief Engineer / Superintending Engineer.

- (5) That the said materials shall not on any account be removed from the site of the said works except with the written permission of the Chief Engineer / Superintending Engineer or an officer authorised by him on that behalf.
- (6) That the advances shall be repayable in full when or before the Contractor receives payment from the Corporation of the price payable to him for the said works under the terms & provisions of the said agreement. Provided that if any intermediate payments are made to the Contractor on account of work done than on the occasion of each such payment the Corporation will be at liberty to make a recovery from the Contractor's bill for such payment by deducting there from the value of the said materials then actually used in the construction and in respect of which recovery has not been made previously, the value for this purpose being determined in respect of each description of materials at the rates at which the amounts of advances made under these presents were calculated.
- (7) That if the Contractor shall at any time make any default in the performance or observance in any respect of any of the terms and provisions of the said agreement or of these presents the total amount of the advance or advances that may still be owing to the Corporation shall immediately on the happening of such default be repayable by the Contractor to the Corporation together with interest thereon at twelve per cent per annum from the date or respective dates of such advance or advances to the date or e-payment and with all costs charges, damages & expenses incurred by the Corporation in or for the recovery thereof or the enforcement of this security or otherwise by reason of the default of the Contractor and the Contractor hereby covenants and agrees with the Corporation to repay and pay the same respectively to him accordingly.
- (8) That the Contractor hereby charges all the said materials with the repayment to the Corporation of the said sum of Rupees _____ and any further sum or sums advanced as aforesaid and all costs charges, damages and expenses payable under these presents PROVIDED ALWAYS and it is hereby agreed and declared that notwithstanding anything in the said agreement and without prejudice to the powers contained therein if and whenever the covenant for payment and repayment herein before contained shall become enforceable and the money owing shall not be paid in accordance therewith, the Corporation may at any time thereafter adopt all or any of the following courses as he may deem best :
 - (a) Seize and utilize the said materials or any part thereof in the completion of the said works on behalf of the Contractor in accordance with the provisions in that behalf contained in the said agreement debiting the Contractor with the actual cost of effecting such completion and the amount due in respect of advances under these presents and crediting the Contractor with the value of work done as if he had carried it out in accordance with the said agreement and at the rates thereby provided. If the balance is against the Contractor he is to pay same to the Corporation on demand.
 - (b) Remove and sell by public auction the seized materials or any part thereof and out of the moneys arising from the sale retain all the sums aforesaid repayable or payable to the Corporation under these presents and pay over the surplus (if any) to the Contractor.
 - (c) Deduct all or any part of the moneys owing out of the Security Deposit or any sum due to the Contractor under the said agreement.
- (9) That except in the event of such default on the part of the Contractor as aforesaid, interest on the said advance shall not be payable.
- (10) That in the event of any conflict between the provisions of these presents and the said agreement, the provisions of these presents shall prevail and in the event of any dispute or difference arising over the construction or effect of these presents, the settlement of which has not been herein before expressly provided for the same, shall be finally resolved as per provisions of Clause 25 of the contract.

In witness whereof the said _____ and _____ by the order and under the direction of the Corporation have hereunto set their respective hands the day and year first above written.

Signed, sealed and delivered by _____, the said Contractor in the presence of –

Signature _____

Witness Name _____

Address _____

Signed by _____ by the order and direction of the Corporation / Engineer-in-Charge of the Corporation in the presence of –

Signature _____

Witness Name _____

Address _____

SAFETY CODE

1. Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra Mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable footholds and hand-hold shall be provided on the ladder and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ to 1 ($\frac{1}{4}$ horizontal and 1 vertical).
2. Scaffolding of staging more than 3.6 m (12 ft) above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90 cm (3 ft) high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
3. Working platforms, gangways and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6 m (12 ft) above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in Para 2. above.
4. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of person or materials by providing suitable fencing or railing whose minimum height shall be 90 cm (3 ft).
5. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m (30 ft) in length while the width between side rails in rung ladder shall in no case be less than 29 cm (11½") for ladder upto and including 3 m (10 ft) in length. For longer ladders, this width should be increased at least $\frac{1}{4}$ " for each additional 30 cm (1 foot) of length. Uniform step spacing of not more than 30 cm shall be kept.

Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit; action or proceedings to any such person or which may, with the consent of the contractor, be paid to compensate any claim by any such person.
6. (a) Excavation and Trenching – All trenches 1.2 m (4 ft) or more in depth, shall at all times be supplied with at least one ladder for each 30 m (100 ft) in length or fraction thereof. Ladder shall extend from bottom of the trench to at least 90 cm (3 ft) above surface of the ground. Side of the trenches which are 1.5 m (5 ft) or more in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 m (5 ft) of the edges of the trench or half of the depth of the trench, whichever is more. Cutting shall be done from top to bottom. Under no circumstances, undermining or undercutting shall be done.
(b) Safety Measures for Digging Bore Holes –
 - (i) If the bore well is successful, it should be safely capped to avoid caving and collapse of the bore well. The failed and the abandoned ones should be completely refilled to avoid caving and collapse
 - (ii) During drilling, sign boards should be erected near the site with the address of the drilling contractor and the Engineer in-charge of the work
 - (iii) Suitable fencing should be erected around the well during the drilling and after the installation of the rig on the point of drilling, flags shall be put 50 m around the point of drilling to avoid entry of people
 - (iv) After drilling the bore well, a cement platform (0.5 m x 0.5 m x 1.2 m) 0.6 m above ground level and 0.6 m below ground level should be constructed around the well casing

- (v) After completion of the bore well, contractor should cap the bore well properly by welding steel plate, cover the bore well with drilled wet soil and fix thorny shrubs over the soil. This should be done even while repairing the pump
 - (vi) After bore well is drilled, the entire site should be brought to the ground level.
7. Demolition - Before any demolition work is commenced and also during the progress of the work,
- (i) All roads and open areas adjacent to the work site shall either be closed or suitably protected
 - (ii) No electric cable or apparatus which is liable to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged
 - (iii) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.
8. All necessary personal safety equipment, as considered adequate by the Engineer-in-Charge should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use and the contractor should take adequate steps to ensure proper use of equipment by those concerned.
- The following safety equipment shall invariably be provided –
- (i) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
 - (ii) Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes, shall be provided with protective goggles.
 - (iii) Those engaged in welding works shall be provided with welder's protective eye shields.
 - (iv) Stone Breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
 - (v) When workers are employed in sewers and manholes, which are in active use, the contractors shall ensure that the manhole covers are opened and ventilated at least for an hour before the workers are allowed to get into the manholes and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public. In addition, the contractor shall ensure that the following safety measure are adhered to :
 - (a) Entry for workers into the line shall not be allowed except under supervision of the Site Engineer or any other higher officer.
 - (b) At least 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manhole for working inside.
 - (c) Before entry, presence of Toxic gases should be tested by inserting wet lead acetate paper which changes colour in the presence of such gases and gives indication of their presence.
 - (d) Presence of Oxygen should be verified by lowering a detector lamp into the manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with Oxygen Kit.
 - (e) Safety belt with rope should be provided to the workers. While working inside the manholes, such rope should be handled by two men standing outside to enable him to be pulled out during emergency.
 - (f) The area should be barricaded or cordoned off by suitable means to avoid mishaps of any kind. Proper warning signs should be displayed for the safety of the public, whenever cleaning works are undertaken during night or day.
 - (g) No smoking or open flames shall be allowed near the blocked manhole being cleaned.
 - (h) The malba obtained on account of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on account of slippery nature of the malba.
 - (i) Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Engineer-in-Charge shall decide the time upto which a worker may be allowed to work continuously inside the manhole.
 - (j) Gas masks with Oxygen Cylinder should be kept at site for use in emergency.
 - (k) Air-blowers should be used for flow of fresh air through the manholes. Whenever called for, portable air blowers are recommended for ventilating the manholes. The Motors for these shall be vapour proof and of totally enclosed type. Non-sparking gas engines also could be used, but

they should be placed at least 2 m away from the opening and on the leeward side protected from wind, so that they will not be source of friction on any inflammable gas that might be present.

- (l) Workers engaged for cleaning the manholes/sewers should be properly trained before allowing to work in the manhole.
- (m) Workers shall be provided with Gumboots or non-sparking shoes, bump helmets and gloves, non-sparking tools, safety lights, gas masks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer lines.
- (n) Workmen descending a manhole shall try each ladder stop or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung, fixed to manhole well.
- (o) If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.
- (p) The extents to which these precautions are to be taken, depend on individual situation, but decision of the Engineer-in-Charge regarding the steps to be taken in this regard in an individual case, will be final.
- (vi) Contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, following precautions should be taken :
 - (a) No paint containing lead or lead products shall be used except in the form of paste or readymade paint.
 - (b) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scrapped.
 - (c) Overalls shall be supplied by the contractors to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on the cessation of work.
- (vii) Workmen executing work on scaffolds or other structures above specified height shall be provided with full body harness and fall arresters.

9. An additional Clause (viii)(i) of CPWD's Safety Code (iv) - the Contractor shall not employ women and men below the age of 18 on the work of painting with product containing lead in any form, wherever men above the age of 18 are employed on the work of lead painting, the following principles must be observed for such use:

- (i) White lead, sulphate of lead or product containing this pigment, shall not be used in painting operation except in the form of pastes or paint ready for use.
- (ii) Measures shall be taken, wherever required in order to prevent danger arising from the application of paint in the form of spray.
- (iii) Measures shall be taken, wherever practicable, to prevent danger arising out of from dust, caused by dry rubbing down and scraping.
- (iv) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.
- (v) Overall, shall be worn by working painters during the whole of working period.
- (vi) Suitable arrangement shall be made to prevent clothing put off during working hours, being spoiled by painting materials.
- (vii) Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by medical man, appointed by competent authority of Central Warehousing Corporation.
- (viii) The Central Warehousing Corporation may require, when necessary, medical examination of workers.
- (ix) Instructions with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters.

10. When the work is done near any place where there is risk of drowning, all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision, should be made for prompt first aid treatment of all injuries likely to be obtained during course of the work.

11. Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions :
 - (i) (a) These shall be of good mechanical construction, sound materials and adequate strength and free from patent defects and shall be kept repaired and in good working order.
 - (b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength and free from patent defects.
 - (ii) Every Crane Driver or Hoisting Appliance Operator shall be properly qualified and no person under the age of 21 years should be in-charge of any hoisting machine including any scaffolding winch or give signals to operator.
 - (iii) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load, each safe working load and the condition under which it is applicable, shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
 - (iv) In case of departmental machines, the safe working load shall be notified by the Electrical Engineer-in-Charge. As regards contractor's machines, the contractors shall notify the safe working load of the machine to Engineer-in-Charge whenever he brings any machinery to site of work and get it verified by the Electrical Engineer concerned.
12. Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The worker should not wear any rings, watches and carry keys or other materials which are good conductors of electricity.
13. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.
14. These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the Safety Code shall be named therein by the contractor.
15. To ensure effective enforcement of the rules & regulations relating to safety precautions, the arrangements made by the contractor shall be open to inspection by the Labour Officer or Engineer-in-Charge of the department or their representatives.
16. Notwithstanding the above Clauses from (1) to (15), there is nothing in these to exempt the contractor from operations of any other Act or Rule in force in the Republic of India.

APPLICATION FORM BY CONTRACTOR FOR SEEKING EXTENSION OF TIME

(Refer : Clause 5)

1. Name of Contractor _____
2. Name of Work as given in the Agreement _____
3. Agreement no. _____
4. Estimated Amount put Tender _____
5. Date of Commencement of Work as per Agreement _____
6. Period Allowed for Completion of work as per Agreement _____
7. Date of Completion Stipulated in Agreement _____
8. Period for which Extension of Time, if has been given by Authority in Schedule 'F' previously

Extensions	Letter no. & Date	Extension Granted	
		Months	Days
(a) 1 st Extension			
(b) 2 nd Extension			
(c) 3 rd Extension			
(d) 4 th Extension			
(e) Total extension previously given			

9. Reasons for which extension have been previously given (copies of the previous applications should be attached) _____
10. Period for which extension applied for _____
11. Hindrances on account of which extension is applied for with dates on which hindrances occurred and the period for which these are likely to last (for causes under Clause 5.2/5.3)

Submitted to the Authority indicated in Schedule 'F' with copy to the Engineer-in-Charge and Chief Engineer / Superintending Engineer.

Signature of Contractor
Dated ___/___/___

APPENDIX – G-XVIII

Reference : Clause 5
Registered Acknowledgement Due

PROFORMA FOR TIME EXTENSION

No. _____

Dated : _____

To

Sub : (i) _____(name of work)

(ii) Acceptance letter no. _____

(iii) Understanding/Agreement no. _____

Ref : _____(Quote specific application of Contractor for time extension) _____

Dear Sir,

1. The stipulated date for completion of the work mentioned above is _____. From the progress made so far and the present rate of progress, it is unlikely that the work will be completed by the above date (or 'However, the work was not completed on this date').
2. Expecting that you may be able to complete the work if some more time is given, the competent authority, although not bound to do so, hereby extends the time for completion from _____ to _____.
3. Please note that an amount equal to the liquidated damages for delay in the completion of the work after the expiry of _____(give here the stipulated date for completion with/without any liquidated damage fixed earlier) will be recovered from you as mentioned in Clause 5 of General Conditions of Contract for the extended period, notwithstanding the grant of this extension. You may proceed with the work accordingly.
4. The above extension of the completion date will also be subject to the further condition that no increase in rates on any account will be payable to you.
5. Please intimate within a week of the receipt of this letter your acceptance of the extension of the conditions stated above.
6. Please note that in the event of your declining to accept the extension on the above said conditions or in the event of your failure after accepting or acting upto this extension to complete the work by _____(here mention the extended date), further action will be taken in terms of Clause 3 of General Conditions of Contract.

Yours faithfully

For and on behalf of the Corporation

Notice for Appointment of Arbitrator

[Refer Clause 25]

To
The Managing Director,

Central Warehousing Corporation,
CORPORATE OFFICE,
4/1, Siri Institutional Area,
August Kranti Marg, Hauz Khas,
New Delhi - 110016.

Dear Sir,

In terms of Clause 25 of the Agreement, particulars of which are given below, I/we hereby give notice to you to appoint an Arbitrator for settlement of disputes mentioned below :

1. Name of applicant
2. Whether applicant is Individual/Prop. Firm/Partnership Firm/Ltd. Co.
3. Full address of the applicant
4. Name of the work and contract number in which arbitration sought
5. Name of the Office which entered into contract
6. Contract amount in the work
7. Date of contract
8. Date of initiation of work
9. Stipulated date of completion of work
10. Actual date of completion of work (if completed)
11. Total number of claims made
12. Total amount claimed
13. Date of intimation of final bill (if work is completed)
14. Date of payment of final bill (if work is completed)
15. Amount of final bill (if work is completed)
16. Date of request made to Engineer-in-charge for decision
17. Date of receipt of Engineer-in-charge's decision
18. Date of appeal to you
19. Date of receipt of your decision.

Specimen Signatures of the Applicant
(only the person/authority who signed the contract should sign)

I/We certify that the information given above is true to the best of my/our knowledge. I/We enclose following documents.

1. Statement of Claims with amount of Claims

Yours faithfully

(Signature)

Copy in duplicate to :

1. The Engineer-in-Charge

SHOW CAUSE NOTICE

Office of Superintending Engineer / Chief Engineer, _____ / CWC
(Without Prejudice)

To
M/s _____

Dear Sir,

Sub. - Name of Work : _____
Contract Agreement No. : _____

In spite of repeated instructions to you by the subordinate offices as well as by this office in various letters of even no. _____, dated _____; you have failed to start work / show adequate progress / submit detailed programme / _____ (strike out whichever is not applicable) for completing the work.

2. Your attention is invited to this office/Chief Engineer's office letter no. _____, dated ___ in reference to your representation, dated _ (strike out, if not applicable).
3. As you have failed to abide by the instructions issued to commence the work/to show adequate progress of work, you are hereby given ___ (_____) days' notice (minimum 15 days) in accordance with Clause 3.1 of CWC's General Conditions of Contract to commence works / to make good the progress, failing which further action as provided in Clause 3.2 of the CWC's General Conditions of Contract, viz. to terminate your Contract and complete the balance work without your participation, will be taken.

Kindly acknowledge receipt.

Yours faithfully

For and on behalf of the Corporation

Note : While determining the contract under any of the Sub-Clause (i) to (xi) of Clause 3.1; for causes other than the causes as mentioned above (viz. start work, show adequate progress, submit detailed programme, insolvency etc.), suitable modifications in the letter may be made.

TERMINATION NOTICE

Office of Superintending Engineer / Chief Engineer, _____ / CWC
(Without Prejudice)

To
M/s _____

Dear Sir(s),

Sub. - Name of Work : _____
Contract Agreement No. : _____

Show Cause Notice under Clause 3.1 of CWC's General Conditions of Contract was served upon you under this office letter no. _____, dated __/__/20__; but no reply has been given by you so far / your reply vide letter no. _____ received in response has been considered carefully, but not found to the satisfaction of the Engineer-in-Charge and you have also taken no action to commence the work / show adequate progress / submit detailed programme / _____ (strike out whichever is not applicable and the arguments/facts claimed by the contractor be indicated in brief).

Therefore, under powers delegated under Clause 3.2, I _____ the Engineer-in-Charge for the aforesaid work under the aforesaid agreement, for and on behalf of the President of India, hereby –

- (i) Determine/Terminate the contract as aforesaid upon which determination your Earnest Money Deposit, Security Deposit already recovered and Performance Guarantee stand absolutely forfeited to the Govt. and shall be absolutely at the disposal of Govt., and
- (ii) Take out such part of the work out of your hand, as remains unexecuted, for giving it to another contractor to complete the work, and you shall have no claim to compensation for any loss sustained by you by reasons of your having purchased or procured any materials or entered into any engagements or made any advances on account of or with a view to the execution of the work or the performance of the contract.
- (iii) You are also hereby served with Notice to the effect that the work executed by you will be measured up on __/__/20__ for which you are asked to attend for joint measurement, failing which the work will be measured by the department unilaterally in your absence and result of measurement will be final & will be binding on you.
- (iv) You shall not be allowed to participate in the tendering process for the balance work.

This is without prejudice to Govt.'s right to take action under any other Clauses or Sub-Clauses of the agreement and to realize Govt. dues and losses & damages whatsoever under such Clauses or Sub-Clauses.

Kindly acknowledge receipt.

Yours faithfully

For and on behalf of the Corporation

Note : While determining the contract under any of the Sub-Clause (i) to (xi) of Clause 3.1; for causes other than the causes as mentioned above (viz. start work, show adequate progress, submit detailed programme, insolvency etc.), suitable modifications in letter may be made.



केंद्रीय भंडारण निगम

(भारत सरकार का एक उपक्रम)

CENTRAL WAREHOUSING CORPORATION

(A Govt. of India Undertaking)

Corporate Office	4/1, Siri Institutional Area, August Kranti Marg, Hauz Khas, New Delhi-110016, Ph. No. & Fax No. (011) 49857894 Email Id: engg.cwhc@cewacor.nic.in
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E- Tender

Tender Reference Number:(E NIT_ CWC/CO/Engg./NIT/24-25/06)

For Procurement of Works:

Name of Work: Design, supply, installation, testing and commissioning of Fire Fighting System for Godown No. 1 & 2 at CW Kolathur, Kerala.

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Volume-III

SECTION –VIII

(TECHNICAL CONDITIONS / SPECIFICATIONS)

CHAPTER-I: TECHNICAL SPECIFICATIONS FOR CIVIL WORKS

GENERAL

SCOPE

These Specifications establish and define the materials and constructional requirements for engineering construction works in brief.

EQUIVALENCY OF STANDARDS AND CODES, MEASUREMENTS & MATERIALS

Wherever reference is made in the contract to specific standards and codes to be met by the goods and materials to be furnished, and work performed or tested, the provisions of the latest current edition or revision of the relevant standards and codes in effect shall apply, unless otherwise expressly stated in the contract. In case, no reference is made for any particular work, relevant IS/BIS Codes will be followed.

- 1.2.1 Providing and operating necessary measuring & testing devices and materials including all consumables are included in the Scope of Work. No separate measurement or payment for testing the work shall be made, but rates quoted for various items shall be deemed to include cost of such tests, which are required to ensure achievement of specified quality.
- 1.2.2 All materials shall be of standard quality, manufactured by renowned concerns, conforming to Indian Standards and shall have certification work from Bureau of Indian Standards as far as possible, unless otherwise approved by Engineer. The contractor shall get all materials approved by Engineer prior to procurement and use. The contractor shall furnish manufacturer's certificates, for materials supplied by him when asked for. Further to that he shall get materials tested from an approved Test House, if asked for by the Engineer. Cost for all the tests and test certificates shall be borne by the contractor. No separate payment shall be made for the testing. The Engineer shall have the right to determine whether all or any of the materials are suitable. Any materials procured or brought to site and not conforming to specifications and satisfaction of the Engineer shall be rejected and the contractor shall have to remove the same immediately from site at his own expense & without any claim for compensation due to such rejection.
- 1.2.3 All goods and materials to be incorporated in the works shall be new, unused, of the most recent or current models and incorporate all recent improvements in design & materials, unless provided otherwise in the contract.
- 1.2.4 Wherever referred to in this tender document, only the latest revision of Specifications, Codes of Practice and other publications of the Indian Standards shall be applicable.

A. EXCAVATION:

1) CLASSIFICATION OF SOILS FOR EARTH WORK IN EXCAVATION

The earth work shall be classified under the following categories and measured separately for each category.

- i. **All kinds of soils:** Generally any strata, such as sand, gravel, loam, clay, mud, black cotton moorum, shingle, river or nallah bed boulders, siding of roads, paths etc. and hard core, macadam surface of any description (water bound, grouted tarmac etc.), lime concrete, mud concrete and their mixtures which for excavation yields to application of picks, showels, jumper, scarifiers, ripper and other manual digging implements.
- ii. **Ordinary rock:** Generally any rock which can be excavated by splitting with crow bars or picks and does not require blasting, wedging or similar means for excavation such as lime stone, sand stone, hard laterite, hard conglomerate and unreinforced cement concrete below ground level. If required light blasting may be resorted to for loosening the materials but this will not in any way entitle the material to be classified as „Hard rock“.
- iii. **Hard rock:** Generally any rock or boulder for the excavation of which blasting is required such as quartzite, granite, basalt, reinforced cement concrete (reinforcement to be cut through but not separated from concrete) below ground level and the like.

- 2) **Engineer-in-Charge** will furnish all necessary drawings showing the areas to be excavated, filled, sequence of priorities etc. Contractor shall follow such drawings strictly.

3) Excavation Category:

a) Excavation in Open area/ Wide Excavation:

- Excavation exceeding 1.5 m in width and 10 sqm on plan and exceeding 30 cm in depth.
- Excavation for basements, water tanks etc.
- Excavation in trenches exceeding 1.5 m in width and 10 sqm on plan

b) Surface Excavation.

- Excavations exceeding 1.5 m in width and 10 sqm. on plan but not exceeding 30 cm. in depth in all types of soils and rocks shall be described as surface excavation

c) Excavation in foundation & Trenches.

- This shall comprise excavation not exceeding 1.5 m in width or 10 sqm on plan and to any depth in trenches (excluding trenches for pipes, cables, conduits etc.)

4) General

Contractor shall provide all tools, plants, instruments, qualified supervisory personnel, labor, materials, and temporary works, consumables, any and everything necessary, whether or not such items are specifically stated herein, for completion of the Work.

Contractor shall set properly all lines and establish levels for various works such as earthworkin excavation for levelling, basement, foundations, plinth filling, roads, drains, cable trenches, pipelines etc.

The area to be excavated / filled shall be cleared of fences, trees, plants, logs, slumps, bush, vegetation, rubbish slush etc. and other objectionable matter. If any roots or stumps of trees are found during excavation, they shall also be removed. The material so removed shall be burnt or disposed off as directed by Engineer. Where earth fill is intended, the area shall be stripped of all loose/soft patches, top soil containing deleterious matter/materials before fill commences. Final cleaning shall be done with removal of all rubbish up to the distance of 50.0 m all around outside the periphery of building.

5) Relics, Objects of Antiquity, Etc.

All gold, silver, oil minerals archaeological and other findings of importance, all precious stones, coins, treasures, relics, antiquities and other similar things which may be found in or upon the site shall be the property of Engineer-in-Charge and Contractor shall dully preserve the same to the satisfaction of Engineer-in-Charge and from time to time deliver the same to such person or persons as Engineer-in-Charge may from time to time authorize or appoint to receive the same.

6) Site Clearance:

Before the start of work, the area of the Site shall be cleared of all shrubs, vegetation, grass, bush wood, stumps, saplings etc of girth up to 30cm measured at a height of one metre above ground level. All the building shall be laid out to ensure that the layout plan fits at site. Trees if any live within construction site layout shall be shifted to other safe place as directed by Engineer in charge (at extra cost). After completion of the work, the entire area of the site shall be cleared from all debris, unwanted materials / equipment and level / slope of ground as required at site up to peripheral roads. The debris and unwanted material shall be disposed off away from the site without any extra cost.

7) Site Levels:

After site clearance and before commencement of excavation or filling, the contractor shall take levels in both longitudinal and transverse directions of the building at regular intervals as directed by Engineer in charge at site for the entire layout where the new work is to be executed. A record of these levels shall be signed jointly by Contractor and the Engineer-in-charge. These records shall be submitted to the Engineer-in-charge and shall be used in deciding the NGL, PL, FFL and measurement of earth work.

8) Setting out of works:

The contractor shall set out the works and shall provide & fix all setting out apparatus required and solely be responsible for the true and perfect setting out the same and for correctness of the position, levels, dimensions and alignment of all buildings as per the drawings. The contractor shall take in writing the approval of the Engineer-in-charge for setting out and levels before starting the construction works. These approvals shall be recorded and signed by the Engineer-in-charge and contractor.

A masonry pillar to serve as a bench mark will be erected at a suitable point in the area, which is visible from the largest area. This bench mark shall be constructed and connected with the standard bench mark as approved by the Engineer-in-Charge. Necessary profiles with strings stretched on pegs, bamboos or 'Burjis' shall be made to indicate the correct formation levels before the work is started.

9) Surface Dressing:

The surface area to be occupied by the building shall be cleared of all debris, shrubs and plants, grass etc. The roots of trees and saplings shall be removed to a depth of 60cm below ground level or 30 cm below formation level or 15 cm below sub grade level, whichever is lower, and the holes or hollows filled up with the earth, rammed and leveled. All roots and organic material shall be cleared from the filling area inside the building.

10) Important Note:

The works mentioned above viz Site clearance, site levels, setting out and Surface dressing are part of contractor scope and shall be done by Contractor without any extra cost or payment from CWC.

However, Major works like or large scale/Dense jungle clearance, Surface excavation, Shifting and /or Cutting of Trees (more than 300 mm dia in girth at height of 1 meter above ground) or any major clearance requiring shifting of CWC stored material, Existing structures and services such as old buildings, culverts, fencing, water supply pipe lines, sewers, power cables, communication cables, drainage pipes etc. within or adjacent to the area etc., if required to be diverted/removed, shall be diverted/dismantled as per directions of the Engineer-in-charge of site of work, and shall be payable extra as per agreed Bill of quantities and schedule of rates.

11) Excavation in Trenches and Over Areas:

- I. All excavation operations manually or by mechanical means shall include excavation and 'getting out' the excavated materials.
- II. During the excavation the natural drainage of the area shall be maintained. Excavation shall be done from top to bottom. Undermining or undercutting shall not be done.
- III. In firm soils, the sides of the trenches shall be kept vertical upto a depth of 2 metres from the bottom. For greater depths, the excavation profiles shall be widened by allowing steps of 50 cms on either side after every 2 metres from the bottom. Alternatively, the excavation can be done so as to give slope of 1:4 (1 horizontal: 4 vertical). Where the soil is soft, loose or slushy, the width of steps shall be suitably increased or sides sloped or the soil shored up as directed by the Engineer-in-Charge. It shall be the responsibility of the contractor to take complete instructions in writing from the Engineer-in-Charge regarding the stepping, sloping or shoring to be done for excavation deeper than 2 metres
- IV. The earth work in excavation shall be done as per the required depths, width & length shown in approved Excavation Plan /drawings and in line of site levels and alignments in all sorts of soils as directed by Engineer in charge. Nothing extra, from the dimensions shown in approved excavation plan, shall be payable for excavation done for working space for labor. Only neat line excavation as per drawing shall be payable. Roots or trees met with during the excavation shall be cut and removed. Excavated earth

shall be stacked at least 3 m away from the trenches or as per the Engineer's instructions, so that it may not damage the sides of the excavated trenches. The sides of the excavated trenches shall be in straight line and bottom uniformly levelled watered, consolidated and ready for termite treatment. The maximum lead for stacking the earth shall be 200 m, unless otherwise categorically specified in the item description.

- V. Earth work in excavation in any type of soil existing at site for foundations of rafts, columns and walls / half brick walls / from existing ground level shall be as indicated on the drawings. The finish floor level of building shall be as per drawings and shall be approved by the Engineer- in- charge after fixing of same at Site by Contractor. The work shall be executed at site as per the levels approved by the Engineer- in- charge.
- VI. Immediately after the excavation of the foundation work, concreting therein and before covering the same the record of the levels as actually executed at site shall be recorded in the measurement books and jointly signed and dated by the Engineer- in- charge & Contractor -
- VII. If trenches or foundations are excavated beyond the specified dimensions due to bad workmanship of contractor, the extra excavation shall be filled with selected good earth ensuring adequate compaction duly watered, consolidated and rammed at the cost of contractor.
- VIII. Explosives of any form shall not be used for any construction activity. Where hard rock is met with and blasting operations are considered necessary, the contractor shall obtain the approval of the Engineer- in- Charge in writing for resorting to blasting operation. In ordinary rock blasting operations shall not be generally adopted. However, the contractor may resort to blasting with the permission of the Engineer- in-charge, but nothing extra shall be paid for such blasting operations.
- IX. From the date when the Contractor starts work under this contract, or from the required contract date, whichever is earlier, the Contractor shall assume all responsibilities for earth and rock banks. Such responsibility shall continue to the date when all work under the contract is completed and approved by Engineer- in- Charge. The contractor shall provide sheeting, shoring and bracing required for the support of earth and rock banks during construction. Sheeting, shoring and bracing shall be maintained in place until immediately before filling or backfilling then shall be removed by stages as the filling or backfilling progresses. Engineer- in- Charge reserves the right to specify shoring or bracing as may be deemed necessary by them.
- X. Any settlement or washing away of filled or backfilled areas, and earth and rock banks, that may occur from the action of the elements, or any other cause, prior to acceptance of work, shall be repaired and grades re- established to the required elevations and slopes, at no additional cost.
- XI. Excavation where directed by the Engineer-in- Charge shall be securely barricaded and provided with proper caution signs, conspicuously displayed during the day and properly illuminated with red lights and/or written using fluorescent reflective paint as directed by engineer in charge during the night to avoid accident.
- XII. The Contractor shall take adequate protective measures to see that the excavation operations do not damage the adjoining structures or dislocate the services. Water supply pipes, sluice valve chambers, sewerage pipes, manholes, drainage pipes and chambers, communication cables, power supply cables etc. met within the course of excavation shall be properly supported and adequately protected, so that these services remain functional. However, if any service is damaged during excavation shall be restored in reasonable time.
- XIII. Excavation shall not be carried out below the foundation level of the adjacent buildings until underpinning, shoring etc. is done as per the directions of the Engineer-in-Charge for which payment shall be made separately. Contractor will be responsible if he has not taken precaution for the safety of the people, property or neighbor's property caused by his negligence during the constructional operations or unsafe excavation.
- XIV. Any damages done by the contractor to any existing work shall be made good by him at his own cost. Existing drains pipes, culverts, overhead wires, water supply lines and similar services encountered during the course of execution shall be protected against damage by the contractor. The contractor shall not store material or otherwise occupy any part of the site in manner likely to hinder the operations of such services.
- XV. To the extent available, selected surplus spoils from excavated materials shall be used as backfill. Fill material shall be free from clods, salts, sulphates, and organic & other foreign material. All clods of earth shall be broken or removed. Where excavated material is mostly rock, the boulders shall be broken into pieces not larger than 150 mm size, mixed with properly graded fine material consisting of moorum or earth to fill up the voids and the mixture used for filling.
- XVI. As soon as the work in foundations has been accepted and measured, the spaces around the foundations, structures, pits, trenches etc. shall be cleared of all debris and filled with earth in layers 15 cm to 20 cm, each layer being watered, rammed and properly consolidated before the succeeding one is laid. Each layer shall be consolidated to the satisfaction of Engineer- in- Charge.

- XVII. Trench width in case of excavation in trenches for pipes, cables etc.
- Upto one metre depth the authorized width of trench for excavation shall be arrived at by adding 25 cm to the external diameter of pipe (not socket/ collar) cable, conduit etc. Where a pipe is laid on concrete bed/ cushioning layer, the authorized width shall be the external diameter of pipe (not socket/ collar) plus 25 cm or the width of concrete bed/ cushioning layer whichever is more.
 - For depths exceeding one metre, an allowance of 5 cm per metre of depth for each side of the trench shall be added to the authorized width (that is external diameter of pipe plus 25 cm) for excavation. This allowance shall apply to the entire depth of the trench. In firm soils the sides of the trenches shall be kept vertical upto depth of 2 metres from the bottom. For depths greater than 2 metres, the excavation profiles shall be widened by allowing steps of 50 cm on either side after every two metres from bottom.
 - Where more than one pipe, cable, conduit etc, are laid, the diameter shall be reckoned as the horizontal distance from outside to outside of the outermost pipes, cable, conduit etc.
 - Where the soil is soft, loose or slushy, width of trench shall be suitably increased or side sloped or the soil shored up as directed by the Engineer-in-Charge. It shall be the responsibility of the contractor to take complete instructions in writing from the Engineer-in-Charge regarding increase in the width of trench. Sloping or shoring to be done for excavation in soft, loose or slushy soils.

12) FILLING

- I. The excavated stacked earth (other than Black cotton soil or disposable soil as decided by Engineer in charge) shall be filled in trenches, sides of foundations and under floor in layers of 200mm thick and balance shall be disposed off by uniform spreading within the site as directed by the Engineer-in- Charge. The Filling with excavated earth shall be done in regular horizontal layers and all lumps and clods exceeding 8 cm in any direction shall be broken. Each layer shall be watered and consolidated with steel rammer or ½ tonne roller.
- II. The Selected earth supplied and used for filling shall be free from all roots, grass, shrubs, rank vegetation, brushwood, tress, sapling and rubbish. Sand , supplied for filling shall be clean and free from dust organic and foreign matter and its grading shall be within the limits of grading zone IV or V as specified in Section 3 'Mortars' of CPWD specifications of work.
- III. In case of filling under floor /open area with excavated available or supplied good earth etc., every third and top must layer shall also be consolidated with power roller of minimum 8 tonnes. Wherever depth of filling exceeds 1.5 metre vibratory power roller shall be used to consolidate the filing unless otherwise directed by Engineer-in-charge. The top and sides of filling shall be neatly dressed. The contractor shall make good all subsidence and shrinkage in earth fillings, embankments, traverses etc. during execution and till the completion of work unless otherwise specified.
- IV. Filling in trenches for foundations, pipes etc shall be commenced soon after the Concrete/Masonry works in foundations etc, joints of pipes, cables, conduits etc. have been tested and passed. The space around the footing, pedestals, foundation masonry, pipes, cables conduits etc. shall be cleared of all debris, brick bats etc. Where the trenches are excavated in hard/ soft soil, the filling shall be done with earth on the side and top of pipes in layers not exceeding 20 cm in depth. Each layer shall be watered, rammed and consolidated. All clods and lumps of earth exceeding 8 cm in any direction shall be broken or removed before the excavated earth is used for filling. In case of excavation trenches in ordinary/ hard rock, the filling upto a depth of 30cm above the crown of pipe, cable, conduits etc. shall be done with fine material like earth, moorum or pulverized/ decomposed rock according to the availability at site. The remaining filling shall be done with boulders of size not exceeding 15cm mixed with fine material like decomposed rock, moorum or earth as available to fill up the voids, watered, rammed and consolidated in layers not exceeding 30cm. Excavated material containing deleterious material, salt peter earth etc. shall not be used for filling. Ramming shall be done with iron rammers where feasible and with blunt ends of crow bars where rammers cannot be used. Special care shall be taken to ensure that no damage is caused to the pipes, Cables, Conduits etc. laid in the trenches.

13)Lead

Lead for deposition/disposal of excavated material, shall be within a lead of 200m unless specifically mentioned in Tender items. The Deposition/disposal shall be as directed by Engineer- in- Charge. Only leads beyond 200m shall be considered as extra lead if not specifically mentioned in tender items and the Contractor shall be paid extra. For the purpose of measurement of lead the area to be excavated or filled or area on which excavated material is to be deposited/disposed off shall be divided into suitable blocks and for each of the blocks, the distance between centerlines shall be taken as the lead which shall be measured, as far as practically possible, by the shortest straight line route on the plan and not the actual route taken by Contractor. No extra compensation is admissible on the grounds that the lead including that for borrowed materials had to be transported over marshy or katcha land/route.

B. CONDITIONS FOR WATER:

Unless specifically mentioned in Schedule –F, The contractor shall make his own arrangement for providing water for construction and drinking purpose. Water charges shall not be recovered on account of it. Contractor shall get the water tested from any laboratory approved by the Engineer-in-charge at regular interval as per the CPWD Specifications. All expenses towards collection of samples, packing transportation except testing charges etc. shall be borne by the contractor.

C. FORM WORK

- I. The supply, erection, workmanship, stripping, measurement, and scope of works covered under the rates etc. shall be in general as per CPWD Specifications unless specifically mentioned in tender document.
- II. Rates in tender items shall be valid for all heights for carrying out Centering, and shuttering for all RCC /PCC works, wall finishing works etc wherever required for construction works in Warehouse and no extra cost shall be paid unless specifically mentioned in tender BOQ.
- III. Where it is not specifically stated in the description of the item that form work shall be paid for separately, the rate of the RCC item shall be deemed to include the cost of form work.
- IV. No deductions from the shuttering due to the openings/ obstructions shall be made if the area of each openings/ obstructions does not exceed 0.4 square metre. Nothing extra shall be paid for forming such openings.
- V. Only M.S. Centering/shuttering and scaffolding material unless & otherwise specified shall be used to give an even finish of concrete surface. However, marine-ply shuttering in as per site requirement may be used on specific request from contractor to be approved by the Engineer-in-charge.
- VI. Centring and shuttering for all concrete and reinforced concrete wherever required shall be in steel and / or plywood to produce a smooth and uniform finish on all exposed surfaces. However, all props, bracings, scaffolding etc., shall be in steel. The entire responsibility of planning, design, erection and safety of formwork shall lie with the Contractor.
- VII. Extra for shuttering in curved profile: For shuttering curved in elevation the steel/ply shuttering shall be fabricated to achieve the curved profile as per the architectural drawings and nothing extra shall be payable on this account.
- VIII. In order to keep the floor finish as per architectural drawings and to provide required thickness of the flooring as per specifications, the level of top surface of RCC shall be accordingly adjusted at the time of its centering, shuttering and casting for which nothing extra shall be paid to the Contractor.
- IX. As per general engineering practice, level of floors in toilets/bath, balconies, shall be kept 12 to 20mm lower than general floor as required. Shuttering should be adjusted accordingly. Nothing extra is payable on this account.

- X. Steel shuttering as approved by the Engineer-in-charge only shall be used by the contractor. Minimum size of shuttering plates shall be 600mm x 900mm except for the case when closing pieces required to complete the shuttering panels. Dented, broken, cracked, twisted or rusted shuttering plates shall not be allowed to be used on the work. The shuttering plates shall be cleaned properly with electrically driven sanders to remove any cement slurry or cement mortar or rust. Proper shuttering oil or de-bonding compound shall be applied on the surface of the shuttering plates in the requisite quantity before assembly of steel reinforcement.
- XI. For the execution of centring and shuttering, the contractor shall use propriety „Reebole“ chemical mould release agent of FOSROC or equivalent as shuttering oil as approved by Engineer-in-charge and nothing extra shall be paid on this account.

D. REINFORCEMENT STEEL.

- I. The TMT bars shall conform to IS 1786 pertaining to Fe 415 D or Fe 500 D or Fe grade of steel as specified in Tender Item/ Drawing.
- II. In case of Construction in seismic zone III and above, unless specifically mentioned in technical drawings, steel reinforcement of Grade Fe 415 D shall be used. However, high strength deformed steel bars, produced by thermo mechanical treatment process of grade Fe 415, Fe 500 and Fe 550 having elongation more than 14.5. % and conform to other requirements of Fe 415 D, Fe 500 D and Fe 550 D respectively of IS 1786 may also be used for reinforcement.
- III. The supply, storage at site, assembly, erection, placement in position into formwork, workmanship including bend, hook, overlap, welding, anchoring, cover, testing, acceptable quality parameters and test results, permissible tolerance, measurement, and scope of rates etc. shall be in general as per CPWD Specifications unless specifically mentioned in tender document or Construction Drawings.
- IV. Reinforcement bars shall be placed in position as shown in the drawings or as directed by the Engineer-in-charge. The bars crossing one another shall be tied together at every intersection with two strands of annealed steel wire 0.9 to 1.6 mm thickness twisted tight to make the skeleton of the steel work rigid so that the reinforcement does not get displaced during deposition of concrete.
- V. Tack welding in crossing bars shall also be permitted in lieu of binding with steel wire if approved by Engineer-in-charge.
- VI. Reinforcement including authorized spacer bars and lappages shall be measured in length of different diameter, as actually (not more than as specified in the drawings.) used in the work nearest to a centimeter and their weight calculated on the basis of standard weight given in clause 6.2 of IS 1786 . In case actual unit weight of the bars is less than standard unit weight, but within variation, in such cases weight of reinforcement shall be calculated on the basis of actual unit weight. Wastage and unauthorized overlaps shall not be paid for.
- VII. Annealed steel wire required for binding or tack welding shall not be measured, its cost being included in the rate of reinforcement.
- VIII. The contractor shall provide approved type of support for maintaining the bars in position and ensuring required spacing and correct cover of concrete to reinforcement as called for in the drawings, spacer blocks of required shape and size. Chairs and spacer bars shall be used in order to ensure accurate positioning of reinforcement. Spacer blocks shall be cast well in advance with approved proprietary pre-packed free flowing mortars (Conbextra as manufactured by M/s Fosroc Chemicals India Ltd., or equivalent as approved by the Engineer-in-charge at his discretion) of high early strength and same colour as surrounding concrete, Pre-cast cement mortar / concrete blocks / blocks of polymer shall not be used as spacer blocks unless specially approved by the Engineer-in-charge, rate of RCC items is inclusive of cost of such cover blocks.

E. RCC WORK

- i. All mixed design concrete shall be executed by Concrete Batch Mix Plant of suitable capacity, to be installed by Contractor at site. In special cases RMC shall be allowed by Engineer on written request of the contractor but the RMC should also be from a plant of appropriate capacity. No extra payment shall be allowed on account of Concrete from batch mix plant or RMC.
- ii. In case of Nominal Mix concrete also, weight basis batching shall only be allowed.

- iii. Mixer having arrangement of weighing water for controlling W.C. ratio should only be used in all PCC and RCC works where there is no provision for Ready Mix Concrete in tender items.
- iv. Any cement slurry if added over base surface (or for continuation of concreting) for bond, its cost shall be deemed to have been included in the respective items, unless otherwise, explicitly stated and nothing extra shall be payable nor extra cement considered in the cement consumption on this account.
- v. Unless otherwise specified for the item, the maximum water cement ratio for any grade of concrete shall not be more than 0.5. The contractor shall within 15 days of issue of letter for commencement of the work, submit the mix design for various grades of concrete along with 7 days crushing strength reports and within 40 days submit 28 days crushing strength reports, for the samples for the mix. Nothing extra shall be payable on account of admixing any chemical admixture for achieving any characteristic for the concrete. Concreting shall be commenced only after the approval of the mix design by the Engineer-in-Charge.
- vi. Wherever required the M.S. inserts shall be provided during the casting of RCC / PCC for which nothing extra shall be payable. As far as possible the contractor shall plan that the concreting is carried out during day shift.
- vii. It is important to maintain the water cement ratio constant at its correct value. To this end, determination of moisture contents in both fine and coarse aggregates shall be made as frequently as possible, the frequency for a given job being determined by the Engineer-in-Charge according to weather conditions. The amount of the added water shall be adjusted to compensate for any observed variations in the moisture contents. For the determination of moisture content in the aggregates, IS 2386 (Part 3) may be referred to. To allow for the variation in mass for aggregate due to variations in their moisture content, suitable adjustments in the masses of aggregates shall be made.
- viii. The concrete shall be deposited in its final position in a manner to preclude segregation of ingredients. In deep trenches and footings concrete shall be placed through chutes or as directed by the Engineer-in-Charge. In case of columns and walls, the shuttering shall be so adjusted that the vertical drop of concrete is not more than 1.5 metres at a time.
- ix. The surface which is to receive plaster or where it is to be joined with brick masonry wall, shall be properly roughened immediately after the shuttering is removed, taking care to remove the laitance completely without disturbing the concrete. The roughening shall be done by hacking. Before the surface is plastered, it shall be cleaned and wetted so as to give bond between concrete and plaster.
- x. On the basis of mandatory lab tests, in case of actual average compressive strength being less than specified strength but upto 70% of specified strength, the rate payable shall be in the same proportion as actual average compressive strength bears to specified compressive strength. In case average compressive strength is less than 70% of the specified strength, the work represented by the sample shall be rejected.
- xi. However, on the basis of mandatory field tests, where they prevail, the rates of the work represented by samples showing actual compressive strength less than specified strength shall be worked out as per relevant guideline of CPWD Specifications. In addition, Engineer-in-charge may order for additional tests (see Appendix 'B' of chapter 5 of CPWD Specifications) to be carried out at the cost of contractor to ascertain if the portion of structure where in concrete represented by the samples had been used, can be retained on the basis of these tests. Engineer-in-Charge may take further remedial measured as necessary to retain the structure at the risk and cost of the contractor.
- xii. If at any stage of the work, during or after placing the concrete in the structure the work is found defective such concrete shall be removed and work be done with fresh concrete and adequate rigid forms at the cost of the contractor. The contractor shall be liable to bear the cost for the cement concrete thus dismantled.
- xiii. The construction work shall be done with proper and assured system of curing duly identified areas with dates marked in paint. In hot weather the contractor shall take relevant care to cover the work with wet gunny bags/hessian cloth or use continuous ponding of water on surface so as to keep the surface wet.
- xiv. Hard stone aggregate of different sizes shall be crushed or broken from hard stone conforming to CPWD Specifications for work subject to Para below. Where CPWD Specifications for R.C.C. or any item or work are silent, the provisions of the latest Code of BIS for plain and reinforced cement concrete for general building construction I.S. 456-2000 or the concerned I.S. specifications or Code of practice shall apply.
- xv. When an R.C.C. slab or a flat slab is projected beyond the wall/beam line, the payment for such

projected part of the R.C.C. work shall be made under the corresponding item of R.C.C. slab/flat slab. Payment for centering & shuttering of the projected portion shall also be made under the item of centering & shuttering for the slab/flat slab. Nothing shall be paid for the edge shuttering of the slab/flat slab projection or otherwise. All exposed edges shall be finished as per specifications without extra payment.

F. BRICK WORKS

- I. Type of the Bricks to be used in Masonry works in foundation and superstructure i.e Common Burnt Clay Bricks/ Fly Ash Lime Bricks / Clay Fly Ash Bricks/ Tile Brick/ Brick Bats Calcium Silicate Bricks/CC Block/AAC Block etc. shall be strictly as mentioned in Tender Item and Construction drawings.
- II. Unless specifically mentioned in Construction Drawing or Tender Item, Bricks used shall have compressive strength not less than 7.5 MPa. In case bricks of compressive strength 7.5 MPa are not available and the structure is not of load bearing nature, then use of less compressive strength bricks can be relaxed as per CPWD specification, at reduced rate as worked out by the Engineer in-charge.
- III. All brick Masonry work shall be done with the available size of F.P.S. Bricks. The measurement of the brick work would be done in the multiples of the half brick. Above three bricks, the brick work would be measured as per the actual thickness.
- IV. The 'Modular bricks' shall only be used where use of same is specifically mentioned in the relevant items.
- V. The material Specifications, dimensions, permissible tolerance, testing, acceptable quality parameters, test results, workmanship, erection and placement procedures, measurement of works and scope of works covered under rates etc all in general shall be as per CPWD Specifications with up to date correction slips unless specifically mentioned in tender documents.
- VI. Top courses of all plinths, parapets, steps and top of walls below floor and roof slabs shall be laid with brick on edge, unless specified otherwise. Brick on edge laid in the top courses at corner of walls shall be properly radiated and keyed into position to form cut (maru) corners. Where bricks cannot be cut to the required shape to form cut (maru) corners, cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) equal to thickness of course shall be provided in lieu of cut bricks.
- VII. No deductions or additions shall be done and no extra payment made for the following :
Where minimum area is defined for deduction of an opening, void or both, such areas shall refer only to opening or void within the space measured.
 - a. Ends of dissimilar materials (that is, joists, beams, lintels, posts, girders, rafters, purlins, trusses, corbels, steps, etc.); up to 0.1 m² in section;
 - b. Opening up to 0.1 Sqm in area (see Note);
 - c. Wall plates, bed plates, and bearing of slabs, chajjas and the like, where thickness does not exceed 10 cm and bearing does not extend over the full thickness of wall;
 - d. Cement concrete blocks as for hold fasts and holding down bolts;
 - e. Iron fixtures, such as wall ties, pipes upto 300 mm diameter and hold fasts for doors and windows; and
 - f. Chases of section not exceeding 50 cm in girth.
 - g. Bearing portion of drip course, bearing of moulding and cornice.

Note: In calculating area of an opening, any separate lintel or sills shall be included with the size of the opening but end portions of lintel shall be excluded. Extra width of rebated reveals, if any, shall also be excluded.

G. FLOORING

- I. Final finished flooring with Marble/Granite/Stone/Ceramic/Vitrified/CC etc shall be done in pattern, layout out, sizes, thickness as shown in Construction drawings and Tender items other wise as directed by Engineer in charge.
- II. The supply, material Specifications, dimensions, permissible tolerance, testing, acceptable quality parameters, test results, workmanship, erection and placement procedures, measurement of works and scope of works covered under rates etc all in general shall be as per CPWD Specifications with up to date correction slips unless specifically mentioned in tender documents.
- III. Sample of Marble /Granite/Ceramic/Vitrified/CC Tile or any other material to be used in finish flooring shall be got approved by Contractor from Engineer in charge.
- IV. Gang saw cut granite floor slabs.

- V. Wherever the tender schedule provide for mirror polished granite slab flooring using Gang saw cut granite slabs. The size of such gang saw cut granite slabs shall not be less than 1.5m x 2.4m. The granite block shall be gang saw cut using water cutting process. The polishing of the cut stone slabs should be automatic machine polished to highly even surface without any undulations. Manual polished and kerosene cutting process slabs shall not be accepted and shall be rejected.
- VI. Proper gradient shall be given to flooring for toilets, verandah, kitchen, courtyard etc. so that the wash water flows towards the direction of floor trap. Any reverse slop if found, these shall be made good by the contractor by ripping open the floor/grading concrete and nothing extra shall be paid for such rectifications. Slope in Office, warehouse floor shall be as indicated in drawings otherwise as directed by Engineer in charge.
- VII. Final Finish flooring shall be laid over a well prepared base and sub base flooring of material & specifications as mentioned in tender items and shown in Construction Drawings.
- VIII. Sub base floor shall be laid over well prepared sub grade.

H. SUBGRADE

- i. Where the pavement / Warehouse Floor is to be laid on surface obtained after cutting the soil, the sub-grade for pavement shall be prepared as per specifications relevant to item in BOQ for achieving not less than 97% of dry density as per IS : 2720 Part VIII at no extra cost or otherwise as per the procedure mentioned hereafter.
 - The sub-grade shall be excavated to a depth of 0.5 meter, watered and compacted in layers not exceeding 250mm thickness, dressing to required camber and profile and consolidation with vibratory roller of 80 to 100 KN static weight so as to achieve not less than 97% of dry density as per IS : 2720 Part VIII. However, before relaying and compacting the loosened material the surface below this level shall be suitably consolidated as directed by the Engineer but with a minimum six passes of vibratory roller. If the next 15 cm below this level does not have a relative compaction of 90%, it shall be compacted until not less than 95% dry density is obtained. Rate for work of this nature shall be covered in the item of preparation of sub-grade.
- ii. Where the pavement is to be laid on fill and height of proposed fill is less than 0.5 meter, the procedure for sub-grade preparation as mentioned above shall be followed.
- iii. Where the pavement is to be laid on fill and the height of proposed fill is more than 0.5 meter, preparation of sub-grade is not required at these locations, however, in such locations original ground level shall be compacted by rolling as directed by the Engineer as much as possible but with a minimum of six passes of vibratory roller of 80 to 100 KN static weight. No separate payment shall be made for this, as same shall covered in item of earth work in excavation and / or filling.
- iv. **Control Tests on Borrow Material**
Soil suitable for consolidation under O.M.C. conditions should preferably have the following characteristics:
 - Minimum percentage of clay -10%; Liquid limit- 14; Plasticity index-4; Percentage of silt should not exceed-50%; free from Peat, muck and organic soils which are unsuitable. The Engineer-in-Charge may, however, relax these requirements taking into account availability of materials, cost of transportation and other relevant factors.

I. WBM /WMM

WBM/WMM wherever to be used as sub base/base course in road/warehouse floor etc. shall be laid in proper gradient, compacted thickness as shown in construction drawings. The supply, stacking, procedure for laying in position, testing, acceptance within tolerance limit, measurement and scope of work covered under rates shall be as per the guideline of relevant CPWD specifications for these works.

J. STRUCTURAL STEEL WORKS IN COLUMN-BEAM FRAMES/ROOF TRUSS/MEZZANINE FLOOR

- i. The scope of work also includes preparation& submission of shop Drawings/ Fabrication drawings, connection details of joints including all bolted / welded and riveted joints as per

design and obtaining approval for all the drawings from Engineer in charge. The agency shall prepare all the required shop drawings needed for correct and accurate erection of Steel Structure work. The design shall be strictly in accordance with the "Design Specifications" and building drawings.

- ii. Engineer in charge reserves the right to review any/all or none of the drawings, Review by Engineer in charge shall not relieve the contractor of his responsibility for correct drawing and execution of the works.
- iii. The Final GFC drawings shall directly adhere to the reviewed comments and general arrangement and shall incorporate all the comments/suggestions given by Department/Engineer In charge without any extra cost to the department and any implication on the time schedule for the completion of the work.
- iv. If there is any difference in opinion or changes to be made with regard to drawings/specifications as per the recommendation of Engineer in Charge, The Contractor shall agree to be bound by the same without any extra cost.

Specification for steel works

- i. The work in general shall be carried out as per CPWD specifications and the relevant Indian Standards a list of which are mentioned in the particular specifications.
- ii. The fabrication and erection of the steel members shall be as per General Specification IS : 800 and stipulations contained in the other relevant standards.
- iii. The contractor shall prepare and submit the fabrication drawings, indicating the complete details of all members, detail of joints, weld sizes, length of welds, cleats holes etc. The fabrication work shall be commenced only after the fabrications drawings are approved. A scheme for fabrication and erection of the various members shall also be furnished and got approved. However such approval shall not absolve the contractor for the safety of the structure and its components during fabrication, erection and service.
- iv. The contractor shall submit manufacturer's test certificate for all the material procured by him indicating clearly the identification marks etc. The Engineer-in-charge may get samples of the materials tested for their conformity to the standards. No payments shall be made for the materials, which are used for testing.
- v. Normally Fabrication shall be carried at site of work but To advance the progress, Contractor may do fabrication works at their shop with approval of Engineer in charge. The fabrication shop of the contractor, shall have all facilities required for carrying out the fabrication work.
- vi. The material shall conform to the following specifications.
 - Structural steel rolled sections: IS 2062 Grade „A“ up to 20 mm thickness, IS 2062 Grade „B“ above 20 mm thickness.
 - Pipes etc. : IS 1161/1233
 - Chequered plates : IS 3502
- vii. Steel sections from the main manufacturers such as SAIL, TISCO, RINL or JINDAL only shall be permitted to be used. **The steel members shall be in single piece end to end without any intermediate joints unless specifically approved by the Engineer-in- charge.** The contractor shall get the name of manufacturer approved before placing the order. The material should be free from defects. If any defect is noticed at the time of manufacturing the same should be rejected. Re-rolled material shall not be permitted.
- viii. Welding materials shall confirm to IS : 814 & AWS E 6013 for thickness upto 20 mm and MWSE 7018 above 20 mm.
- ix. Bolts and nuts shall be as per IS : 1363 & IS : 1367. Washers shall be as per IS : 2016, IS : 5372 and IS : 5374.
- x. The bending of plates and sections shall be carried out on appropriate machines.
- xi. Cutting may be effected by sheering, cropping, sawing or by gas cutting by mechanically controlled torch. Gas cutting by hand and electric arc cutting shall not be permitted.
- xii. All cut edges shall be ground before they are welded.

- xiii. The accuracy at contact surfaces and tolerances shall be as per relevant IS standards.
- xiv. Bolt – holes shall be drilled. Enlarging the holes by filling, hand drilling using flame etc. are not permitted.
- xv. The welders qualified as per procedure given in the IS standards shall only be engaged for doing the welding work.
- xvi. The welding procedure as proposed by the contractor shall be got approved in advance from the Engineer-in-charge.
- xvii. The welds shall be subjected to visual examination, mechanical tests on samples, dye penetration tests, other non-destructive tests like radiographic/ ultrasonic tests etc.
- xviii. Internal surfaces of boxed / back-to-back members should be treated with primer.
- xix. The edges of chequered plate shall be made smooth and no burrs or jagged ends shall be left.
- xx. The structural steel required conforming to IS: 2062 shall normally be procured from the main steel producers viz. TATA, SAIL and RINL (Vizag). Tubes to be supplied by Contractor, conforming to IS 1161, shall normally be of Make TATA, APPOLO.
- xxi. In case of difficulties in getting required quantities of materials from the main producers, permission may be given as a special case to procure the materials from the secondary producers having ISI registration by Engineer in charge if the contractors approach the Engineer-in-charge with the efforts made by them in getting the materials with full justification details.
- xxii. Fabricated structural member's viz., columns, beams and purlins along with the base plates and cleats etc. shall be provided with zinc chromate steel primer coating after fabrication unless specifically mentioned otherwise in Tender Items and Specifications.
- xxiii. The quantity of the steel for structural members for the purpose of payment shall be worked out by adopting the unit weight given in the relevant IS code for tubes, angles, Channels, flats and plates etc. If the actual weight of the member is less than that specified in the code beyond the minus tolerance permissible then the materials shall be rejected. Payment on weight basis would be made as per the theoretical or actual weight whichever is less.
- xxiv. Weight of cleats, brackets, packing pieces bolts nuts, washer's distance pieces separators diaphragm gussets (taking overall square dimensions) fish plates etc. shall be added to the weight of respective items unless otherwise specified. No deduction shall be made for skew cuts.

K. ADDITIONAL CONDITIONS FOR PRE-FAB STRUCTURE IN STEEL:

- i. Wherever Tender Items mentioned the Prefab Structures or **Pre-Engineered Building System (PEB)**, The scope of work for **Fabrication, Supply and Erection of Pre-Engineered Building System (PEB)** is as defined in the following sections under the contract which includes manufacture, supply and erection of Structural Steel System and all accessories as per design, drawings and as per direction of Engineer-in- Charge.
- ii. **Condition for Specialized Agency for PEB Structure:**
In case the Main contractor is himself not a PEB Manufacturer, He will obtain the approval of Engineer in charge for selection and appointing the PEB Manufacturer/Supplier for this contract. The Engineer-in-Charge or his authorized representative shall visit the factory of PEB manufacturer and will grant the approval for Supply of PEB system based on the experience, availability of CNC machines for fabrication, cutting/welding etc and production capacity of the manufacturer. EIC or his representative will also visit the factory of PEB Manufacturer during manufacturing of PEB components for quality checks. The PEB components shall be brought to site from factory only after the satisfactory test results and quality checks as per the direction of Engineer in Charge.
- iii. After the completion of work, the contractor shall submit to the Engineer-in-Charge. 3 sets of "As Built" drawings along with CAD copies as specified elsewhere.
- iv. The contractor shall make available all worksheets/supporting data/design details to Engineer in

Charge as so desired.

- v. The contractor shall clarify to Engineer In Charge any queries regarding specifications, rates, etc as and when requested/ required. Rate of analysis for the rates quoted shall also be furnished by the Tenderer If desired by Engineer In Charge.

vi. The following are the minimum requirements of tests on welds.

- Visual examination: 100%
- Dye penetration test: 30 % after back gouging and after final finish.
- Mechanical test: 1 test each on a column and beam members.
- Radiography test: 2% of welds.

Where radiography test is not possible ultrasonic test shall be carried out. The acceptance criteria shall be as per IS specifications and as decided by the Engineer-in- charge.

- vii. Apart from the IS Codes mentioned above, all other relevant codes such as American standards (AISC, MBMA, AISI & AWS specifications) related to the specific job under consideration and / or referred to in the above mentioned codes may be followed wherever applicable, if the specifications for the same are not available in the relevant IS codes.
- viii. When Contractor scope of works includes supply of Prefab/PEB structural steel system, NO Fabrication at site shall be allowed except erection works and minor steel works like nonstructural steel works.

L. DOOR/WINDOWS/VENTILATOR WORKS

- i. The supply of materials viz Rolling Shutters/Mild Steel doors/T sections doors/windows/ Aluminum/UPVC Sections for doors / windows/ ventilators/ partitions, Wooden paneled/ flush doors/ cupboard shutters/ PVC /FRP shutters/ frames/ Pressed steel frames/ all type of fittings/glazing/paneling /decorative polish/veneering/Wire gauge/expanded metal mesh/MS grills/Chqd plate/Handrails etc including their storage at site, procedure of installations, workmanship, testing, acceptance within tolerance limit, measurement and scope of work covered under rates for these works shall be as per relevant CPWD specifications unless specifically mentioned otherwise in tender documents, drawings.
- ii. Wood work shall not be painted, oiled or otherwise treated before it has been approved by the Engineer-in-Charge.
- iii. Aluminum Fittings shall be anodized to natural matt finish or dyed anodic coating not less than grade AC 10 of IS 1868. Mild steel Fittings shall be bright finish black stone enameled or copper oxidized (black finish), nickel chromium plated or as specified. Brass Fittings shall be finished bright satin finish or nickel chromium plated or copper oxidised or as specified.
- iv. All fittings and fixtures of doors, windows, ventilators shall be got approved from the Engineer-in-Charge before procurement well in advance and the approved samples shall be kept at site till completion of the work.
- v. Wooden flush door shutter/ PVC/FRP /Fire rated door shutters, as specified shall be obtained from factories to be approved by the Engineer- in-charge. The contractor shall inform well in advance to the Engineer- in-charge the name and address of the factory where from he intends to get the shutters manufactured. The contractor will place order for manufacturing of shutters only after written approval of the Engineer- in- charge in this regard is given. The contractor is bound to recommend name(s) of another factory from the approved list in case the factory already proposed by the contractor is not found competent to manufacture quality shutters.
- vi. Shutters samples shall be first submitted and got approved by Engineer in charge Shutters will however, be accepted only if they meet the specified tests/technical requirements
- vii. Rolling Shutters: The shaft of rolling shutters shall be of M.S. Pipe heavy duty 40 mm. nominal bore, 48.3 mm outer dia, thickness 4.05 mm and weight of pipe shall be 4.43 Kg./metre. At least three springs made of H.T. steel grade 2 of I.S. 4454/1967 of 27.5 mm. length shall be used in each shutter. The guide channels of minimum 60 mm depth shall be made of 3.15 mm thick M.S.strips Lock rail at bottom shall be of 3.15 mm thickness with M.S. angle 35 mm x 35 mm x 5 mm welded at the bottom and brackets for fixing the M.S. pipe on wall shall be of M.S. plate 3.15 mmthick. Top cover of shutters shall be made out of M.S. Plate 1-25 mm thick sliding bolt for lock rail

shall be made of M.S. flats not less than 50 mm x 6 mm size at both ends with inside and outside locking arrangement. Further details if any not covered by general specifications of Delhi CPWD specifications 2009 Volume I and details described above shall be as per IS specifications No.6248 of 1971/revision (latest)

The contractor shall arrange one more spring than the total required number, for testing purpose. The Engineer-in-Charge shall select at random one spring to be sent for test regarding grade of H.T. steel wire used in the springs. No extra payment shall be made for the additional spring arranged.

The rates to be quoted for supplying and fixing rolling shutter should include making necessary chases in masonry and making good the same for fixing of side guide etc.

M. FINISHING

- i. The work shall be carried out to provide a smooth finish with pleasing appearance in high standards of workmanship and quality of material up to the satisfaction of Engineer in charge.
- ii. The supply of materials for finishing works and their storage, procedure of applications, testing, acceptance within tolerance limit, measurement and scope of work covered under rates for these works shall be as per relevant CPWD specifications unless specifically mentioned otherwise in tender documents, drawings.
- iii. For all exposed brick work or tile work double scaffolding independent of the work having two sets of vertical supports shall be provided. The supports shall be sound and strong, tied together with horizontal pieces over which scaffolding planks shall be fixed. For all other work in buildings, single scaffolding shall be permitted. In such cases the inner end of the horizontal scaffolding pole shall rest in a hole provided only in the header course for the purpose. Only one header for each pole shall be left out. Such holes for scaffolding shall, however, not be allowed in pillars/columns less than one metre in width or immediately near the skew backs of arches. The holes left in masonry works for scaffolding purposes shall be filled and made good before plastering.
- iv. For external and under coat plaster work, the fine aggregate shall conform to grading IV. For finishing coat Plaster work the fine aggregate conforming to grading zone V shall be used unless specified otherwise.
- v. The plaster shall be kept wet for a period of at least 7 days. During this period, it shall be suitably protected from all damages at the contractor's expense by such means as the Engineer-in-Charge may approve. The dates on which the plastering is done shall be legibly marked on the various sections plastered so that curing for the specified period thereafter can be watched.
- vi. Wherever scaffolding is necessary for Whitewash /Painting works, it shall be erected on double supports tied together by horizontal pieces, over which scaffolding planks shall be fixed. No ballies, bamboos or planks shall rest on or touch the surface which is being white washed. Where ladders are used, pieces of old gunny bags shall be tied on their tops to avoid damage or scratches to walls.
- vii. For White wash /waterproofing cement paint on new work, three or more coats shall be applied till the surface presents a smooth and uniform finish through which the plaster does not show. The finished dry surface shall not show any signs of cracking and peeling nor shall it come off readily on the hand when rubbed. For old work, after the surface has been **prepared**, a coat of white wash/cement paint shall be applied over the patches and repairs. Then a single coat or two or more coats of white wash/cement paint as stipulated in the description of the item shall be applied over the entire surface. The white washed surface should present a uniform finish through which the plaster patches do not appear.
- viii. Distempering: If the wall surface plaster has not dried completely, cement primer shall be applied before distempering the walls. But if distempering is done after the wall surface is dried completely, distemper primer shall be applied. Oil bound distemper is not recommended to be applied, within six months of the completion of wall plaster. However, newly plastered surfaces 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.
- ix. The color code and make of Painting material on exterior or interior finish shall be first approved by Engineer in charge. Contractor shall submit all possible combinations, physical samples on size 300x300 mm over wall for approval of color without any extra cost.
- x. The Primer, Synthetic Enamel paint, distemper etc., of as approved by the Engineer- in- charge and of low VOC (unless specified otherwise), shall only be used and brought to the site of workin the

- original sealed containers.
- xi. The material brought to the site of work shall be sufficient for at least 30 days of work.
- xii. The material shall be kept under the joint custody of contractor and representative of the Engineer-in-charge. The empty containers shall not be removed from the site till the completion of the work without permission of the Engineer-in-charge.
- xiii. Contractor shall submit the copies of invoices of Painting material purchased by them for incorporation in to the contract works.

N. WATER SUPPLY, INSTALLATIONS AND DRAINAGE

- i. The contractor shall furnish all labor, material and equipment, transportation and incidental necessary for supply, installation, testing and commissioning of the complete Plumbing / system as described in the Specifications, Tender Items and as shown on the drawings. This also includes any material, equipment, appliances and incidental work not specifically mentioned herein or noted on the Drawings/Documents as being furnished or installed, but which are necessary and customary to be performed under this contract.
- ii. The Plumbing / Sanitary system shall comprise of following:
 - a. Sanitary and water supply Fixtures and Fittings.
 - b. Internal and External Water Supply.
 - c. Internal and External Drainage
 - d. Approval from Local Authorities
 - e. Balancing, testing & commissioning.
 - f. Test reports and completion drawings
- iii. The contractor shall procure and install all pipes, its fittings, joints/bends/tees /sockets /nipples including shut-off valve etc as specified.
- iv. The contractor shall ensure that senior and experienced plumbers are assigned exclusively for this work. Such plumber(s) should have valid license from the local authorities. The project management shall be done through modern technique. For quality control & monitoring of workmanship, contractor shall assign at least one engineer who would be exclusively responsible for ensuring strict quality control, adherence to specifications and ensuring top class workmanship for the installation.
- v. The work shall be in conformity with the Bye-laws, Regulations and Standards of the local authorities concerned. But if these Specifications and drawings call for a higher standard of materials and / or workmanship than those required by any of the above regulations and standards, then these Specifications and drawings shall take precedence over the said regulations and standards. However, if the drawings and specifications require something which violates the Bye-laws and Regulations, then the Bye-laws and Regulations shall govern the requirement of this installation.
- vi. The contractor shall obtain all permits/ licenses and pay for any and all fees required for the inspection, approval and commissioning of their installation. However, all receipted amount shall be reimbursed on production of proof of payment.
- vii. The Plumbing drawings are to be given by the contractor for obtaining approval from Engineer-in-charge. The Plumbing / Sanitary Drawings given by the Engineer in- Charge or issued with tenders are diagrammatic only and indicate arrangement of various systems and the extent of work covered in the contract. These Drawings indicate the points of supply and of termination of services and broadly suggest the routes to be followed. Under no circumstances shall dimensions be scaled from these Drawings. The contractor shall follow these drawings in preparation of his shop drawings, and for subsequent installation work.
- viii. The contractor shall examine all architectural, structural, plumbing, electrical and other services drawings and check the as-built works before starting the work, report to the Engineer In-Charge any discrepancies and obtain clarification. Any changes found essential to coordinate installation of his work with other services and trades, shall be made with prior approval of the Engineer In-Charge without additional cost to the department.
- ix. All the shop drawings shall be prepared on computer through AutoCAD System based on Architectural drawings and site measurements. Contractor shall furnish, for the approval of Engineer-in-charge, the two sets of detailed shop drawings of complete work and materials including layouts / Typical toilets drawings showing exact location of supports, flanges, bends, tee connections, reducers, detailed piping drawings showing exact location and type of supports, valves, fittings etc; external insulation details for pipe insulation etc.

- x. These shop drawings shall contain all information required to complete the work. These drawings shall contain details of construction, size, arrangement, operating clearances, performance characteristics and capacity of all items of equipment, also the details of all related items of work by other contractors. Each shop drawing shall contain tabulation of all measurable items of equipment/materials/works and progressive cumulative totals from other related drawings to arrive at a variation-in-quantity statement at the completion of all shop drawings. Minimum 3 sets of drawings shall be submitted after final approval along with CD. When he makes any amendments in the above drawings, the contractor shall supply two fresh sets of drawings with the amendments duly incorporated along with check prints, for approval. The contractor shall submit further 3 sets of shop drawings to the Engineer In-charge for the exclusive use by the Engineer In-charge and all other agencies. No material or equipment may be delivered or installed at the job site until the contractor has in his possession, the approved shop drawing for the particular material/equipment / installation.
- xi. Shop drawings shall be submitted for approval four weeks in advance of planned delivery and installation of any material to allow the Engineer-in-charge ample time for scrutiny. No claims for extension of time shall be entertained because of any delay in the work due to his failure to produce shop drawings at the right time, in accordance with the approved programme.
- xii. Samples of all materials like valves, pipes and fittings etc. shall be submitted to the Engineer In-Charge prior to procurement for approval and retention by Engineer In-Charge and shall be kept in their site office for reference and verification till the completion of the Project. Wherever directed, a mockup or sample installation shall be carried out for approval before proceeding for further installation without any extra cost.
- xiii. Approval of shop drawings shall not be considered as a guarantee of measurements or of building dimensions. Where drawings are approved, said approval does not mean that the drawings supersede the contract requirements, nor does it in any way relieve the contractor of the responsibility or requirement to furnish material and perform work as required by the contract.
- xiv. All materials and equipment shall conform to the relevant Indian Standards and shall be of the approved make and design. Makes shall be in conformity with list of approved manufacturers.
- xv. Balancing of all water systems and all tests as called for the CPWD Specifications shall be carried out by the contractor through a specialist group, in accordance with the Specifications and ASPE / ASHRAE Guidelines and Standards. The installation shall be tested and shall be commissioned only after approval by the Engineer-in-charge. All tests shall be carried out in the presence of the representatives of the Engineer-in-charge and nothing extra shall be payable on this account.
- xvi. The contractor shall submit "completion plans of services" for water supply, internal installations and building drainage work within 15 days of the date of completion. These drawings shall be submitted in the form of two sets of CD's and four portfolios (300 x 450 mm) each containing complete set of drawings on approved scale indicating the work as installed. These drawings shall clearly indicate complete plant/toilet room layouts, piping layouts and sequencing of automatic controls, location of all concealed piping, valves, controls and other services. In case the contractor fails to submit the completion plans as aforesaid, security deposit shall not be released and these shall be got prepared at his risk and cost.
- xvii. The CCI/CI/PVC pipe and GI pipe etc. wherever necessary shall be fixed to RCC columns, beams etc. with rawl plugs and nothing extra shall be paid for this.
- xviii. The variation in consumption of material shall be governed as per CPWD Specification and clauses of the contract to the extent applicable.
- xix. Rates quoted shall be inclusive of all work and items given in the above mentioned specifications and Schedule of Quantities and applicable for the work under floors, in shafts or at ceiling level at all heights and depths. All rates are inclusive of cutting holes and chases in RCC and masonry work and making good the same unless specifically mentioned otherwise. Rates are inclusive of pre testing and on site testing of the installations, materials and commissioning.
- xx. **Cleaning and Disinfection of Pipelines:** - On completion of hydraulic tests and before a pipe is disinfected, it shall be proved to be free from obstruction, debris and sediment by scouring or by any other process which the Engineer-in-charge may prescribe. Upon satisfactory completion of testing and cleaning, the pipelines shall be disinfected as order. Chlorine solution shall be applied at the charging point as the pipeline is being filled and dosing shall be continued until the pipeline is full and at least 50 parts of chlorine per million parts of

water have been made available and distributed evenly. If ordinary bleaching powder is used, proportions will 150 gms of power to 1000 litre of water. If a proprietary brand is used, the proportion shall be as specified by the manufacturer. The treated water shall be left in pipeline for a period as directed but not exceeding 24 hours chlorine residual tests shall be taken at various points along the pipeline. The disinfection process shall be repeated until the sample of water taken from the pipeline are declared fit for human consumption by a recognized laboratory.

- xxi. The supply of Input materials and their storage, procedure for laying in position, testing, acceptance within tolerance limit, measurement and scope of work covered under rates for water supply, sanitation, drainage works shall be as per the guideline of relevant CPWD specifications unless specifically mentioned otherwise in tender documents, drawings.

O. CONSTRUCTION & EXPANSION JOINTS

- i. Construction joints in PCC, RCC and Light Weight Concrete works etc., shall be provided only at places as per approved structural drawings. It shall not in any manner structurally or functionally affect the structure. If, any additional construction joint is required to be provided, it shall be done with approval of the Engineer-in-Charge. The centering, shuttering, strutting etc., required for the construction joint shall be provided as per the CPWD Specifications. Nothing extra shall be payable on this account.

TREATMENT TO THE CONSTRUCTION JOINTS AND RECTIFICATION OF DEFECTS.

- ii. All care shall be taken to minimize the number of construction joints in the rafts, floors, and walls as well as in the levelling course of PCC at base. Still, wherever the construction joints are provided, these shall be slightly opened up and then suitably filled with cement mortar 1:3 (1 cement: 3 fine sand) after applying a bond coat of cement slurry. The aluminum nipples shall be fixed in the cavity and crevices, if required. Then cement slurry of w/c ratio 0.5 shall be pressure grouted through these nipples as required, which shall then be suitably cut. Nothing extra shall be payable on this account.
- iii. All care shall be taken to avoid any honey combed concrete or any cavity. Still, if any honey combed concrete or cavity in RCC/CC works is encountered the same shall be rectified by removing all loose concrete by chiselling. The chipped concrete surface shall be cleaned and made dust free by blowing compressed air and then washed clean with water (but without excess water). Then a bond coat of polymer modified cement slurry @ 2.2 kg of cement per sq. m. of concrete surface, in two coats, shall be applied as specified. The second coat shall be applied immediately within 15-20 minutes of application of the first coat. A coat of polymer modified cement plaster of mix 1:3 (1 cement: 3 fine sand) of the required thickness shall be applied as specified to fill the cavity if the required thickness is less than 20 mm. If the required thickness is more than 20 mm. the cavity shall be filled by concrete of relevant grade after providing the required centering and shuttering. The surface shall then be moist cured for minimum 7 days. Nothing extra shall be payable on this account.

Expansion Joint

- i. General Seismic / separation joints shall be provided where shown on the drawings. They shall be constructed with in gap between the adjoining parts for the works of the width specified in the drawings.
- ii. The contractor shall ensure that no debris is allowed to enter and be lodged in seismic and separation joints.
- iii. Seismic or separation joints shall be provided with approved 50mm thickness of compressible filler board, backer rod and polysulphide sealant compound etc.,
- iv. Board to be used in expansion joint shall be of best approved quality and shall be got approved before use. It shall have minimum density of 95 kg/cum, Non staining with less than 1% water absorption and compression recovery of 93% minimum as per the specifications.

Method of Application

- v. 50mm thick expansion board having sufficient width directed by Engineer-in-charge shall be provided in expansion joint before filling and finishing the expansion joint with sealant.
- vi. The expansion joint shall be cleaned and made dry completely. All loose materials shall also be removed. The joints gap shall be made uniform in width and depth after cleaning the joints. The backup materials of best quality shall be provided in position in order to produce the size of joint i.e. width and depth. The primer part of I and II shall be mixed thoroughly together in required proportion as prescribed by manufacture specification, so that a uniform mixture obtained. The mixed solution shall be applied to two sides of the joint that it covers the sides completely.
- vii. Disturbed edges of RCC members near expansion joints shall be finished with rich mortar without any extra work includes providing required width of expansion board in the joints and measurement of expansion board only shall be taken.

Sampling criteria

Following test carried out at every 100 sqmt.

- (i) Density
- (ii) Water absorption
- (iii) Compression recover

P. CONSTRUCTION SITE LAB:

- i. The contractor shall arrange and provide at the site of work all the equipments for field testing as required like :-
 - balances, sieves, slump cone , dial gauges,
 - graduated measuring cylinders, steel tapes, vernier calipers, micrometer screw gauges, plumb bobs, spirit levels ,
 - Total station survey equipment, magnifying glass, screw drivers, plastic bags for samples, etc.
- ii. Allowing establishing the site laboratory by the contractor shall not absolve the contractor from fulfilling the criteria of getting the tests done in an independent laboratory. The decision of the Engineer-in-Charge of allowing any test in the site laboratory or any other laboratory shall be final and binding on the contractor and no claim of any kind whatsoever shall be entertained from the contractor on this account.

Q. OTHER IMPORTANT-MISCELLANEOUS

- (i) Even if the certain items of work are carried out by the specialized sub-contractors the responsibility for the work shall however rest with the main contractor only.
Procurement, Storage and Payment of Cement, Steel, Bitumen etc.
- (ii) The contractor shall procure Portland Pozzolana Cement (PPC) as per IS-1489 Part-I in all the works except Cement Concrete Pavement works, wherein Ordinary Portland Cement (OPC) of Grade 43 (IS:269:2015) and/or 53 Grade (IS: IS:269:2015) shall be used. The PPC & OPC to be used shall be of approved make, as specified in the list of Approved Makes (enclosed with Technical Specifications).
- (iii) The contractor shall procure steel reinforcement bars conforming to IS 1786:2008 pertaining Fe415D or Fe500D, structural steel conforming to IS-808 and bitumen should conform to IS : 702 and 703 as per the item/drawing from manufacturers of approved make, as specified in the list of Approved Makes (enclosed with Technical Specifications).
- (iv) The storage of cement should be done by contractor as per IS:4082-1996 (recommendation on stacking & storage of construction materials at site). Sheds having capacity as decided by Engineer-in-Charge to store the cement shall be provided by contractor for which no extra payment shall be made. All such sheds/store, after completion of work shall be removed by contractor at its cost and site shall be cleared.
- (v) Cement & steel reinforcement shall be brought at site in bulk supply of approx. 50 tonnes & 10 tonnes

respectively or more or as decided by the Engineer-in-charge. Each bag of cement must weigh 50 kg, subject to variation as per BIS code, bearing manufacturer's name & ISI marking.

- (vi) The contractor shall be responsible for the watch & ward, safety of the Cement store/shed, Bitumen & Steel. The contractor shall facilitate inspection of the same by the Engineer-in-charge at any time. Material supplied by the contractor should be in countable position and properly stacked.
- (vii) Steel reinforcement shall be stored by the contractor at site of work in such a way as to prevent distortion & corrosion and nothing extra shall be paid on this account. Bars of different sizes & lengths shall be stored separately to facilitate easy counting & checking.

For checking nominal mass, tensile strength, bend test, re-bend test etc. specimen of sufficient length shall be cut from each size of the bar at random at frequency not less than that specified below:

Size (dia.) of Bar	For Consignment below 100 T	For Consignment over 100 T
Under 10 mm	One sample for each 25 tonnes or part thereof	One sample for each 40 tonnes or part thereof
10 mm to 16 mm	One sample for each 35 tonnes or part thereof	One sample for each 45 tonnes or part thereof
Over 16 mm	One sample for each 45 tonnes or part thereof	One sample for each 50 tonnes or part thereof

- (viii) Proper daily record of cement, steel, paint and bitumen consumption shall be maintained at site by the Contractor. The register shall be duly signed by the Contractor/authorised representative of contractor and the same will be checked by the Site Engineer / Engineer-in-charge from time to time. In case, concrete is being obtained from RMC plant, record of cement of the same shall be kept, based on the computerized receipt of mix proportion of each lot. Actual issue and consumption of cement & steel on work shall be regulated and proper accounts maintained, as per provision of the Terms and conditions of the contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in Clause 38 of the General conditions of contract and shall be governed by conditions laid therein.
- (ix) Payment for steel reinforcement shall be made on the basis of standard weight of the bars used as per approved drawings. In case weight of bars is more than or less than the standard weight, but within the tolerance limits, as specified in BIS; the payment will be restricted to lesser weight in case of steel having less weight than the specified & standard weight, in case steel having more weight than specified.
- (x) Cement, Steel & Bitumen brought to site and remaining unused after completion of work shall not be removed from site without written permission of the Engineer-in-charge.
- (xi) No claim whatsoever shall be entertained by CWC on account of delay in non-availability of these materials in the market.
- (xii) Cladding of cement and rusting of steel should be avoided to the maximum extent possible. For such cladding of cement and/or rusting of steel, which may render the same unusable, the contractor shall be responsible to make good such quantities, the loss at his own cost.

CHAPTER-II: TECHNICAL CONDITIONS AND SPECIFICATIONS FOR ELECTRICAL WORKS

1. Tender Drawings and Construction Drawings:

- 1.1 These drawings are meant for Tenderer's guidance only. "Approval for Construction" drawings will be furnished to the contractor during the progress of work to supplement the bid drawings. Construction drawings will be revised and fresh copies issued to the contractor from time to time to incorporate any change to be adopted in the work as per final design to suit any change to be adopted in the work as per final design to suit any condition encountered during the progress of work. Hence, "Approved for Construction" drawings will be furnished progressively during the progress of work, broadly conforming to construction schedule.
- 1.2 HT/LT main panel, other major equipments, other Distribution Board drawings and cable route shall be submitted by the contractor for approval of CWC / Consultant before starting fabrication, manufacture.
- 1.3 Details shown either on the drawings or stated in the Specification shall prevail upon drawings in case of doubts. However, in case of ambiguity, the more stringent shall be applicable.
- 1.4 **Conformity to IE Act, IE Rules and Standards:** All Electrical works shall be carried out in accordance with the provisions of Indian Electricity Act, 2003 and Indian Electricity Rules, 1956 amended up-to-date (date of call of tender unless otherwise specified).

1.5 Earthing

Earthing shall be carried out as per IS rules 3043 code of practice for earthing with latest amendments and as per specification and site requirement.

2.0 Guarantee

The tenderer shall guarantee the equipments offered for satisfactory performance for a period of 12 months from the date of commissioning and handing over the installation to the employer against defects arising out of faulty design, material & workmanship. The tenderer should make good all the defects free of costs during the guarantee period and replace or repair the defective equipments/parts free of cost promptly and satisfactorily.

3.0 Inspection & Testing

The purchase representative shall be free to visit the manufacturer's work at all reasonable times to witness and inspect the testing of equipments. It is the duty of the tenderer to see that all the equipments supplied are tested as per relevant IS/BS specifications. The contractor shall furnish three copies of manufacturer's test certificate for the routine and type test conducted on the equipments offered. If necessary, the contractor shall arrange to conduct all the routine tests at the manufacturer's premises in the presence of CWC representative. On receipt of the equipments/materials at site, the tenderer shall offer equipments/materials for inspection of electrical engineer and get approved before installation.

4.0 Pre-Commissioning Tests of Equipment

HT/LT switchgear, Transformer LT cables and DG set shall be subjected to the pre-commissioning tests as per approved Performa by employer. The pre-commissioning test report shall be sent to the Consultant/CWC for approval for electrical installation/license for release-sanctioned load.

5.0 Approval of Drawings

The drawings for HT Panels and LT Panels, High Mast, DG set and cable layout shall be offered by the tenderer for approval of CWC and manufacturing/laying of these items can be taken in hand only after approval of the drawings by CWC. The tenderer shall also supply three copies of approved drawings for LT switchgear and transformers (both the dimensional and schematic) along with 3 copies route drawings & earthing positions etc.

- 6.0** The contractor shall provide all kinds of facilities for inspection of the works by the Engineer of CWC.
- 7.0** The electrical work shall conform to CPWD General Specifications for external with up-to-date amendments and for internal electrification works with up-to-date amendments.
- 7.1** The electrical works other than internal & external electrification like DG Set, Substation, High Mast, Fire Detection & Alarm system, Heating, Ventilation & Air Conditioning System (HVAC) and Lifts & Escalators shall conform to latest CPWD's General Specifications with up-to-date amendments.

8. Liaisoning / Approval Work with Statutory Authorities

It will be responsibility of the contractor to do liaisoning work for obtaining necessary approvals / clearances for electrical load sanction and power supply connection etc. to energizing the terminal, the statutory charges as per the State Electricity Board demand note will be paid by the CWC.

CHAPTER-III: Technical Specifications -Fire Fighting System

1. FIRE FIGHTING WORKS- FIRE PROTECTIONS-GENERAL

The scope of work covers complete designing, supply, installation, testing and commissioning of hydrant system, automatic sprinkler system, water curtain system, wet riser system, PA System, and fire detection and alarm system, along with portable fire extinguishers and exit signages for fire-fighting in warehouse building (along with ancillary buildings as recommended by local fire force agency) used for storage purpose & **obtaining statutory approvals at various stages from authorities and obtaining No Objection Certificate (NOC) from Fire Department with respect to buildings under scope of Firefighting system installation.** All material shall be conforming to relevant **IS specifications** wherever existing and subject to approval of Engineer in charge. The Fire Fighting System works shall be designed and executed strictly as per prevalent norms of-

- NBC-2016 amended up to date.
- CPWD General Specifications for Electrical Works, Part-V Wet Riser & Sprinkler System: 2020,
- CPWD General Specifications for Electrical works: Part VI (Fire Detection and Alarm System)
- latest Indian Standards such as IS: 13039:2014 (External Hydrant Systems), IS: 15105 (Fixed Automatic Sprinkler Fire Extinguishing System), IS: 9972: - Specification for Automatic Sprinkler Heads for Fire Protection Service, etc.
- Local Bye-Laws, concerned Fire Inspector authorities, as applicable.

Technical specification: For all the works, CPWD specifications shall be allowed with up dated amendments. The items which are not covered under CPWD specification shall be as per relevant BIS codes or National Building Code-2016.

1.1. Site Information

The tenderer should, in his own interest, visit the site and familiarize himself with the site conditions before tendering. For any clarification, tenderer may discuss with CWC Engineers/ tender inviting authority.

1.2. Machinery for Erection

All tools and tackles required for unloading /handling of equipment and materials at site, their assembly, erection, testing and commissioning shall be the responsibility of the contractor.

I. Pre-Construction/ Designing Stage :

- The contractor on award of work has to make a site visit and shall prepare the detail design Drawings, based on the above listed codes, and, as per actual site conditions, in the Auto CAD (or, Any Latest Designing Software) for the firefighting system and ancillary components (i.e. pump room, PA system, etc.).
- The contractor has to furnish detailed stage-wise working drawings, as required, in advance for approval of Engineer-in-charge and get the same approved by Local Fire Authority/other statutory bodies. No claim whatsoever shall be admissible on account of changes that may be introduced by the Engineer/ Local Fire Authority.
- Shop Drawings/Technical Data Sheets: The contractor shall prepare and furnish all shop drawings including floor plans & Terrace plans, Schematic Fire Fighting Layout/External Fire Layout, showing sprinklers, Fire Hydrants/First Aid Hose, Zonal Control Valves, Extinguishers, Signage's, Terrace layout with OHT & Terrace pump. Plant Room Layout illustrating UG sump details, piping details, valves, pressure vessel, pressure switch, ICV, strainers, diesel tank with its piping & other accessories, foundation details, pump locations, sloping pattern inside pump room, drain/ sumps, fire panel, cable trays etc.
- The contractor shall prepare and submit drawings (as per indicative list below) and get them approved from the Engineer-in-charge and from local fire force department

before the start of the work, if there is any material alteration in the requirement as per local fire force bylaws the same shall be included in the scope of design/work. The approval of drawings, however, does not absolve the contractor of his responsibility to supply the equipment/materials as per agreement. In case of any contradiction between the approved drawings and agreement the decision of the Engineer-in-Charge shall be final and binding on the contractor.

- Layout drawings of the equipment to be installed in pump room and terrace
 - Drawings showing the details of erection of entire equipment including their foundations
 - Plumbing drawings showing the layout of entire piping, diameter and length of pipes, hydrant, air vessel, valves and isometric drawings showing connections to various equipment
 - Sprinkler drawing indicating layout and sizes of pipe, location of valves, sprinklers etc.
 - Electrical wiring diagrams for all electrical equipment and controls including the sizes and capacities of the various cables and equipment
 - Dimensioned drawings of all electrical and control panels
 - Drawings showing details of supports for pipes, cable trays etc.
 - Any other drawing(s) relevant to the work as asked by the local fire force department/Engineer In charge.
- The drawings shall be based on the Architectural drawings/ Layout plans of the warehouse premises and requirements laid down in the specifications of the above listed codes.
 - The designing shall be based on above stated codes, and wherever required, the contractor shall present/ submit detailed calculations/ extracts based on/from these codes as justification for design parameters.
 - Detail list of the quantity and specifications of the materials/ equipment/ machinery etc. to be used in the work shall be submitted along with the Drawings to Engineer in- charge for approval.
 - **The detail designing of the system should be vetted by the IIT/NIT college professors or by the NFPA Certified Fire Protection Specialist/ Equivalent, or, supported by hydraulic calculations sheets/ other parameters at the most remote location by the ELITE FIRE SOFTWARE (or equivalent software).**
 - The contractor shall obtain clearance certificate/NOC from local Department of Fire and Rescue Services (as notified by state government where site of work is located) for installations of Fire Fighting system. Pre NOC / Recommendations shall be obtained from Fire and Rescue Services Dept., if it is being provided by them as per their SOP.
 - The manufacturing of equipment shall be commenced only after the shop drawings/GA Drawings/ technical data sheet along with pump curves are approved in writing by the Engineer. Such drawings shall be coordinated with other services work. These shop drawings will be approved by CWC which will be considered as base for execution of firefighting work.

II. Construction Stage:

A) General:

The works shall be executed as per CPWD General specification for Electrical Works, Part-I (Internal-2023); Part-II (External)-2023; Part-V (Wet Riser and Sprinkler System for Fire Fighting Installation)-2006, Part-VI (Fire Alarm System) IE Rules, provision laid down in NBC – 2016, and latest building byelaws of local body / Local Municipal Corporation and various Indian Standards amended up to date, and as per direction of Engineer-in-Charge.

2.1. Indian standards:

- IS-8757 Glossary of terms associates Fire safety.
- IS-884 Specification for first-aid hose reel for the fighting.
- IS-902 Specification for suction hose couplings for firefighting purpose.
- IS-903 Specification for fire hose delivery couplings, branch pipe, nozzles and nozzle spanner
- IS-904 Specification for two-way and three – way suction collection heads for firefighting purposes.
- IS-908 Specification for fire hydrant, stand post type
- IS-636 Non percolating flexible firefighting equipment.
- IS-1646 Code of practice for fire safety of buildings (general): Electrical installations.
- IS-5290 Specification for landing valves.
- IS-8090 Specification for couplings, branch pipe, nozzle, used in hose reel tubing for firefighting. Any other as applicable
- Any other IS standard relevant to scope of this contract.

2.2. Initial Inspection and testing

- Initial inspection of materials and equipment at manufacturer's works shall be done by the Engineer-in-Charge or his representative. For item/ equipment requiring initial inspection at manufacturer's works, the contractor will intimate the date of testing of equipment at the manufacturer's works before dispatch. The contractor shall give sufficient advance notice regarding the dates proposed for such tests to the department's representative(s) to facilitate his presence during testing. The Engineer-in-charge at his discretion may witness such testing. Equipment will be inspected at the manufacturer/ authorized dealer's premises, before dispatch to the site by the contractor.
- The department also reserves the right to inspect the fabrication job at factory and the successful tenderer has to make arrangements for the same.
- The materials duly inspected by Engineer-in-Charge or his authorized representative shall be dispatched to site by the contractor.
- No additional payment shall be made to the contractor for initial inspection/testing at the manufacturer's works by the representative of the Engineer-in-Charge. However, the department will bear the expenses of its representative deputed for carrying out initial inspection/testing.

2.3. COMPLETENESS OF TENDER, SUBMISSION OF EXECUTION PROGRAMME, APPROVAL OF DRAWINGS & COMMENCEMENT OF WORK

All sundry equipment, fittings, assemblies, accessories, hard ware items, bolts, supports, termination lugs for electrical connection, cable glands, junction box and all other sundry items for proper assembly and efficient working of the various equipment and components of the work shall be deemed to have been included in the scope of work, irrespective of the fact whether such items are specifically mentioned in the tender document, BOQ,SOR or not.

2.4. DISPATCH OF MATERIALS TO SITE & SAFE CUSTODY THEREOF

The contractor shall dispatch materials to site in consultation with the Engineer-in-Charge. Program of dispatch of material shall be framed keeping in view the building progress. Safe custody of all machinery and equipment supplied by the contractor shall be the responsibility of the contractor till final taking over by the department. Piping, cabling or any other work, which directly affect the progress of building work, shall be given priority.

2.5. QUALITY OF MATERIALS AND WORKMANSHIP

- The components of the installation shall be of such design so as to satisfactorily function under all conditions of operation.
- The entire work of manufacture/ fabrication, assembly and installation shall conform to sound engineering practice.
- All equipment and materials to be used in work shall be manufactured in factories of good repute having excellent track record of quality manufacturing, performance and proper after sales service.

2.6. CARE OF THE BUILDING

Care shall be taken by the contractor during execution of the work to avoid damage to the building. He shall be responsible for repairing all such damages and restoring the same to the original finish at his cost. He shall also remove all unwanted and waste materials arising out of the installation from the site of work from time to time.

2.7. Contractor will do inside welding works with high precautions using fire blankets etc. to avoid fire incidents/ accidental fires as GODOWNS will be occupied with stored goods and it would not be possible for CWC to provide completely vacant godown for carrying out the works. The contractor will take all necessary precautions accordingly. Any damage due to the negligence/ ignorance or inadequate safety arrangement will have to be rectified by contractor at its own cost.

2.8. GUARANTEE

All equipment shall be guaranteed for a period of 12 months from the date of handing over of the installation to the Department against unsatisfactory performance and/or breakdown due to defective design, material, manufacture, workmanship or installation. The equipment or component or any part thereof so found defective during the guarantee period shall be repaired or replaced free of cost to the satisfaction of the Engineer-in-charge. In case of replacement or repair requiring more than 7 days, the agency shall temporarily install the equipment so that the system becomes operational. If it is felt by the department that undue delay is being caused by the contractor in doing this, the same will be got done by the department at the risk & cost of the contractor and the warranty period will be extended for the equipment for the time period equal to interval of defect and replacement. The decision of Engineer-in-charge in this regard shall be final & binding on the contractor. The tender shall guarantee among other things, the following:

- (a) Quality, strength and performance of the materials used as per manufacturers standards.
- (b) Safe mechanical & electrical stress on all parts under all specified conditions of operation.

2.9. WORKS TO BE DONE BY THE CONTRACTOR

Unless otherwise mentioned in the tender documents, the following works shall be done by the contractor and therefore, their cost shall be deemed to be included in their tendered cost- whether specifically indicated in the schedule of work or not:

- Foundations for equipment's including foundation bolts and vibration isolation spring/pads Suspenders, brackets and floor/ wall supports for suspending/supporting pipes.
- Suspenders and / or cable trays for laying the cables.
- Excavation and refilling of trenches in soil wherever the pipes are to be laid directly in ground, including necessary base treatment and supports.
- Sealing of all floor slab/ wall openings provided by the contractor for pipes and cables, from fire safety point of view, after laying of the same.
- Painting of all exposed metal surfaces of equipment and components with appropriate color.

- Painting of all welded joints and welded areas of truss/rafters/columns etc where sprinkler pipes are attached and restoring original finish with original color scheme in epoxy paint of approved make and colour.
- Making openings in the walls/ floors/ slabs or modification in the existing openings wherever provided for carrying pipe line, cables, etc.
- All electrical works including cable/wires earthing etc. beyond power supply.
- Making good all damages caused to the structure during installation and restoring the same to their original finish.
- Approval from local fire authority/NOC from Govt. Fire Service as shall be required as per local bye-laws.
- The contractor shall have to produce all relevant records to certify that the genuine equipment for the manufacturers.

2.10. SYSTEM ENGINEERING:

firefighting systems shall generally comprise supply, installation, testing and commissioning of components as detailed in Table.

S.N	System component	Scope
1	Static Water Storage Tanks including Civil Works	Not in the scope of bidder under this contract
2	Pump House (under-ground attached with water tank) including Civil Works	Not in the scope of bidder under this contract
3	FIRE CONTROL ROOM	Not in the scope of bidder under this contract
4	Terrace Pump	In the scope of bidder under this contract
5	Electric Motor Driven Fire Pump	In the scope of bidder under this contract
6	Diesel Engine Driven Fire Pump (as stand by)	In the scope of bidder under this contract
7	Pressurization Pump (Jockey Pump)	In the scope of bidder under this contract
8	Control panel	In the scope of bidder under this contract
9	Automatic Sprinkler system	In the scope of bidder under this contract
10	Water curtain system	In the scope of bidder under this contract
11	Hose Pipe with cabinet	In the scope of bidder under this contract
12	First-aid hose reel	In the scope of bidder under this contract
13	Fire brigade inlet	In the scope of bidder under this contract
14	Piping network with supporting steel structure	In the scope of bidder under this contract
15	Pressure gauge	In the scope of bidder under this contract
16	Flow switch	In the scope of bidder under this contract
17	Fire detection system	In the scope of bidder under this contract
18	Fire alarm system	In the scope of bidder under this contract

19	Smoke detector/ beam detector	In the scope of bidder under this contract
20	Wiring of the detection system	In the scope of bidder under this contract
21	Fire extinguishers	In the scope of bidder under this contract
22	Signage	In the scope of bidder under this contract
23	PA system	In the scope of bidder under this contract
24	Power cable from Main LT Panel to pump room panel	In the scope of bidder under this contract
25	Water for filling the OH/Terrace tank and UG tank for commissioning of the system and for all time testing purpose	In the scope of bidder under this contract
26	Associated civil work for laying of UG Pipe, cables over walls/ terrace and crossing the wall etc. including dismantling and making it good as per original	In the scope of bidder under this contract
<u>Any other materials and components as per the local fire department requirement shall be under the scope of the bidder under this contract</u>		

SYSTEM ENGINEERING:

The capacities and sizes of various components described above will depend upon the type and height of the building. The following factors shall be taken into consideration while designing various components.

2.10.1 Static Water Storage Tanks

In order to ensure a satisfactory supply of water for the pumps of firefighting, static water storage tanks exclusively for the purpose of firefighting shall be provided. The tank shall be provided both underground and/or at terrace (only when demanded by local fire force department). Reservoir for Wet Riser System shall be lined and shall be made leakproof. While deciding the capacities and location of underground and terrace tanks following points shall also be taken into consideration:

- a) In case common pump house and underground tank are to be provided for more than one building in a campus, the capacity of UG tank and terrace shall be increased, if required in consultation with local Fire Brigade.
- b) The underground fire water storage tank(s) shall not be more than 7 m in depth from the level having fire brigade draw-out connection, while the draw-out connection shall not be more than 5 m away from the tank wall.
- c) The tank shall be by the side of road so that fire brigade personnel can draw water from the tank or discharge water into the tank. Suitable manhole shall be provided for this purpose.
- d) the slab of the tank will form a part of pathway/driveway, it shall be designed to withstand the vehicular load of 60 tons (or as applicable) equally divided as a four-point load.**
- e) The terrace tank may be of masonry, cement concrete, M.S. or plastic depending upon relevant considerations by local fire force department.

2.10.2 Pump House:

For installation of firefighting pumps (Main Electrical Pump, Diesel Engine Driven and Pressurization Pump) along with Electrical & Control Panel, valves, diesel tank etc., pump house is required. Following factors are to be considered:

- a) In order to provide positive (flooded) suction to fire pumps, the pump house shall be at a level below or equal to that of static water storage tank

- b) The pump house at ground level shall be easily accessible for firefighting operations and at least 6 meters away from all surrounding buildings and overhead structures. In case, the 6m spacing of pump room from surrounding buildings is not feasible, the provisions of Para 5.1.12 of IS 13039:2014 shall be followed.
- c) The pump house shall preferably not be located in the building to be protected.
- d) General water supply pumps can be installed in the same pump house.
- e) Suitable ramp with proper slope and/or cut out in roof shall be provided for lowering the equipment in to the pump house. Stair case with entry door at ground level and locking arrangement shall be provided. Ventilators at least 500mm height shall be provided on three sides for natural light. Adequate ventilation for dissipation of heat due to operation of motors/engine shall be provided.
- f) Proper water proofing shall be provided. In order to ensure that there is no leakage of water in the pump house, no pipe/ cable shall cross the pump house below ground level. Suitable opening in wall above ground level shall be provided for crossing of pipes/cables.
- g) Installation of negative suction arrangement and submersible pumps shall not be allowed without prior approval of Engineer-in-charge.
- h) There shall be no beam under the floor of pump house. The floor of the pump house shall be designed for loading of 1500 kgf/sq.m. Foundation of pumps shall be raised over finished floor and in no case flooring or RCC walls shall be damaged while installing equipment in the pump house.
- i) Pump house shall be separated by fire walls all around and doors shall be protected by fire doors (120 min rating). The pump house shall be clearly marked by luminous sign.

2.10.3 **FIRE CONTROL ROOM**

Fire control room shall be made in the room/building as designated by corporation for the purpose and also store for keeping spares for firefighting system shall also be designated by Corporation. Contractor shall install the control system in the said buildings without any additional cost and will ensure the supply of spares in the said stores.

2.10.4 Overhead / Terrace tank and terrace Pump: -

Overhead/ Terrace Tank: A tank (PVC as permitted by fire force deptt.) supported over steel staging constructed for firefighting purposes upon requirement. The terrace pump is to be installed near terrace tank. The tank shall be at a higher level to provide positive suction to the pump. No separate pump house is required for terrace pump. However suitable enclosure for protection of pump is to be provided. The wiring/ Cabling for the pump should provide from the Control panel in the Pump room, necessary arrangement to be made for cabling as per CPWD specifications. The capacity of the pump should be as follows.

(i) Discharge: 450 lpm/900 lpm or, as per system design requirement (**whichever is more**)

(ii) Head: 20m+ 6% of the maximum length of pipe from terrace pump to any hydrant at terrace level or, as per system design requirement (**whichever is more**)

2.10.5 FIRE PUMPS: -

The contractor must ensure that in case sprinkler system is to be installed under the scope of this contract, then a separate electric pump and a separate jockey pump, exclusively for the sprinkler system, shall be provided in the pump room. These pumps shall be of required size as per CPWD Specifications, IS Standards and local fire fighting norms.

A. TYPE

Pumps conforming to IS 12469 shall be exclusively used for Firefighting purposes. The

pumps shall be centrifugal type direct driven with a 3 phase, 415 V + 10%, 50 Hz, A.C. motor. The standby fire pump shall be driven by diesel engine. The pumps may be either of horizontal split casing (HSC) type with operating speed not exceeding 1500 rpm, or solid casing with operating speed not exceeding 3000rpm as specified in the tender documents.

B. RATING

The main fire pump and terrace pump shall be suitable for continuous operation in the system. The jockey pump shall be suitable for intermittent operation to build up pressure in the system on account of leakage. The head and discharge requirements shall be as specified in the tender documents. The head shall be suitable for the system and shall take into consideration the pressure drops across the various components in the water circuit as well as the frictional losses. The rated discharge of Electric Driven and Diesel Engine Driven pump shall be as specified in Table given in Annexure-A. Pump shall be capable of discharging not less than 150 percent of the rated discharge at a head of not less than 65 percent of the rated head. The shut off head shall not exceed 120 percent of the rated head in the case of horizontal Pumps.

C. MATERIAL AND CONSTRUCTION

- a) The centrifugal pumps shall conform to IS1520.
- b) The pump casing shall be of heavy section close grained cast-iron and designed to withstand 1.5 times the working pressure. The casing shall be provided with shaft seal arrangement as well as flanges for suction and delivery pipe connections as required.
- c) The impeller shall be of bronze, brass or stainless steel. This shall be shrouded type with machined collars. Wear rings, where fitted to the impeller, shall be of the same material as the impeller. The impeller surface shall be smooth finished for minimum frictional loss. The impeller shall be secured to the shaft by a key.
- d) The shaft shall be of stainless steel and shall be accurately machined.
- e) The shaft shall be balanced to avoid vibrations at any speed within the operating range of the pump.
- f) The shaft sleeve and wearing ring etc. shall be of bronze, brass or stainless steel.
- g) The bearings shall be ball or roller type suitable for the duty involved. These shall be grease lubricated and shall be provided with grease nipples/cups. The bearings shall be effectively sealed against leakage of lubricant or entry of dust or water.
- h) The shaft seal shall be mechanical type, so as to allow minimum leakage. A drip well shall be provided beneath the seal.
- i) The pumps shall be directly coupled to the motor/diesel engine shaft through a flexible coupling protected by a coupling guard.
- j) The pump and motor/diesel engine shall be mounted on a common robust bed plate fabricated from mild steel section. The bed plate shall have rigid, flat and true surfaces to receive the pump and motor/diesel engine mounting feet. The pump will be perfectly aligned with the motor/engine so as to avoid any vibration during operation at all variations of load.

D. ACCESSORIES

Each pump shall be provided with the following accessories: -

- a) Sluice valves on suction and delivery.
- b) Reducers, as may be required to match the sizes of the connected pipe work.
- c) Non-return valve at the delivery.
- d) Pressure gauge at delivery side between pump and the non-return valve.
- e) Flexible coupling/connections shall be provided between Pump sets and Valves on suction and delivery sides of all the pump sets.

Note: 1) No butterfly valves shall be installed inside the pump room. 2) The size of the non-return valve and cut off (Sluice valve) shall not be less than the size of the initial delivery pipe.

E. INSTALLATION:

- a) The pump and motor/engine assembly shall be mounted and arranged for ease of maintenance and to prevent transmission of vibration and noise to the building structure or to the pipe work.
- b) The pump and motor/engine assembly shall be installed on suitable RCC foundation. The length and width of the foundation shall be such that 100 mm space is left all around the base frame. The height of foundation shall be so decided that the total weight of foundation block is 1.5 times the operating weight of the pump assembly. The foundation shall be isolated from the floor by vibration isolating pads. Angle iron frame of size 35 mm x 35 mm x 3 mm shall be provided on the top edges of the foundation.
- c) More than one pump and motor assembly shall not be installed on a single base or cement concrete block.
- d) The suction/discharge pipe shall be independently supported and their weight shall not be transferred to the pump. It should be possible to disconnect any pump for repairs without disturbing the connecting pipe line.
- e) A minimum clearance of 1 m around the main pumps shall be provided. For jockey pump-clearance of 75 cm shall be adequate. Sufficient space is to be left in front for the radiator of diesel engine for free discharge of hot air. Arrangement for discharging hot air to outside the pump house shall be provided so that hot air does not stagnate in the pump house.

Main Fire Pumps (Both electrical as well as diesel) shall be selected for:

- (i) Discharge: 1620 lpm/2280 lpm/2850 lpm or, as per system design requirement (**whichever is more**)
- (ii) Head: 35 m + Height of terrace level hydrant above pump level +6% of the maximum length of pipe from pump discharge to any hydrant at terrace level or, as per system design requirement (**whichever is more**)

Testing of Pump:

Pumps shall be subjected to Hydrostatic Pressure test as per IS 12469-1988.

2.10.6 DIESEL ENGINE FOR FIRE PUMP

A. Engine Rating- The engine shall be multi cylinder/vertical 4 stroke cycle, water cooled, developing suitable HP at the operating speed specified to drive the fire pump. Continuous capacity available for the load shall be exclusive of the power requirement of auxiliaries of the diesel engine, and after correction for altitude, ambient temperature and humidity for specified environment conditions. The engine rating shall be suitable to drive the pump at 150 percent of its rated discharge with at least 65 percent of rated head or 20% in excess of the maximum brake horsepower required to drive the pump at its duty point, whichever is higher. The engine shall have 10% overload capacity for one hour in any period of 12 hours' continuous run. The engine shall be:

- a) naturally aspirated, supercharged or turbo-charged and rather air or water cooled.
- b) provided with an in-built tachometer to indicate rpm of the engine.
- c) suitable for cold starting for which suitable heaters shall be provided in lubricating oil.
- d) able to develop full load within 15 seconds from the receipt of the signal to start.
- e) The diesel engine shall conform to BS 649/ IS 1601/ IS 10002, amended up to date.

B Engine Accessories-

The engine shall be complete with following accessories:

- (i) Fly wheel dynamically balanced
- (ii) Direct coupling for pump and coupling guard
- (iii) Radiator with hoses, fan, water pump, drive arrangement and guard
- (iv) Air cleaner dry type
- (v) Fuel service tank with necessary pipe work
- (vi) Fuel filter

- (vii) Pump for lubricating oil and lub. oil filter
- (viii) Electric starting battery 12 V/24 V with 2 Nos. batteries
- (ix) Exhaust silencer with necessary pipe work
- (ix) Governor
- (x) Instrument panel housing all the gauges, including Tachometer, hour meter and starting switch with key (for manual starting)
- (xi) Necessary safety controls
- (xii) Winterization arrangement
- (xiii) Hand operated semi rotary pump for filling the service tank
- (xiv) A standard kit of tools (this shall be kept on hand at all times)

C. Cooling System- The engine shall be radiator water cooled. The radiator assembly shall be mounted on the engine. The radiator fan shall be driven by the engine as its auxiliary with multiple fan belts. When half the belts are broken, the remaining belts shall be capable of driving the fan. Cooling water shall be circulated by means of an auxiliary pump of suitable capacity driven by the engine in a closed circuit.

D. Fuel System- The fuel system shall be gravity fed from the fuel tank to the engine driven fuel pump. The engine fuel tank shall be mounted either adjacent to the engine or suitably wall mounted on brackets. The fuel filter shall be suitably located to permit easy servicing. The fuel tank shall be of welded steel construction (3mm thick) and of capacity sufficient to allow the engine to run on full load for at least 8 hours. The tank shall be complete with necessary floor mounted supports, level indicator (protected against mechanical injury) inlet, outlet, overflow connections and drain plug and piping to the engine fuel tank. The outlet should be so located as to avoid entry of any sediments into the fuel line to the engine. Any valve in the fuel feed pipe between the fuel tank and the engine shall be placed adjacent to the tank and it shall be locked in the open position. All fuel tubing to the engine shall be with M.S.'C' class pipe with flexible hose connections where required. Pipe joints shall not be soldered and plastic tubing shall not be used.

The following shall be provided:

- i) A sludge and sediment trap shall be provided.
- ii) An inspection and cleaning hole
- iii) Means to enable the entire fuel system to be bled of air (Air relief cocks are not allowed; screwed plugs are permitted)

E. Lubricating Oil System- Forced feed lubricating Oil system shall be employed for positive lubrication. Necessary lubricating oil filters shall be provided, located suitably for convenient servicing.

F. Starting System- The starting system shall comprise of necessary batteries 12 Volts/ 24 Volts, starter motor of adequate capacity and axle type gear to match with the toothed ring on the fly wheel. Suitable protection to protect starting motor from excessively long cranking runs shall be suitably integrated with engine protection system.

The capacity of the battery shall be suitable for meeting the needs of the starting system.

The battery capacity shall be adequate for 10 consecutive starts without recharging with cold engine under full compression. Three attempt starting facility shall be provided. If the engine fails to start after third attempt, the engine shall be locked out and suitable audio-visual alarm shall be given to indicate engine failure. The starter motor used for automatic starting may also be used for manual starting provided there are separate batteries for manual starting. The scope shall cover all cabling, terminals, initial charging etc.

G. Exhaust System- The exhaust system shall be complete with residential grade silencer suitable for outdoor installation and silencer piping shall be extended up to 1 m, outside pump house duly insulated with 50 mm thick glass wool and 1.0 mm thick aluminum sheet cladding. Retrofitted emission-control equipment shall be used having a minimum specified PM-capturing efficiency of at least 70%, type approved by one of the five CPCB recognized labs. (Recommendations of National Clean Air Program

2019 launched by Ministry of Environment, Forest and Climate Change)

H. Engine shut down mechanism- This shall be manually operated and shall return automatically to the starting position after use.

I. Governing System- The engine shall be provided with an adjustable governor to control the engine speed within 5% of its rated speed under all conditions of load up to full load. The governor shall be set to maintain rated pump speed at maximum pump load.

J. Engine Instrumentation –

Engine instrumentation shall include the following: -

- (i) Lub oil pressure gauge
- (ii) Lub oil temperature gauge
- (iii) Water temperature gauge
- (iv) Tachometer
- (v) Hour meter

The instrumentation panel shall be suitably mounted on the engine.

K. Engine protection devices –

Following engine protection and automatic shutdown facilities shall be provided: -

- (i) Low lub. oil pressure.
- (ii) High cooling water temperature.
- (iii) High lub. oil temperature.
- (iv) Over speed shut down

L. Discharge & head of the pump:

As per design requirement in order to achieve required pressure in the system or same as the Electrical main pump (**Whichever is more capacity**)

M. Testing of Pump:

Pumps shall be subjected to Hydrostatic Pressure test as per IS 12469-1988.

2.10.7 Jockey Pump:

A pump of small capacity which is set to come into operation, automatically with drop in static pressure in the system and to automatically stop when the pre-set pressure is attained.

Pressurization pump (Jockey Pump) shall be selected for:

- (i) Discharge : 180 Ipm as per system design requirement (whichever is more)
- (ii) Head : 35 m + height of terrace level hydrant above pump level as per system design requirement (whichever is more)

Note: Any other pump (including valves, starters and accessories) as per requirement of local bye-laws/ NBC-16/ CPWD Specification and design of the system network shall also be provided by the contractor under the scope of this work. Nothing extra shall be paid in this regard.

2.11 The control panel for the firefighting system pumps should be composed of Electrical control panel of cubical construction, floor mounted type, fabricated out of 2mm thick CRCA sheet, compartmentalized with hinged lockable doors, dust and vermin proof, powder coated of approved shade after 7 tank treatment process, cable alley, interconnection with suitable size copper conductor cable/solid copper strip, having switchgears and accessories, mountings and internal wiring, earth terminals, numbering etc. complete in all respect, suitable for main fire pump, pressurization pump & diesel pump set complete as per CPWD specification with following in coming and Outgoings, suitable for operation on 415V, 3 phase, 50Hz Ac Supply with enclosure protection class IP 42 as required with

INCOMING

400A, 50kA 4 Pole MCCB, Ics=100% Icu rating Digital Voltmeter 0-500V with selector switch

Digital Ammeter (0-250 A) with selector switch & CTs etc. LED type RYB phase

indicating lamps, ON, OFF, trip indicating lamps Set of Copper Bus Bar 500A.

Outgoings (Note: All outgoing feeders for pumps should have digital Ammeter with selector switches, and LED type ON, OFF, trip indicating lamps)

Main Fire Pump

200 A, 50kA TPN MCCB, Ics=100% Icu, with fully automatic Star/Delta starter suitable for 75 hp pump with overload protection, current sensing type single phase preventor complete with all accessories and internal wiring required for automatic operation, selector switch for local/remote, auto/manual/OFF operation.

Jockey Pump

100 A, 50kA TPN MCCB, Ics=100% Icu, with suitable HP fully automatic Star/Delta starter with overload protection, current sensing type single phase preventor complete with all accessories and internal wiring required for automatic operation, selector switch for local/remote, auto/manual/OFF operation

Diesel Engine Control

Control for diesel engine comprising - Automatic/Manual selector switch & 3 attempt starting device, timers and relays as required, push buttons, start/stop in manual mode Indicating lamp for high/ Low Lub. Oil pressure, High Water Temp and Engine on indication Battery charger suitable for 12V/24 V DC with boost and trickle selector switch, 0-30 V DC volt meter, and 0- 20 A DC Ammeter All standard relays and accessories for automatic operation of diesel engine System Controller Designing, Supply, Installation, Testing and commissioning of system controller to control operation of main electric fire pump, diesel pump, Pressurization pump, Terrace pump in sequence as per specification consisting of relays, timers. Sensors, annunciation window for fault indication, complete as per specifications.

M. Testing of Pump:

Pumps shall be subjected to Hydrostatic Pressure test as per IS 12469-1988.

2.12 ELECTRICAL WORK

This part covers the requirements for the electrical works associated with firefighting installations, namely, motors, switch boards, power cabling, control wiring, earthing and remote control-cum-indicating panels.

The supply cable from main LT PANEL to pump room main pump feeder panel shall be supplied and laid by the contractor at its own cost. The laying of cable shall be done in accordance with site condition i.e. laying underground in DWC/ Hume/GI pipe at crossings, OR, along boundary wall where permissible. The decision of Engineer-in-Charge in this matter for cable routing shall be final and bidding.

2.12.1. GENERAL

1. all equipment and materials for electrical works shall be suitable for operations on 415 V / 240 V + 10% (3 phase/single phase), 50 Hz AC system.
2. All electrical works shall be carried out complying with Central Electricity Authority (Measures Relating to Safety and Electric Supply) Regulations, 2010 and NEC 2011, as amended up to date.
3. All parts of electrical works shall be carried out as per appropriate CPWD General Specifications for Electrical works, namely, Part-I (Internal) 2013, Part II (External) 1994 work, and Part IV (Sub-station)- 2013 all as amended up to date.
4. All materials and components used shall conform to the relevant IS specifications amended to date.

2.12.2 . POWER SUPPLY

Power supply to following systems and equipment, where provided, shall be from normal and emergency (standby generator) power sources with changeover facility:

- a) Fire pumps
- b) Pressurization and smoke venting; including its ancillary systems such as dampers and actuators.
- c) Terrace pump
- d) Fireman's lifts (including all lifts).
- e) Exit signage lighting.
- f) Emergency lighting.
- g) Fire alarm system.
- h) Public address (PA) system (relating to emergency voice evacuation and announcement).
- i) Magnetic door holds open devices.
- j) Lighting in fire command center and security room.

The generator shall be capable of taking starting current of all the fire and life safety systems and equipment as above.

- The electric supply to the pumping set(s) shall be entirely independent of all other equipment in the premises that is even when the power throughout the entire premises is switched off, the supply to the pump shall continue to be available uninterrupted. This can be achieved by taking the connection for the pump(s) from the incoming side of the main L.T. breaker.
- The power supply to the panel/distribution board of these fire and life safety systems shall be through fire proof enclosures or circuit integrity cables or through alternate route in the adjoining fire compartment to ensure supply of power is reliable to these systems and equipment.
- Circuits of such emergency system shall be protected at origin by an automatic circuit breaker so set as to permit the motor to be overloaded during an emergency to the maximum limit permissible by the manufacturer. Further, the no volt coil/the under voltage release of that circuit breaker shall be removed. Master switches controlling essential service circuits shall be clearly labelled.
- Sufficient spare power shall always be available to drive pumping sets at all times throughout the year. Suitable capacity ACBs/SDFUs shall be provided in the electrical panel for extending supplies to fire pumps. Such switches shall be suitably marked "FIRE SWITCH" and shall not be switched-off without permission/intimation to appropriate authority. In case any maintenance/repair work is to be carried out on the electrical panel where from supplies to fire pumps have been extended, alternative arrangement shall be made to ensure that power supply to fire pumps continue to be available for operation any time.

2.13. Motors: -

The motors shall be squirrel cage AC induction type. The motors shall be suitable for continuous duty and rating necessary to drive the pump at 150 percent of its rated discharge with at least 65 percent rated head. The motor shall be totally enclosed fan cooled type conforming to protection clause IP 21 of IS: 4691. The class of insulation shall be 'F'. The synchronous speed shall be 1500/3000 rpm as per requirement of the pump. The motor shall conform to IS:325.

2.14 MOTOR STARTER: -

- The motor starter shall conform to IS: 1822 "Motor starters of voltage not exceeding 1000 volts" and shall be air insulated and suitable for 415 V, + 10%, 50 Hz, 3 phase AC supply and shall be integrated in the panel.
- Starter for the motor shall be direct on line (D.O.L) for motors up to and including 7.5 H.P. rating and automatic star-delta type for motors of higher ratings unless otherwise specified in the tender specifications. However, for main Fire Pump & Sprinkler Pump Soft Starters may be used.
- Each starter shall be provided with the following protections: -
 - (a) Thermal overload on all the three phases with adjustable settings,

- (b) Independent single phase preventer. (Current sensing type).
- Adequate number of extra NO/NC contacts for interlocks, indicating lamps, remote operation etc. shall be provided on the starter/ contactor.
- Under voltage/No volt trip shall not be provided.

2.15 SWITCH BOARDS: -

- The main switch board shall be floor mounted, free standing or wall mounted cubical type and shall be factory built fabricated by one of the approved switch board manufacturer. The board shall be fabricated from 2.0 mm thick CRCA sheet and powder coated after 7 tank treatment process. The board shall be fabricated with IP 42 degree of protection. It shall be suitable for termination of the incoming cable(s) from bottom.
- The capacity of switch gear shall be suitable for the requirements of motor fed/ controlled. Starting currents shall be duly considered.
- Switch fuse units shall be used up to and including 32 A and SDFU(Switch Disconnecter Fuse Unit) shall be used for 63 A and above. ACB shall be used for 630 A and above ratings. All Switch fuse units/SDFUs shall be of AC 23 duty as per IS: 4064-1978 as amended up to date. They shall be complete with suitable HRC cartridge type fuses. Switch boards shall house starters for motors with independent current sensing type single phase preventer for each starter.
- Volt meter with selector switch, a set of indicating lamps and fuses for voltmeter and lamps shall be provided. Ammeter with CTs, and selector switch shall be provided with each motor starter. Instruments shall be flush mounted with the panel and have a class index not higher than 1.0. The instruments and accessories shall be provided whether or not specifically indicated in the tender specifications.
- The fabrication of switchboard shall be taken up only after the drawings for the fabrication of the same are approved by the Engineer-in-charge.
- Metallic danger board conforming to relevant IS shall be fixed on each electrical switchboard.

2.16. SYSTEM CONTROLLER

For controlling operation of pumps and indicating fault, system controller shall be provided. The system controller shall consist of relays, timer, contactors etc. and shall be designed to operate the fire pumps with interlocking and fault indication. Annunciation window shall be provided to indicate following faults:

- a) Low water level in UG tank
- b) Low water level in terrace tank.
- c) Main pump failed to start.
- d) Main pump failed during operation.
- e) Diesel pump failed to start.
- f) Diesel pump failed during operation
- g) Supply to Main Pump failed
- h) Supply to Pressurization Pump failed
- i) Supply to Terrace Pump failed.

Suitable sensors, differential pressure switches, monitors shall be provided at respective locations. The control system shall be operational on 12 Volt/24 Volt DC starting batteries of engine. Battery chargers shall be provided to ensure that the batteries remain charged. Batteries shall be sealed maintenance free type.

2.17. REMOTE INDICATING PANEL

- The remote indicating panel shall be provided in the fire control room. This panel shall have necessary status indication of all electric motors.
- Back indication to show the status of operation of all the motors, pressure in the system, water level in underground and overhead tank etc. shall be provided.
- Panel shall be fabricated from not less than 1.6 mm thick CRCA sheet and powder coated after 7 tank treatment process. The panel shall be dust, damp and vermin proof. This shall be of wall mounting type. This shall be complete with necessary

termination arrangements, multicore cables, tag blocks, control transformer, designation plastic labels, double earth studs etc. as required.

2.18. POWER CABLING: -

- The power cables shall be XLPE insulated, PVC outer sheathed aluminum conductor, armored cables 1100 V grade. The power cables shall be of 2 core for single phase, 4 core for sizes up to and including 25 sq.mm for 3 phase and 3-1/2 core for sizes higher than 25 sq.mm for 3phase.
- Power cables shall be of sizes to meet the starting and running current of motors fed and shall be as approved by the Engineer-in-Charge, after taking into consideration the load, the length of cabling.
- Cables shall be laid in suitable metallic trays suspended from ceiling, or mounted on walls. Cable ducts shall not be provided in pump rooms. Cable trays shall be of perforated steel sheet with adequate structural strength and rigidity. Necessary supports and suspenders for cable trays shall be provided by the contractor as required.
- Control wiring shall be done using ISI marked PVC insulated and PVC sheathed, 2.5 sq.mm, 250 V grade, armored multi-core copper conductor cable. The control cable shall also be laid in the same manner as power cable.

2.19. EARTHING:

- The earth work shall be carried out in conformity with CPWD Specifications for Electrical works (Part-I), Internal2013.
- Metallic body of all motors, medium voltage equipment and switch boards shall be connected by two separate and distinct earth conductors to the earth stations of the installations. Looping of such body earth conductors is acceptable from one equipment, or switch board to another. The size of earth conductors for body earthing of equipment shall be 2 Nos. 6 mm dia copper wire/2 Nos. 25 x 3 mm G.I. strip.
- All panels shall be supplied with the manufacturer's standard finish painting.

2.20 Wet Riser & Down Comer

- Pressure at hydraulically remote hydrant and at the highest hydrant shall not be less than 3.5 kgf/cm². The pressure at hydrants shall however not exceed 7 kgf/cm².
- The pipeline shall be designed in such a way that it should be possible to get discharge at any location. Design parameters shall be as under:
 - a. Maximum Flow Velocity: 2.5 mps .
 - b. Maximum Friction: 5 m per 100 m run.
- Number of Risers: Number of Risers will be decided to fulfill following requirements:
 - a. No corner of the building is farther than 30 M from the nearest riser
 - b. Horizontal distance between two risers shall not be more than 50 M
 - c. Minimum One Riser shall be provided for every 1000 sqm of plinth area or part thereof.

However, number of Risers may be suitably increased to meet given situation as per directions of Engineer-In-Charge. The quantity of Sprinkler & Hydrant, Wet Risers etc. and all other allied equipment shall be provided as per norms of NBC-2016 latest as amended and as per local byelaws.

All down comer pipes shall be inter connected at the terrace level. In case terraces are not interconnected, all building will be treated as individual buildings. Fire service inlet shall be provided with each Riser/down comer for facilitating pumping of water from fire service tenders.

2.21 INTERNAL HYDRANTS

Internal hydrants are provided to fight fire from within the building. Following factors are

considered for deciding location of internal hydrant:

- Internal hydrants are provided at every floor at the same location and connected with risers.
- Hydrant for firefighting shall be located in the lobby in firefighting shaft. Those hydrants planned to be provided near fire exit staircase on the floor shall be within 5 m from exit door in exit access.
- Numbers and location of risers shall be decided
 - a) No corner of the building is farther than 30 m from nearest riser.
 - b) Horizontal distance between two risers shall not be more than 50 m.
 - c) Normally one riser is provided for every 1000 sq.m of plinth area or part thereof.
- Every wing of the building shall preferably be provided with independent hydrants. The Hydrants are provided near the Long wall without hindrance to the stack in the warehouse.
- Internal hydrant shall be easily accessible. A clear space of at least 1.5 m should be available in front of the internal hydrant for operation. Internal hydrant shall not be provided in a lockable room.
- Internal hydrant shall be clearly marked with the inscription of "**FIRE HOSE CABINET**" of letter size 75 mm in height and 12 mm in width by luminous sign. Suitable lighting arrangement shall be provided in front of the internal hydrant. The location of such cabinets shall be shown on floor plan and duly displayed in the landing of the respective fire exit staircase.

Every riser will be provided with the following at every floor including terrace and basement over and above sprinkler system.

- a) Single headed outlet -2 Nos.
- b) First Aid Hose Reel -1 No. [Length of pipe shall be such that nozzle of the hose can be taken into every room and within 6 m of any part of the rooms keeping in view layout and obstruction.]
- c) Hose Pipe 63 mm dia, 15 m long with male and female coupling at ends. -2 Nos.
- d) Branch pipe 63 mm dia with 20 mm nominal internal diameter nozzle and suitable for instantaneous connection. -1 No.

2.22 Yard Hydrant (External Hydrant)

For fighting fire from outside the building, yard hydrants are provided around the building and in the closed court yard. For connecting yard hydrants, a ring of pipe shall be laid underground (it can be laid overground as per site suitability, decision of Engineer-in-charge in this matter shall be final) around the building at a minimum distance of 2 m from the face of the building.

- A. All internal risers shall be connected with this ring.
- B. Yard hydrants shall be located at a minimum distance of 2 m but not more than 15 m from the building face.
- C. The yard hydrants shall be easily accessible and should normally be provided near boundary wall/along road. While locating yard hydrants it should be ensured that same do not become hindrance in vehicular movement or entrance to the building.
- D. Yard hydrants, should be located around the building in such a way that it should be possible to fight fire on any face of the building from the nearest hydrant. At least one hydrant post shall be provided for every 45 m.**
- E. Fire Hydrants shall be of stand post type conforming to IS 908. All Yard hydrant outlets shall be situated 1 m above ground level.
- F. The stand posts shall be 80 mm in diameter for single headed hydrants. The stand posts shall be painted 'fire red' as per Para 1.13. Mild steel stand post may be accepted even in cases where underground mains are of cast iron, using flanged joints.

- G. Only Oblique hydrants conforming to IS 5290 with outlets angled towards ground shall be used. The hydrant couplings shall be of the instantaneous spring-lock (female) type of 63 mm diameter and valves shall be of the screw down type.
- H. **Suitable pressure reducing devices shall be provided for yard as well as internal hydrants where the pressure exceeds 7 kgf/cm² , considering the safety of operators.**
- I. All hydrants should be serially numbered.
- J. Yard hydrant will include the following accessories

I	Connection from ring main with 80 mm dia MS pipe	
Ii	63 mm dia single head landing valve	1 No
Iii	Butterfly/slucice valve 80 mm dia	1 No
Iv	Hose pipe 63 mm dia 15 m long with male and female coupling at ends	2 No
V	Branch pipe 63 mm dia with 20 mm nominal internal diameter nozzle, suitable for instantaneous connection	1 No

2.23 Firefighting Accessories

2.23.1. LANDING VALVE

Landing valves are provided in the system for connection of hose pipes for discharging water for fighting fire by fire brigade or trained personnel. The landing valves shall be as per IS: 5290.

Material of construction

- (i) Body, outlet and cap etc.: Bronze or Aluminum alloy or stainless steel
- (ii) Spindle : Brass for Bronze body, stainless steel for Aluminium alloy and stainless steel body.
- (iii) Hand wheel: Mild steel or cast-iron

The water discharge shall be not less than 900 lpm for single head valves at 7 kgf/cm² pressure.

2.23.2. FIRST AID HOSE REEL

First Aid Hose Reel is meant for delivering small quantity of water in early stage of fire and can be operated even by untrained personnel. It shall consist of 20 mm (nominal internal) diameter hose tubing length wrapped around a reel with water inlet pipe, stop valve and shut-off nozzle. The entire assembly is mounted on a wall bracket and can swing 180 degrees. The water inlet shall be connected directly to the riser/down-comer mains by means of 37 mm socket and valve. The hose tube can be pulled out easily for the purpose of discharge of water on fire. First aid hose reel shall be as per IS-884. The coupling, branch pipe and nozzle shall be as per IS:8090.

Material of Construction –

- (i) Hub and sides: Aluminum Alloy / Mild steel / Aluminum sheets.
- (ii) Wall Bracket: Cast iron / Mild steel.
- (iii) Hose tube (20 mm): Thermoplastic (Textile Reinforced) (nominal internal dia) Type-2 as per IS-12585
- (iv) Nozzle with branch Pipe: Brass
- (v) Stop Valve (Ball Valve) : Gun metal Normally M S construction is used.

Other material may be used in areas having corrosive atmosphere. The water flow rate shall be not less than 24 lpm and the range of jet shall be not less than 6 m.

2.23.3. FIRE HOSE DELIVERY COUPLING, BRANCH PIPE AND NOZZLES: -

The delivery hose couplings consist of male half coupling and female half coupling. Grooves are provided on outer side on both coupling for binding hose pipes with wires. In female coupling spring loaded cam tooth is provided for holding male half coupling in position. Male half coupling and female half coupling are provided on both sides (i.e. on one side male and on other side female) of hose pipes. Two or more pipes can be joined

together with the help of these couplings instantaneously. Sizes:- These are available in two sizes i.e. 63 mm and 70 mm. Normally size 63 mm is used.

Material of Construction

1. Copper Alloy
2. Aluminum alloy
3. Stainless Steel

Branch Pipe and Nozzle: -

Branch Pipes with nozzle are mounted at the end of hose pipe. Branch pipe is properly finished and free from sharp edges. During operation, a fireman has to hold the branch pipe. One end of branch pipe is fixed with hose coupling and the other end is threaded to fit the nozzle. Nozzle is tapered pipe with one end threaded internally which is fixed on branch pipe. The size of other end i.e. nozzle shall be 20 mm (nominal internal diameter).

2.23.4. FIRE SERVICE INLET AND FIRE SERVICE CONNECTION

These are provided for connection of fire service hose pipes for either directly pressurizing the system with their pumps or filling water in the tank from a distance. In the first case non-return valve with butterfly valve shall be provided for holding water pressure. Fire service inlet shall be provided with each wet riser/down comer and the ring main. The arrangement has been shown in Fig.5. These are fixed to 150 mm diameter pipe and located in MS Box made of 2 mm thick mild steel sheet with openable glass cover. These shall be as per IS: 904. Material of Construction Copper Alloy, Aluminum alloy.

2.23.5. HOSE PIPES

Hose pipes shall be rubber lined woven jacketed and 63 mm in diameter. They shall conform to Type A (Re-in forced rubber lined) of IS:636. They shall be flexible and capable of being rolled. Length of hose pipe will be 15 m. The hose pipe shall be complete with male and female coupling at the ends.

2.23.6. FIRE BRIGADE INLET CONNECTIONS/ DRAW OFF CONNECTION

One set of 2/4 ways collector head Fire Brigade connection shall be provided at underground tank, Ring Main, Sprinkler system and individual wet risers as specified conforming to IS 904.

The inlet to the wet riser sprinkler header shall be with 150 mm dia butterfly or sluice valve and non-return valve. The scope shall include necessary reducers, tees bends and special fittings as required.

It should be provided with M.S. enclosure fabricated from 1.5 mm thick M.S. sheet, front glass locking arrangement supported on M.S. structural members, painting with two coats of postal red enamel. Fire brigade inlet connection (fire department connection) consisting of 4 Nos. 63 mm dia instantaneous inlet arranged on a 50 mm dia header, 1 No. 150 mm diameter sluice valve, with in built Non-return valve and wall mounted box of M.S. construction made out of 16 gauge MS Sheet with glass door to house the above mentioned components.

Fire brigade draw out connection (fire department connection) with suction pipe MS class 'C' 100 mm dia. & 100 mm dia. foot valve & steel chain including wall mounted box M.S. construction made out of 16 gauge MS Sheet with glass door to house the above mentioned components.

Inlet breeching having C.I. body Two-way gun metal 63 mm dia instantaneous inlets conforming to IS 903 fitted with non-return valves, 25 mm dia gun metal drain cock, blank cap, brass chains and 150 mm dia flanges with all accessories suitable for local fire tender complete as required.

2.23.7. ALARM FOR WET RISER SYSTEM: To indicate the flow of water in the system, turbine type alarm shall be provided at a prominent place outside the pump house in the main line before any connection is taken. The alarm will indicate the healthiness of the system and shall not be silenced till the main fire pump is in operation.

2.24 AUTOMATIC SPRINKLER SYSTEM

2.24.1. BUILDING TO BE SPRINKLER PROTECTED

The sprinkler pipes shall be installed throughout the area to be protected.

Firefighting installations for Wet Riser, Down Comer and Wet riser cum Down Comer are to be operated manually. Delay in undertaking manual operation due to late detection and or response, may result in spread of fire. In automatic sprinkler system, sprinkler heads are provided throughout the areas to be protected at specified locations such as roof or ceiling, walls, between racks, below obstructions and fitted with water supply lines permanently charged with water under specified pressure. The sprinklers operate at pre-determined temperature to discharge water over the affected area below and provide an adequate distribution of water to control or extinguish fire. Only those sprinklers which are in the vicinity of fire, that is those become sufficiently heated, operate. Operation of sprinkler results in flow of water which initiates fire alarm. Thus sprinklers perform two functions i.e. **first to detect fire and then to provide an adequate distribution of water to control or extinguish it.** Water distribution from ceiling level, cools down the hot gas which forms beneath the ceiling of enclosure in which fire is developing. This will prevent spread of fire to adjoining areas and contain damage to limited area.

It should not be assumed that the provision of sprinkler system entirely obviates the need for other means of fighting fire and it is important to consider the fire precaution in the premises as a whole.

2.24.3. CLASSIFICATION OF OCCUPANCIES AND PROVISION OF AUTOMATIC SPRINKLER FIRE SYSTEM

Sprinklers shall be provided in the warehouse building. The design of sprinkler installation depends upon type of occupancy. For the purpose of designing and installation of automatic sprinkler systems, the godown shall be categorized under the "**High Hazard**" class in **IS: 15105**. The protection area for each sprinkler shall not exceed 09 sq. m. and the maximum distance between sprinklers shall be 3.75 meters.

Pipe Sizing and Design:

In cases, where both sprinkler system and hydrant system (internal or external) is to be provided in the warehouse, it is to be ensured that separate mains are to be laid/provided for the sprinkler system and hydrant system. The sprinkler system shall not be taped from the hydrants mains. Further, it is to be ensured that required number of ICVs/Sprinkler-drain assemblies are to be provided in each godown as per CPWD Specifications (or relevant IS Specification, in case CPWD Specifications do not cover this topic).

Sprinkler heads located as per above norms shall be connected with pipe lines permanently charged with water. Depending upon location of sprinkler heads and site conditions, sprinkler heads may be connected with range and distribution pipes.

The pipes connecting the sprinkler heads are to be sized depending upon number of sprinkler heads and arrangement of their connection. The main elements of a sprinkler installation shall be provided as per norms. Various pipes connecting the sprinkler heads are termed as below:

- a. Range Pipe
- b. Distribution Pipe
- c. Main Distribution Pipe
- d. Riser

Sizes of pipes are to be calculated from various tables and hydraulic calculations given in IS: 15105.

Pipe sizes shall be determined using one of the following methods

- a. Pre-calculated system: applicable only where light and ordinary occupancies where the aggregate floor plate area (in one or more floors combined) is 5000 m² or less (except where gridded or looped layouts are used). Pre-calculated pipework is applicable only to the extensions of old pre-calculated systems.
- b. Fully calculated system: applicable for
 - i. Light and ordinary occupancies where the aggregate floor plate area (in one or more floors combined) exceeds 5000 m².

- ii. High hazard occupancies,
- iii. Storage occupancies, and
- iv. All occupancies where conventional and special sprinklers are used like ESFR, LD, EC, intermediate, etc.

Some guidelines relating to pre-calculated system are given below:

- a. Pipe less than 25 mm diameter is not to be used.
- b. There shall not be more than 6(Six) sprinklers in any range.
- c. Range and distribution pipe nominal sizes shall be selected from Tables as given below:

RANGE PIPE NOMINAL SIZES FOR VARIOUS PIPE LAYOUTS IN MODERATE/ORDINARY HAZARD INSTALLATIONS

S.No	Range Pipe Layout	Pipe Nominal Bore (mm)	Maximum Number of Sprinklers to be fed by Pipe of size listed
1	Range(s) at remote end of each distribution pipe spur in end feed layout:		
		a) Last two ranges in two end-side layout	25 32
	b) Last three ranges in three end-side layout	25	2
		32	3
2	Last range in all other layouts.	25	2
		32	3
	All other ranges in case of 1(a), 1(b) & (2) above	25	3
		32	4
		40	6

DISTRIBUTION PIPE NOMINAL SIZE IN MODERATE/ORDINARY HAZARD INSTALLATIONS AND MAXIMUM NUMBER OF SPRINKLERS

S.No	Distribution Pipes	Type of Layout	Distribution Pipe Nominal (mm)	Maximum Number of Sprinklers to be fed by Pipe size listed
1	At the Extreme of the installation	Two end side layout	32	2
			40	4
			50	8
			65	16
2	Last three ranges	All other layouts	32	2
			40	4
			50	8
			65	16
3	Between design points and the Installation Control Valve	All	To be calculated as per 10.4.4 (b) of IS: 15105	

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- Pressure in the sprinkler installation piping shall not exceed 7 bar and pressure at the most remote sprinkler at any level shall not be less than 0.5 bar and also not more than 5 bar.
- The area to be protected by sprinkler is divided in to various zones. For detecting operation of sprinkler in a zone, flow switches are provided which are wired to an annunciation panel installed in the Fire Control Room. In the event of operation of sprinkler(s) in an affected area. The annunciation panel will give audio-visual alarm and indicate the affected zone. This arrangement will be independent of fire alarm system.
- Sprinkler Spacing, Arrangement, Distribution and Locations: - Sprinkler heads may be installed on ceiling and or side walls. For selection of number of sprinkler and their location in a given area, following factors shall be considered:

Sr. No.	Factor to be consider	Type of Sprinkler	
		Ceiling sprinkler	Side wall sprinkler
1.	Maximum area coverage per sprinkler	9 m ²	Combustible ceiling 7.5 m ² Non-combustible ceiling 9.0 m ²
2.	Maximum distance between sprinklers	3.5 Meter	Combustible ceiling 2.7 m ² Non-combustible ceiling 3.0 m ²
3.	Minimum distance between sprinklers	1.8 M	1.8 m
4.	Maximum distance of sprinklers from wall end	It shall not exceed half of the allowable distance between sprinklers	It shall not exceed half of the allowable distance between sprinklers

The coverage of the sprinkler will as per the above or as per the recommendations of the Local fire officer (whichever is more).

- Spacing below Sprinkler Heads: - Clear minimum space of 0.5 m shall be maintained below the deflector of sprinkler head

Typical pipe sizes for sprinkler installation shall be provided as per above norms.

Components of sprinkler system: - Following types of valves shall be used in the installations:

- Stop Valves
- Test Valves
- Drain Valves
- Flushing Valves
- Check Valves
- Installation Control Valves
- Pre action valves
- Subsidiary valves

The location of above valves shall be as under:

- **Test Valve.** - For testing hydraulic alarm or electric alarm by drawing water from downstream side, test valve shall be connected with downstream of the water flow alarm.
- **Drain Valve:** - For drainage of system, drain valve 50 mm diameter shall be provided down stream of Installation Control Valve or any subsidiary stop valve. A common valve

can perform the functions of test and drain. The outlet shall be connected with a 50 mm diameter G.I. drain pipe along with riser pipes

- **Flushing Valve:** - If the water used for sprinkler is not potable, flushing valves shall be provided at the end of a distribution pipe. The valve size shall be same as distribution pipe. Valve outlet shall be fitted with a brass plug and extended to not more than 3 m above floor.
- **Check Valve:** - Check valve shall be provided where more than one water supply is available and same shall be fitted on each water supply pipe.
- **Subsidiary Stop Valve:-** Subsidiary stop valve which shall be of the same diameter as the pipe line in which they are fitted shall be provided to control water supply to sprinklers of highly sensitive areas like computer rooms.
- **Installation Control Valve (ICV): -**

A sprinkler installation shall be fitted with a suitable Installation Control Valve to control the water supply to the installation. The valve set shall comprise of:

 - a. A main stop valve.
 - b. An alarm valve.
 - c. A water motor alarm.
- The alarm valve shall be fitted immediately downstream of the main stop valve of each building/block and before any connection is taken off to supply any part of the installation. The Installation Control Valve shall be placed externally in the vicinity of the main entrance of the building protected at an easily accessible place so that the alarm bell sound is heard by the inhabitants/passers-by. The valve shall be secured open by a pad locked or riveted strap and protected against impact damage.
- A plan of the risk with the position of Installation Control Valve shall be placed in a conspicuous location. A location plate shall be fixed near the Installation Control Valve bearing the following words **SPRINKLER ALARM VALVE** in raised letters.
- **Water motor alarm:** Water motor alarm shall be provided very close to the alarm valve. Strainer shall be fitted between the alarm valve and the motor nozzle connection. The water outlet shall be positioned so that any flow of water can be seen. The alarm device shall provide audibility level of 85 dB above the back ground noise level.
- **Pressure Gauges:** - Pressure gauges shall be provided immediately above and below each alarm valve. Stop cock shall be provided before pressure gauges for removal without interruption of water supply of the installation. Pressure gauges shall be as per IS: 3624.
- SPRINKLERS TYPE Sprinklers shall be as per IS: 9972
- Temperature rating of a sprinkler should not be less than 30° C more than the highest anticipated temperature of the location of installation. Under glazed roofs or where there are roof sheets of PVC or similar plastic material, sprinkler shall be rated 73°C to 100°C
- In moderate hazard applications, sprinklers of orifice size 15 mm shall be used.
- For fixing sprinkler heads, 15 mm diameter M.S. Socket is to be welded to range pipes at the locations as per drawings. Dead plug shall be fixed in the socket
- **SIZE OF INSTALLATIONS**
 - a) The protected floor area to be controlled by any one Installation Control Valve shall not exceed 12000 m².
 - b) As far as possible one area shall be controlled by one Installation Control Valve. If the area is quite large, more than one Installation Control Valve should be planned.
 - c) Details of area controlled by an Installation Control valve shall be exhibited near it. If there are more than one block in a campus, each block shall be provided with different Installation Control valve.

2.25 PIPE WORK

2.25.1. PLUMBING DESIGN:

Pipe sizes shown in tender documents are purely for contractor's guidance. The contractor shall be responsible for selection of sizes as per detailed engineering to be done by him.

Plumbing design to be done by the contractor shall incorporate the following: -

- (i) (a) Sluice valves shall be provided at suction and delivery sides of pumps.
- (b) External hydrant
- (c) Fire service connection/inlet.
- (d) Test valve.
- (e) Drain connections.
- (ii) For testing the system healthiness and automatic operation on daily basis, one test pipe with sluice valve shall be provided in common discharge header. For avoiding wastage of water, this pipe shall discharge water in the tank.
- (iii) Non-return valve shall be provided at the delivery of each pump and fire service inlet. This shall be of swing type.
- (iv) Air release valves with ball valve shall be provided in the piping system for venting trapped air with a size of 25 mm for pipes up to 100 mm and 40 mm for larger pipes.
- (v) Plumbing drawings showing the sizes of pipe, valves, layout and other details shall be prepared and shall be got approved from the Engineer-in Charge before the execution of the plumbing work.

2.25.2. PIPE MATERIALS

Pipes shall be of the following materials:

(a) Mild steel heavy class (C-class) conforming to IS:1239 for sizes up to 150 mm or GI pipe heavy class (C-class) conforming to IS:1239 in case it is demanded by Local fire force department. (contractor shall do the due diligence before tendering the rates on type of piping and no additional cost shall be paid on this account).

(b) Welded black steel pipe, Class 2, conforming to IS: 3589, for sizes greater than 150 mm.

(c) Cast-iron double flanged pipe, Class-A conforming to IS 1536 or IS: 1537 (to be provided only in underground application).

(d) GI Pipe Medium Class (B-class) conforming to IS:1239 (For Drain), Cadmium plated steel nuts/bolts/washers shall be used. Flex drop of stainless steel metallic pipe with mounting accessories, frame for installation on false ceiling.

The minimum specifications of the pipes are as per the IS:1239(Weight per meter should be within the limits as per IS:1239)

2.25.3. PIPE JOINTS: -

- a) Electric welding joints shall be provided in the MS pipe work. Flanged joints shall be provided for connections to valves, pumps, air vessels etc. and also on straight lengths at suitable points to facilitate erection and subsequent maintenance.
- b) The joint between C.I. and MS pipe shall be flanged type. MS pipe laid at such locations shall be provided anti-corrosive treatment.
- c) Fittings installed underground shall be of cast iron 'heavy' grade conforming to IS 1538 whereas those installed above ground shall normally be of medium grade wrought steel or mild steel conforming to IS 1239 (Part 2) or malleable iron fittings conforming to IS 1879.

2.25.4. ANTI-CORROSIVE PROTECTION ON UNDER GROUND MS PIPE

Corrosion protection tape shall be wrapped on MS pipes to be buried in ground. This corrosion protection tape shall comprise of coal tar/asphalt component supported on fabric of organic or inorganic fibre and minimum 4 mm thick and conform to requirement of IS : 10221-Code of practice for coating and wrapping of underground mild steel pipe line. Corrosion protection tape shall then be wound around the pipe in spiral fashion and bounded completely to the pipe. There shall be no air pocket or bubble beneath the tape. The overlaps shall be 15 mm and 250 mm shall be left uncoated on either end of pipe to permit installation and welding. This area shall be coated in situ after the pipe line is installed.

Holiday Testing for wrapping and coating is essential. Holiday testing may preferably be

carried by flexible and detachable ring probe, which will enable the entire 360o of the surface of the pipe to be scanned. At least 10 percent of all the welded joints shall be radio graphically tested and half of the joints radio graphed shall be the 'field joints.

2.25.5. VALVES

Each pump shall be provided with a non-return valve and a sluice valve on the delivery side, the sluice valve being installed on the upstream side of the non-return valve. A pressure gauge shall also be provided between the pump and the non-return valve. The size of the non-return valve and cut off (sluice) valve shall not be less than the size of the initial delivery pipe and, in no case, less than the delivery outlet of the pump. No butterfly valves shall be installed inside the pump room.

- ❖ **Sluice valve shall conform to IS: 780.**

- ❖ **Butterfly valve, wherever used, shall conform to IS:13095.**

- ❖ **Cut-off valves shall conform to IS 780 (PN 1.6 rating)/IS 14846, Class 3**

All valves shall be suitable to with-stand the pressure in the system and rating shall be PN 1.6.

All valves shall be right handed (i.e. handle or key shall be rotated clock wise to close the valve, the direction of opening and closing shall be marked and an open/shunt indicator fitted.

The material of valves shall be as under:

Body - Cast iron

Disc - Cast Bronze or Stainless Steel

Seat - Either integral or Nitrile rubber

O-ring - Nitrite/ Silicon

Non return valves shall be swing check type in horizontal run and lift check type in vertical run of pipes

Air release valves shall be of gunmetal body

- ❖ Valves in fixed firefighting installations shall have supervisory switch with its signalling to fire alarm panel or to have chain(s), pad lock(s), label and temper-proof security tag(s) with serial number to prevent tempering/unauthorized operation. These valves shall be kept in their intended 'open' position.

2.25.6. STRAINERS

Stainless steel strainers shall have minimum 1 mm thick screen with 3 mm perforations. Strainers shall be provided with flanges.

2.25.7. ORIFICE PLATE The pressure in a firefighting system varies from point to point. The pressure will be maximum in the pump house and minimum at the farthest hydrant at terrace level. To reduce pressure to safe operating pressure at every internal/external hydrant, orifice plates are provided before connection of landing valve between the flanges of landing valve and pipe flange. Orifice plate shall be made of 6 mm thick stainless steel and shall have an identification tag projecting beyond any flange between which it is clamped. The orifice shall be plain central hole without burrs and diameter not less than one-half of the internal diameter of the pipe to which it is fitted.

2.25.8. INSTRUMENTS

(i) Pressure gauge of appropriate range and 150 mm diameter size shall be provided. The pressure gauge shall be duly calibrated before installation and shall be complete with shut off valve.

2.25.9. AIR VESSEL

Air vessel shall be provided on top of each riser and shall be fabricated out of 8 mm thick M.S. Sheet. The ends shall be dished. This shall be of 250 mm diameter, 1.2 m high and installed vertically on suitable legs. The legs shall be provided with M.S. Plate of size 75 mm x 75 mm x 5 mm at the bottom so that the legs do not puncture the roof. The legs shall be grouted in CC foundation. Flange connection shall be provided for connection with wet riser pipe. Air release valve and pressure gauge with shut off valve shall be provided. The air vessel shall be tested at 25 kgf/cm² pressure before installation.

2.25.10. PIPE SUPPORTS

For installing pipes vertically or horizontally inside the building standard pipe supports of reputed make shall be used. Following supports shall be used.

- (i) Split pipe support clamps with rubber lining for vertical, horizontal and roof hanging.
- (ii) Clevis Hangers for horizontal supports to adjust varying heights.
- (iii) Sprinkler Hangers for horizontal supports for pipes from 15 mm dia to 150 mm dia. Fasteners and fully threaded rods shall be used for installing the pipe supports. The sizes of pipe support and installation shall be in accordance with manufacturer's recommendations. For pipes of size 100 mm and above, with the prior approval of Engineer-in Charge, 'U' clamp with dash fastener may be used for supporting horizontal pipe from ceiling.

The additional support in the form of rolled ISMB/ ISMC sections to be provided by contractor to avoid the transfer of direct weight on truss in case Godown roof is supported over truss and Godown building is conventional (non PEB). These supports will also be provided by contractor at adequate spacing in conformity with structural engineer and CWC engineer, both. The expenditure toward this support is included in the cost and nothing extra will be paid.

2.25.11. INSTALLATION

- I. The installation work shall be carried out in accordance with the detailed drawings prepared by the contractor and approved by the Engineer-in-charge.
- II. In pipe above ground level, expansion loops or joints shall be provided to take care of expansion or contraction of pipes due to temperature changes.
- III. Tee-off connections shall be through equal or reducing tees, otherwise ferrules welded to the main pipe shall be used. Drilling and tapping of the walls of the main pipe shall not be resorted to.
- IV. Open ends of piping shall be blocked as soon as the pipe is installed to avoid entrance of foreign matter.
- V. Piping installation shall be supported on or suspended from structure adequately. The contractor shall provide, clamps, hangers etc. Proper lines and levels shall be maintained while installing exposed pipes.
- VI. Pipe supports in pump house shall be floor mounted and of mild steel/ G. I. Spacing of pipe supports shall not be more than that specified below:

Nominal Pipe Size (mm)	Spacing (m)
20 and 25	2.00
32 to 125	2.50
150 and above	3.00

Extra supports shall be provided at the bends and at heavy fittings like valves to avoid undue stress on the pipes.

- VII. Anti-vibration pads, springs or liners of resilient and non-deteriorating material shall be provided at each support, so as to prevent transmission of vibration through the supports.
- VIII. Pipe sleeves of diameter larger than the pipe by least 50 mm shall be provided wherever pipes pass through walls and the annular spaces shall be filled with felt and finished with retaining rings.
- IX. (a) Vertical risers shall be parallel to walls and column lines and shall be straight and in plumb. Risers passing from floor to floor shall be supported at each floor by clamps.
 (b) The space in the floor cut outs around the pipe work shall be closed using cement concrete (1:2:4 mix) or steel sheet, from the fire safety considerations, taking care to see that a small annular space is left around the pipes to prevent transmission of vibration to the structure.
 (c) Riser shall have suitable supports at the lowest point.
- X. Where mild steel pipes shall be buried under ground the same shall be treated in accordance with laid down procedure before laying. The top of the pipes shall be not less than 1m below the ground level. Where this is not practicable, permission of the Engineer-in-charge shall be obtained for burying the pipes at lesser depth.

Masonry or C.C. blocks shall be provided for supporting the pipes at regular interval in accordance with relevant norms. After the pipes have been laid, the trench shall be refilled with the excavated soil in layers of 20 cm and rammed and any extra soil shall be removed from the site of work by the contractor.

- XI. Underground pipe shall be laid at least 2 m away from the face of the building preferably along the roads and foot paths. As far as possible laying of pipes under road, pavement and large open spaces shall be avoided. The damage to road and building due to underground pipe laying shall be made good by the contractor by restoring the same to its original form, at its own cost. No additional payment towards the restoration of road and building shall be done by the Department. Pipes shall not be laid under buildings and where unavoidable, these shall be laid in masonry trenches with removable covers and cut-off valves shall be provided at points of entry and exit.
- XII. Pipe over ground shall be painted in red color as per relevant norms. Suitable identification shall be provided to indicate the run of underground pipe wherever the route of underground pipe cannot be ascertained from the location of yard hydrant/isolating valves.
- XIII. It shall be made sure that proper noiseless circulation is achieved in the system. If proper circulation is not achieved due to air-bound connections, the contractor shall rectify the defective connections. He shall bear all the expenses for carrying out the above rectification, including the tearing up and refinishing of floors, walls, etc. as required.
- XIV. **FLUSHING ARRANGEMENT:** Flushing connections with isolation valves should be provided at suitable locations in the firewater ring main.

2.25.12. PRESSURE TESTING

- a) All piping shall be tested to hydrostatic test pressure of at least one and a half times the maximum operating pressure, but not less than 10 kgf/sq.cm for a period not less than 24 hours. While Hydro Testing, inclusion of cut-off valves in the mains to be tested can be avoided. All leaks and defects in joints revealed during the testing shall be rectified to the satisfaction of the Engineer-in-Charge.
- (b) Piping repaired subsequent to the above pressure test shall be re-tested in the same manner.
- (c) System may be tested in sections and such sections shall be securely capped.
- (d) Pressure gauges may be capped off during pressure testing of the installation.

2.25.13. PIPE SUPPORTS

For installing pipes vertically or horizontally inside the building standard modular type pipe supports of reputed make shall be used. Following supports shall be used:

- I. All pipe clamps and supports shall be modular type and made of hot dip galvanized mild steel. When fabricated from M.S. steel sections, the supports shall be factory galvanized before use at site. Welding of galvanized clamps and supports will not be permitted.
- II. Split pipe support clamps with rubber lining for vertical, horizontal and roof hanging.
- III. Clevis Hangers for horizontal supports to adjust varying heights.
- IV. Sprinkler Hangers for horizontal supports for pipes from 15 mm dia to 150 mm dia.
- V. Fasteners and fully threaded rods shall be used for installing the pipe supports. The sizes of pipe support and installation shall be in accordance with manufacturer's recommendations.
- VI. For pipes of size 100 mm and above, with the prior approval of Engineer-in-Charge, 'U' clamp with dash fastener may be used for supporting horizontal pipe from ceiling.

- VII. Pipes shall be hung by means of expandable anchor fastener of approved make and design (Dash Fasteners or equivalent). The hangers and clamps shall be fastened by means of galvanised nuts and bolts.
- VIII. The size/diameter of the anchor fastener and the clamp shall be suitable to carry the weight of water filled pipe and dead load normally encounter. For pipe spacing, the norms specified under relevant IS Code shall be followed. Pipe passing through structural members will be provided with suitable size MS pipes sleeves.
- IX. Pipe cut-outs/ openings shall be closed with suitable fire containment materials to prevent spread of fire through such cut-outs/ openings.

2.26. WATER CURTAIN SYSTEM:

- As per the requirements of NBC-16 and local bye-laws, the contractor shall design, supply, install, test and commission, water curtain system in the godowns. The water pipe, nozzles, deluge valve(s), connection from flow switch etc. required for the same shall be under the scope of contractor.
- The capacity of pumps shall be selected considering the requirements of water curtain system. Proper arrangements for installation of pipes shall be done by the contractor.
- Nothing extra shall be paid in this respect to the contractor.
- The design and installation of water curtain system shall be as per **IS 15325 (2003)**.

2.27. INSTALLATION, TESTING AND COMMISSIONING

2.27.1. PREPARATION AND APPROVAL OF DRAWING

On award of the work, the contractor has to prepare working drawings as per relevant norms and submit to the Engineer-in-charge for approval. The work is to be executed as per approved drawings. The stage of approval of drawings is therefore very important. All drawings should be carefully and critically examined before approval. The requirements of various components of firefighting system have been described in previous chapters dealing with the components. However, generally following points are to be taken care while examining and approving the drawings.

- a. Site survey should be carried out in detail.
- b. In addition to building plans, layout plan along with landscape plan/horticulture plan and other services plans should be consulted while deciding route of underground pipes from pump house and around the building.
- c. As far as possible, underground pipe are not to be laid under road, pavement, building and long open spaces. The locations along road, foot path in earth may be preferred.
- d. The location of yard hydrants, fire service inlet and fire service connection shall be decided based on consideration of norms in relevant Paras. However necessary adjustments are to be made so that these components do not become hindrance in vehicular movement and entrance to the building. Requirement of other building services are also to be given due consideration. Symmetry should be maintained for aesthetic considerations.
- e. Pipe sizes shall be decided in accordance with provision of relevant Paras.

2.27.2. TESTING

a. Initial Testing

- i. During laying of pipes, the same shall be subjected to 10 kgf/cm² hydraulic pressure for a period of 24 hours, in sections.
- ii. After completion of the work, all valves/ fittings shall be installed in position and entire system shall be tested for 24 hours at a pressure of 10 kgf/cm². The drop of pressure up to 0.5 kgf/cm² shall be accepted.

b. Final Testing

i. After completion, all operation checks as per norms in relevant Para shall be carried out for automatic operation of the systems. For this purpose, landing valves may be opened at different locations. The exercise shall be repeated couple of times to ensure trouble free operation of the system.

ii. Flow Test: The design flow of pumps shall be checked. The pump shall be operated after opening a number of landing valves at different locations. Design pressure is to be maintained in the pump house. Water discharge is to be measured by drop in level in UG tank for a certain period. All pumps shall be tested one by one. The flow rate shall be not less than as specified while maintaining the design pressure in pump house.

2.27.3. COMMISSIONING

i. **Flushing the System:** Before commissioning, the entire system shall be flushed to ensure that any earth/ foreign matters which might have entered during installation are taken out. For this, pump may be operated and valves opened at different locations.

ii. As soon as the work is complete, the system shall be commissioned and made available for use. Requirement of firefighting installations is equally important during occupation of the building. If the building is to be occupied in part, firefighting system of building completed shall be commissioned by isolating the system of under construction portion of the building.

iii. The firefighting system shall be maintained and manned from the very first day of its commissioning.

iv. Any defects noticed during the warranty period shall be promptly attended by the contractor and availability of the system at all time is to be ensured.

16.4. TRAINING TO CLIENT'S PERSONNEL

Contractor shall provide orientation and training on Fire Fighting System to Client's personnel deployed for this purpose. Training on all aspects of operation, maintenance and troubleshooting shall be satisfactorily provided on mutually agreed dates as per directions of Engineer-In-Charge.

2.28. INTELLIGENT ADDRESABLE FIRE ALARM SYSTEM:

The scope of Addressable Fire Alarm System (AFAS) and Public Address (PA) System work shall comprise the design, supply, installation, testing and commissioning of the following-

- Trigger devices viz. automatic fire detector of the required types
- Manual call boxes/ points.
- Sounders of low intensity and high intensity types along with required control modules.
- Control and indicating panels including repeater panels.
- Standby battery and charging unit
- Mimic diagram.
- Public Address (PA) System.
- System wiring

The scope shall also include the engineering design of the system, using the equipment offered.

The specifications for supply, installation, testing and commissioning of above equipment shall be governed by the following documents/ standards, amended till the date of award of work, without decreasing order of preference –

1. Local Bye-laws
2. National Building Code - 2016
3. Relevant Indian Standards
4. CPWD General Specifications for Electrical works: Part VI (Fire Detection and Alarm System)

In case of any dispute in the specification for supply, installation, testing and commissioning of the system, the decision of Engineer-in-charge shall be final.

The electrical wiring works required for the Addressable Fire Alarm System (AFAS) and Public Address (PA) System shall be governed by the following documents/ standards, amended till the date of award of work–

1. CPWD General specification for Electrical Works, Part-I (Internal-2013);
2. CPWD General specification for Electrical Works, Part-II (External)-1994;
3. Indian Electricity Act – 2013;
4. National Building Code – 2016.

The location of the main Fire Alarm Control Panel and Public Address Control Panel shall be provided by CWC and the same shall be non-variable without the consent of Engineer-in-Charge.

- It shall be the responsibility of the contractor to do planning, designing, approval of drawings etc, arrangement of materials & equipment's, delivery at site including transportation, installation, testing, commissioning and handing over of the entire system to the satisfaction of the Engineer-in-charge, as per site requirement and to ensure compliance to relevant local bye-laws and standard. However, the following shall be the minimum requirements of various system and compliance of the same is must for the contractor -

Sr. No.	Equipment/ System	Bare minimum requirements
1.	Manual Call Points	<ul style="list-style-type: none">▪ It shall be located such a way that, no person in the premises needs to travel more than 30 meters to reach a manual call point to give an alarm.▪ It shall be located on escape routes at (inside or outside) each floor to escape stairs preferably near entry to staircases at various level.

2	Intelligent Addressable Fire Detectors	<ul style="list-style-type: none"> ▪ The arrangement of the detectors should be such that no area is left uncovered from the "area of detection" of the detectors. ▪ Maximum spacing requirements shall be as per Appendix – IV of CPWD General Specifications for Electrical works: Part VI (Fire Detection and Alarm System) ▪ There should be minimum one smoke detector for 36 Sqm of floor area, in case of godowns with ceiling height below 09 Meters. Ceiling height for this purpose shall mean vertical distance between highest point of roof and Godown floor level. ▪ Alternatively, beam detectors may also be used in godowns within ceiling height more than 9 meters, with approval of Engineer-in-charge. The number of beam detectors shall be decided based on the sole criteria that no area in the godown should be uncovered by the beam detector effective range.
4	Intelligent Addressable Relay / Control Module	<ul style="list-style-type: none"> ▪ Must be used with each strobe/sounder/horn and other input devices.
5	Isolator Module	<ul style="list-style-type: none"> ▪ One isolator module must be used in each compartment of the godown.
6	Addressable Fire Alarm Control Panel	
6.1	Addressable Fire Alarm Control Panel (FACP)	<ul style="list-style-type: none"> ▪ At least one Fire Alarm Control Panel shall be provided at site with microprocessor based intelligent addressable main fire alarm panel, central processing unit with the required loop modules and capable of supporting not less than 240 devices (including detectors) and minimum 120 detectors per loop and loop length up to 2 km, network communication card, minimum 320 character graphics/ LCD display with touch screen or other keypad and minimum 4000 events history log in the non-volatile memory (EPROM), power supply unit (230 ± 5% V, 50 hz), 48 hrs back-up with 24 volt sealed maintenance free batteries with automatic charger. The panel shall have facility to connect printer to printout log and facility to have seamless integration with analog /digital voice evacuation system (which is part of the schedule of work under PA System) and shall be complete with all accessories. The panel shall be compatible for IBMS system with open protocol BACnet/ Modbus

		over IP complete as per specifications. (or higher specifications).
6.2	Graphical Fire alarm management system	<ul style="list-style-type: none"> At least one Graphical Fire alarm management system shall be provided in the computer system (provided by CWC) at the Warehouse, in case of more than 5 loops.
6.3	Intelligent Repeater Panel	<ul style="list-style-type: none"> At least one Intelligent repeater panel shall be provided in the Guard room of the warehouse in case the Fire Control Room is established more than 100 meters from the Guard Room.
6.5	Talk Back System/Fire Fighters Telephone Systems:-	<ul style="list-style-type: none"> At least one talkback system shall be provided with one slave module for every 200Sq.m. The master console shall be at the Fire room In the godown/ office with 50 slave modules for each master console. one Microphone Gooseneck 18" same number as Master sole. Power cable of two core 1.5mm/2.5sqmm PVC INSULATED & FRLS MULTI-CORE Round Sheathed Bright Annealed Bare Copper Conductor Heavy Duty Industrial Cables for Voltage Grade upto 1100 Volts as per IS: 694:2010 Cu cable Data transmission four core 1.5mm or 2.5 sqmm or above Flexible Bare Copper Conductor, PVC Insulated, Cross Laid Up, Overall Aluminium Mylar Tape Shielded Wire PVC Outer Sheath cable
7	ADDRESSABLE INTELLIGENT SOUNDERS AND SILENCING SWITCHES	
7.1	Addressable Loop Fire Alarm Sounders.	<ul style="list-style-type: none"> At least one sounder should be provided near each Manual Call Point.
8	POWER SUPPLY EQUIPMENT AND WIRING	
8.1	Main supply	<ul style="list-style-type: none"> At least one supply point shall be supplied by the department. However, all wiring from assigned point to equipment shall be done by contractor as per applicable standards.
10	Wiring for AFAS & PA system	<ul style="list-style-type: none"> To be done using armoured multi-core cables or with FRLS single core cable in Fire Retardant conduit as per IS/CPWD standards. The size of the conductor shall depend on the length of the circuit and its associated load, such that voltage drop is within permissible limits. The conductor size shall be minimum 1.5 sq. mm/2.5Sq.mm. In road/underground crossings, the cables shall be laid in GI Pipe of

		<p>minimum 63mm dia. With pipes on either side raised to a height of 25 cm above Ground level.</p> <ul style="list-style-type: none"> ▪ Supply and laying of upto 100 mtr. Length of GI Pipe underground at crossings including excavation of road and making good the same to original form after laying of Pipe shall be under the scope of the contractor, nothing extra shall be paid in this respect. ▪ The laying and termination of cables/ wires shall be undertaken as per CPWD/ IS norms. ▪ Any excavation required for underground cables/ wire movement shall be made good after completion of work, nothing extra shall be paid in this respect.
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- The scope of work includes the on job technical training of two persons of department at site. Nothing extra shall be payable on this account.
- The contractor shall furnish detailed instruction and manuals of manufacturers for all items of equipment's regarding installation, adjustment operation and maintenance including preventative maintenance and troubleshooting together with all the relevant data sheets, spare parts catalogue etc.
- The contractor shall submit General arrangement drawing for the complete Addressable Fire Alarm System and Public Address System in the warehouse, with complete dimensions.
- The work shall comprise of entire labour including supervision and all material necessary to make a complete installation and such tests and adjustment and commissioning as may be required by the department. The term complete installation shall not only mean major items of the plant and equipment's covered by the specification but all incidental sundry components necessary for complete execution and satisfactory performance of installation with all layout charts whether or not those have been mentioned in details in the tender documents in connection with this contract as this is a turnkey job.
- In addition to supply, installation, testing and commissioning of AFAS including intelligent addressable FAS equipment's, following works shall be deemed to be included with the scope of work to be executed by the contractor-
 - (a) Minor building works necessary for installation of equipment's, foundation making of opening in walls or in floors and restoring them to their original condition / finish and necessary grouting etc. as required.
 - (b) All supports for cable and MS Channel for erection as are necessary.
- Basic specifications for the items used in addressable fire alarm system are as follows –

2.28.1. MANUAL CALL POINTS

- It is used to trigger a fire alarm manually, and should be suitable for connection to the system loop technology. The alarm is raised by breaking the glass with the alarm carrying on until a replacement glass panel is fitted or alarm to be made silent from control panel. Suitable arrangement like scratching by a diamond bit shall be incorporated in the frangible element.
- A micro switch within the units is held "off" by the edge of the glass when glass is broken the switch is released and a signal is transmitted to control panel where the alarm is raised. The glass is preferably plastic coated to eliminate the damage of splinters causing injury.

- For testing without breaking the glass a test key, should be available so as to lower or remove the glass to release the micro switch. Full functional test is achieved accordingly.
- Facility for reset/adjustment of manual call point alarm triggering. The unit shall be made out of polycarbonate ABS blend with flame retardant & self-extinguishing properties or cast aluminum or ASA plastic or as per manufacturer design and applicable standards.
- It shall preferably contain an integrated short circuit isolator which should ensure that a fault is localized and that the loop continues to function fully in the event of a wire break or a short circuit. The call box shall have suitable provision to knock out of termination of a 20mm conduit. This shall also have suitable provision for being fixed on surface or semi recessed in wall.
- The word 'FIRE' shall appear embossed in red color on the front. Acknowledgement LED displays –red for triggered alarm indication (flashing) and / or maintenance evacuation. Protective category shall be IP54 for indoors & IP65 for outdoors applications
- Manual call boxes shall be installed at a height of 1400mm above the floor level. They shall be installed at easily accessible, well illuminated and conspicuous position, preferably in a contrasting background so that they are easily noticed from either direction. They should be semi-recessed so as to project minimum 10mm from wall surface. They shall be installed free from obstructions and shall not themselves obstruct exit way. It shall be located on escape routes at (inside or outside) each floor to escape stairs preferably near entry to staircases at various level. It shall be located such a way that, no person in the premises needs to travel more than 30 meters to reach a manual call point to give an alarm. Where necessary, the travel distance may be reduced to less than 30 meters e.g. where there is difficulty in access or in potentially dangerous risk areas.

2.28.2. INTELLIGENT ADDRESSABLE FIRE DETECTORS:

- **Built-in-response Indicator:** Each detector shall incorporate indicator "LED" at the detector which shall blink on actuation of the detector to locate the detector which is operated while on fire. The detector shall not be affected by the failure of the response indicator lamp.
- The detector shall have preferably 360 visible view of the alarm LED or twin LEDs blink whenever detector is addressed.
- The detector shall have preferably with integrated built in short circuit isolator or as per manufacturer design so that in case of any short circuit in the detector, the detector can be isolated so that loop should be able to retain the full functionality or in case built in short circuit isolator not available/ provided by the manufacturer a fault isolator unit shall be provided after every 20 detectors/ devices in a loop. But in later case isolator unit shall ensure that the loop is functional except the faulty detector.
- The detector shall be with IP 54 protection category with base.
- The detector shall be with built in microprocessor capable of making alarm on control panel based on the information stored in detector.
- The detector shall confirm to international standard i.e. NFPA/EN or equivalent.
- The detector shall provide electronic address setting by means of configuration software.
- The detector shall be plug-in-type and shall have common base to facilitate exchange for cleaning & maintenance. The base of the detector shall be interchangeable with other smoke detectors.
- The detector shall be supplied fully tested and each detector should bear the SI. No. and seal of the approving laboratory/body.

- The detectors, device including response indicator and control panel shall be of same make. Reversed polarity or faulty zone wiring shall not damage the detector.
- The detector shall be suitable for column/ceiling mounting and should have static voltage over load protection.
- The detector shall be individually identifiable from the control unit by geographical location in the system.
- The detector shall connect to the local control unit via a fully supervised two wire circuit.
- The detector shall be inserted into or remove from the base by a simple push twist mechanism with an appropriate tool.
- **Intelligent Duct Smoke Detectors:** The smoke detectors housing shall accommodate either an intelligent ionization detector or an intelligent photo electric detector of that provides continuous analogue monitoring and alarm verification from the panel through a control module in the loop system. When sufficient smoke is sensed in the return air coming to AHU (Detector unit has to be installed in return air path) an alarm signal is initiated at FACP to close the fire damper and prevent the rapid distribution of toxic smoke and fire gases throughout the areas served by duct system.
- **Detector Base:** The detectors of all types shall fit into a common type of standard base. Once a base has been installed, it shall be possible to insert, remove and exchange different types of detectors by a simple push & twist movement. The standard base shall be equipped with screw less wiring terminals suitable for securing wire size upto 1.5sqmm and with built in strain limits to prevent permanent terminals deformation and weakening of contact pressure. It shall have a sealing plate, prevent dirt, dust condensation or water from the conduit reaching the wire terminals of the detector contact points. All standard base shall be supplied with a removable dust cover to protect the contact area during installation and construction phase of the building. It must allow the inspection and verification of the zone wiring before insertion of any detectors.
- **Intelligent Addressable Monitor Module:** The module shall be suitable to monitor the polling of up to minimum four potential free contacts by using a single or multiple housing and designed for surface or flush mounting. The operating mode can be selected and is assigned separately for each input the addressing of the module and the setting of parameters should be carried out using PC software, via the fire alarm control panel. The module should contain an integrated short circuit isolator which ensures that the fault is localized and the loop continues to function fully in the event of a wire break or a short circuit. The module should be minimum IP 40 protection category when housed in a case or as per manufacturer design. The module should be with soft addressing to be set with a PC via fire alarm panel at the time of programming. The module should have integrated buzzer force signaling maintenance alarms. An LED shall be provided that shall flash under normal condition indicate that module is operational.
- **Intelligent Addressable Relay / Control Module:** Relay module may contain up to four relays each with a potential free changeover contact. Each relay contact should be FAIL/ SAFE programmable, means it should be possible to program each contact to operate in three conditions viz. NO FIRE CONDITION, FIRE CONDITION AND LOOP POWER FAILURE CONDITION. Both the addressing of the module and setting of parameters to be carried out using PC software via the fire alarm control panel. The module contains a short circuit isolator, which ensures that the fault is localized and that the loop continues to function fully in the event of a wire break or a shot circuit. The module should be minimum with IP 40 protection category when housed in a case or as per manufacture design. It should have integrated buzzer for signaling maintenance alarms. Its housing have is designed for surface or flush mounting.

- **Isolator Module:** The module shall limit the number of module of detectors that may be rendered inoperative by a short circuit on the loop segment. At least one isolator module shall be provided for each floor or protected zone of the building. If a wire short circuit occurs, the isolator module shall automatically open circuit (disconnect) the loop. When the short circuit condition is corrected, the module shall automatically reconnect the isolated section. The module shall not require any address setting and its operation shall be automatic. It shall not be necessary to replace or reset an isolator module after its normal operation. It shall give information on the control panel in the form of audio- visual alarm enunciations along with list of detectors which have become non-functional.

Addressable Fire Alarm Control Panel

- In the event of fire alarm but not in a fault condition, the exact location shall be shown on the Main Fire Alarm Panel (MFAP).
- Local sounder should sound automatically. Complete information shall be printed with time and date of occurrence. Air handling units on the effected zones shall be automatically switched OFF and respective fire dampers shall also be closed. Pressurization fans of staircase shall automatically be switched ON. The audio portion integrated to the system shall direct the proper signal (tone or voice) to the appropriate speaker circuits. Pre-recorded alarm messages shall be played on the Public Address System. The panel shall have the facility to process the input signals and control the output functions either directly or through interface modules as per the requirements. The panels shall have necessary interface units for addressable detectors alarm output modules for external actuations through fail safe programmable relays. The processor shall interact with the other modules through a common bus. The system shall store all basic information and job specific data in memory. Different password shall protect any change to system operations. The design of the panel hardware and software shall incorporate the capability to accept additional input from fire protection system such as sprinkler and water flow switch, operation of fire dampers, pressurization fans etc. The panel shall have an extra loop card to serve as standby in case of burn out or malfunctioning of any operating loop cards. xv. The panel shall be totally enclosed, dust and vermin
- Type of control and indicating panels: Following are the types of control and indication panels in Addressable Fire Alarm Control Panel:
 - (i) Intelligent Addressable Main Fire Alarm Control and Indicating Panel.
 - (ii) Graphical Fire Alarm Management System.
 - (iii) Intelligent Repeater Panel.
 - (iv) Intelligent Response Indicator
 - (v) Talk Back System / Fire Fighter Telephone Systems

Addressable Fire Alarm Control Panel (FACP)

- The addressable Fire Alarm Control Panel (FACP) shall function as a network panel & also as a fully standalone panel. FACP shall have its own microprocessor, software and memory. In the event of failure of panel or communication breakdown between the networked panels the FACP shall automatically operate on stand-alone mode without sacrificing any functions (The networking should be peer to peer). Information of all panel in the network should be available on all individual panels.
- The panel should be modular microprocessor based in nature and should be expandable from single loop up to 10 loops.
- FACP shall supervise detection circuits and shall generate an alarm in case of abnormal conditions.

- FACP shall provide general purpose inputs for monitoring such functions as low battery on AC power failure. FACP shall provide tamper protection and commandable outputs, which can operate relays or logic level devices.
- Smoke detectors shall be powered using the FACP based smoke detection circuits. FACP shall provide control for resetting smoke detectors, fault isolation and sensor loop operations. It shall be possible to mix different fire devices within same FACP to optimize field wiring.
- It shall be possible for the panel to have a loop length with different modules offering 1.5 km length of devices from the panel.
- FACP shall provide monitoring and control of one floor or area or for multiple floors or areas. FACP shall meet the following requirements to assure the integrity and reliability of the system:

FACP shall be NFPA/EN listed independently and as per relevant IS Code as a Fire Alarm Control Panel. (b) The FACP should have integrated power distribution module and fixed cabling done internally to guarantee a clear and tidy cable feed (c) The panel should have an LCD display with minimum 300 characters and keypad. The Display should enable a flexible design of the operating menu with variable keys and message windows fixed keys should be used for standard operating steps e.g. for fire alarm securities supervisory trouble and other events. The current status of the system should be displayed by LED's interfaces (RS232) enable the connection to a PC. (d) The panel should have a 230V AC power supply unit in plug in design with rack and panel connector and 24VDC /6Amp. single output power supply. The module should be protected against over voltage and reverse polarity. The output voltage is monitored and regulated externally. (e) LCD display at the FACP shall be provided to indicate point of alarm or trouble. In Such systems means for manually scanning the points in trouble shall be provided and a trouble and alarm LED shall be used to indicate that there are points in alarm / trouble. The alarm /trouble LED shall only get switched off when all alarm / trouble are cleared from the loop. (f) It shall be possible to command test, reset and alarm silence from the FACP.

FACP switches shall allow authorized personnel to accomplish the following, independent of the central console.

- (a) Acknowledge a general alarm condition.
- (b) Silence the local audible alarm.
- (c) It shall be possible to silence the alarm indicating devices (hooters).
- (d) Reset all zones (logical Point Group) / points, after all initiating devices have returned to normal.
- (e) Perform a complete operational test of the memory with a visual indication.
- (f) Test all panel LED's for proper operation without causing a change in the condition of any zone (Logical Point Group).
- (g) Walk test –The system shall provide both a basic and advanced walk test for testing the entire
 - fire alarm system including testing of all devices, detectors module etc. in the complete system.

Software zones/loops shall be circuited and protected by fault isolators such that in the event of a zone/ loop short –circuit, smoke and thermal sensors shall be located and shall report alarm and fault isolator unit after every 20 detector or devices in a loop isolates the part.

- Monitoring modules shall be provided to monitor and address contact-type input devices. The monitor module shall be housed in the FACP supervised by FACP.
- The FACP shall have drift compensation facility to compensate for environment. When a detector accumulates dust in the chamber and reaches an unacceptable level but still below the allowed limit, the control panel shall indicate a maintenance alert warning. When the detector accumulates dust in the chamber above the allowed limit, the control panel shall indicate a maintenance urgent warning.
- The FACP should be NFPA/EN listed approved to provide the sensitivity measurement and documentation required.

- FACP shall be backed up with its built in UPS power or can be powered separately
- The display on FACP shall provide indication for AC power, system alarm, system trouble/security alarm, display trouble and signal silence to this would mean that in the event of change of any detector/zone sequence alterations, the operator can initiate these by use of the LCD & alpha –numeric keys on the FACP panel to reconfigure the above parameters.
- Power supply unit of FACP shall have following characters:
 - (a) The main power supply shall be 230V AC \pm 10% 50Hz \pm 3% and shall in turn provide all necessary power of FACP.
 - (b) It shall provide a separate battery control module with charger. The battery should last for 24 hours minimum in normal operation upon power failure & 30 minutes in alarm condition.
 - (c) For ease of service, all wiring terminal blocks shall be plug-in type.
 - (d) The fire alarm panels shall have a possibility of being interlinked by direct connectivity or an optical cable link between the various locations and should further have connectivity to the main control center.
 - (e) Each loop shall have minimum 99 detectors/devices.
 - (f) There shall be minimum 20% spare capacity in the looping system for future expansions. The firm has to intimate the maximum number of devices/detectors can be connected in one loop based on the manufacturer design . Some devices need external supply and some devices supported by loop power.

The length of loop shall not exceed more than 3000 meter for wire size 1.5sq mm. as per manufacturer recommendations. Each loop should not be divided into more than 8 fire zones

Intelligent Repeater Panel

- (i) The repeater panel shall be active repeater panel with all the controls and monitoring as on the main fire alarm panel.
- (ii) The panel shall be functioning as a controller.
- (iii) The panel shall allow remote command in the system reset, trouble and alarm silence and manual alarm.
- (iv) A keyed switch shall enable or disable the keys.
- (v) The panel shall be compatible with the analog fire detection and alarm main control panel.
- (vi) It shall be programmable to display information for the entire system i.e. all panels in the network.
- (vii) It shall have minimum 80 characters LCD display (display system status). The back lit display repeats the status, trouble and alarm messages displayed at the fire detection and alarm panel in English text.
- (viii) The system text displays shall include: Alarm missing point trouble; system test, service, local system test, extra custom test by polling circuit and address.
- (ix) It shall have an internal trouble buzzer .
- (x) It shall be possible to connect upto 4 repeater panels with each fire detection & alarm panel.
- (xi) It shall annunciate alarm and trouble conditions. Application: The repeater panel can be installed in the guard rooms/security room at the entrance of a building or complex which may have one or more buildings so that in case of emergency the security personnel can rush straight to the trouble point.

Public Address System & Talk Back System/Fire Fighters Telephone Systems:

Fire Fighters Telephone System Panel: -

Fire Fighters Telephone System Panel shall be microprocessor based with its own microcontroller, memory, communication modules, intelligent initiating and indicating devices and suitable SMPS. The panel shall be suitable for required number talk back unit connections. The fire fighters telephone system will have integral talk back system to provide a 2-way voice communication between the fire fighters' telephone. The talk back system shall include fire fighter master control console with a backlit LCD display for status display and a fire fighters telephone handset, standby battery for 24 hours in operation and half an hour alarm condition. The Fire Fighter Telephone System shall also include the following:

A red colored master telephone handset with flexible coiled self-winding five feet cord placed within the fire fighters telephone system panel housing: - The Fire Fighters Telephone Systems Panel shall include:-

Indicating High power LEDs - Input power supply: 230 volts AC 50Hz single phase supply 17-28V DC through rectifier, sealed maintenance free battery including trickle/Booster battery charger. Fire fighters telephone system panel housing shall be Dust and vermin proof cold rolled steel sheet 16-gauge powder coated with see through glass front Fire Fighters Telephone system shall be able to withstand 10 to 49⁰ C and up to 93 % RH non condensing type. Fire fighter Telephone system shall be able to be integrated with building and control system and Public Address System.

Talk back Units/Fire Fighters Telephone: -

Red Colored fire fighters telephone of rugged ABS plastic construction with 1500 mm coiled cord, a hook switch and the telephone jack placed in a surface mounted cabinet of 18 gauge CRC sheet steel construction with a hinged lockable door and a break glass full front panel labeled. Fire Fighters Telephone including painting with two coats of red synthetic enamel paint over one coat of primer.

Cabling work for the public address and talk back system:

The connection between the master console and the slaves to be made with two types of cables

1. Power Supply: 1.5 mm PVC INSULATED & FRLS MULTI-CORE Round Sheathed Bright Annealed Bare Copper Conductor Heavy Duty Industrial Cables for Voltage Grade upto 1100 Volts as per IS: 694:2010 Cu cable

Note: for cable length from master to the slave unit beyond 250metrs 2.5 Sqmm cable to be used

2. Data Transmission Cable: four core 1.5mm or 2.5 sqmm or above Flexible Bare Copper Conductor, PVC Insulated, Cross Laid Up, Overall Aluminum Mylar Tape Shielded Wire PVC Outer Sheath cable

Note: for cable length from master to the slave unit beyond 250 metrs 2.5 Sqmm cable to be used

The connection between the master and slave shall in the **DAISY CHAIN Pattern.**

ADDRESSABLE INTELLIGENT SOUNDERS AND SILENCING SWITCHES:

Type of Sounders: (i) Panel Sounders (ii) Addressable Loop Fire Alarm Sounders.

- Panel Sounder shall be provided in specified fire alarm panel, repeater panel if any so as to draw attention of the caretaking personnel in a building to a fault in the FAS wiring and a fire condition in the protected premises. Fire alarm sounder of low intensity type shall be installed to signal to the occupants of the building to evacuate in the event of a fire. Fire alarm sounders cum strobe of high intensity types shall be installed to draw the attention of the fire fighting personnel towards the main location of fire in the premises where a fire has erupted. The strobe should have a light intensity of 15cd. To 100cd. Fire alarm sounders shall not be used for any purpose other than for fire operations. Silencing facility shall be provided only for panel sounders and not for fire alarm sounders. It shall be designed Suitable for ceiling mounted or wall mounted.

- Operation of sounders and silencing:
 - (i) Panel sounders shall be actuated automatically from the control panel.
 - (ii) Panel sounders shall be actuated automatically as soon as fire alarm signal is initiated from any trigger device connected to them. These shall also be sounded when there is a fault alarm signal within their areas of control.
 - (iii) A silencing switch shall be provided in the panel. Operation of this switch shall mute the audio output from the panel sounder in this panel and in its repeater panel, if any. Silencing switch shall also be provided in repeater panel which when actuated shall mute the audio output in the panel only.
 - (iv) Fire alarm sounders in a zone affected by a fire shall be actuated automatically as soon as fire alarm signal is initiated from any trigger device in that zone. All other fire alarm sounders shall be actuated only automatically from the fire alarm panel.

Specification Requirements:

Sounders

- (i) The frequency of sound from sounders shall lie in the 500-1000 Hz band. The sound level shall be at least 65dB (A) or 5dB (a) above or any other noise likely persists for a period longer than 30 second at any part of the building sounders with a level greater than 120 dB (A) shall not be provided.
- (ii) The sound shall be continuous although the frequencies and amplitude may vary and of the same characteristics from the fire alarm sounders in a building. Coded fire alarm signaling from sounders shall not be provided which may cause hearing damage.
- (iii) 'Fault alarm' and 'Fire alarm' in a panel sounder shall be distinctly different.
- (iv) The sounder shall be with IP 54 protection category. It shall conform to EN/NFPA/Indian standards.
- (v) The volume of sounders can be adjusted from the fire detectors control panel. Minimum three volume setting from fire alarm control panel shall be available.
- (vi) The strobe cum hooter are two wire devices that offer tone choices of either continuous horn or temporal tone when constant voltage from fire alarm control panel is applied. Each tone has minimum three volume levels that can be selected for installation.
- (vii) The strobe cum hooter installed at entrance of building should have three tones programmable from the fire detector control panel so that at least one of these tones can be selected to comply with at least 110dB (A) frequency range of 440Hz to 2850 Hz. The Volume should be adjustable from control panel.
- (viii) The strobe should have a light intensity from 15 cd to 110 cd.

Installation Requirements:

- Low intensity fire alarm sounders may be installed on surface of ceilings, suspended from ceiling or recessed in flush with the ceiling, depending on the construction of the sounder and ceiling height.
- These shall be installed at a height not lower than 2.4 mtrs. except when recessed in a false ceiling of lower height. In such cases the sounders shall be recessed at false ceiling level.
- When installed flush with a false ceiling these shall match the ceiling surface. Necessary provisions such as wooden boxing or frame work to accommodate the sounders shall be made in the ceiling in advance.
- High intensity sounders shall be mounted on substantial supports. Provisions for terminating the electrical wiring cables shall be such as not to permit entry of rain water through the wiring conduits or cable runs

MIMIC Panel: to be provided as part of a Fire Alarm Systems for remote display
 Location: :In Guard room/ Security rooms of the campus /Main Gates / Entrance Gates.

POWER SUPPLY EQUIPMENT AND WIRING

Power supply at 230 + 10% V, 50Hz, AC single phase shall be provided by the department, terminating directly into the incoming switches of the C&I panel. Earth wire shall also be provided with the power supply. Rectification of the input AC supply into DC and further stabilization of the voltage as may be necessary shall form part of the FAS equipment.

Stand by battery supply

- Standby battery shall be provided with Fire Alarm Control Panel. Battery supply shall be arranged to automatically feed the FAS in the event of variation of input A.C. voltage beyond preset values on high and low sides. The battery shall be sealed completely maintenance free. The battery shall be conforming to relevant Indian/International Standard. The normal voltage shall be suitable for the AFAS. The Capacity of the battery shall be suitable to feed the fire alarm panel and other addressable loop elements for a period of 24 hours upon a normal power failure and after which sufficient battery shall remain to provide full load operation for at least 30 minutes in line with IS 2189.
- Battery shall be located in the main fire alarm panel.
- The loop element (Smoke Detectors Heat Detectors, Manual Call Points, Monitor Modules Control Modules, Loop Sounders) wiring in AFAS shall be closed circuit loop type (Class A type) , so that if the communication fails from one side, it is restored automatically from the other side. The wiring shall be independent of the detector zoning. The Zones shall be software based. The design of the system wiring shall match the control and indicating equipment in the system.
- The wiring shall be PVC insulated 2 core 1.5 Sq mm FRLS shielded copper Conductor stranded cables in red/black color and generally conforming to IS-694-2010 and meet the signal cabling requirements.
- The metal body of all control and indicating panels shall be loop earthed using 2.5 sqmm copper wire and bonded to the earthing system in the building.

2.29. Fire Extinguishers:

As per recommendations of the local fire department the following minimum number of Extinguishers to be provided

S.No	Type of Extinguisher	Capacity	Minimum Number
1	Water Mist	9 Litres	One at Each door and stair case end
2	Mechanical Foam Extinguisher	9 litres	In the panel rooms/ Generator
3	ABC type	6 Kg	In the panel rooms/ Generator
4	CO ₂ type	4.5 Kg	One at Near 03 phase distribution panel in the building
5	ABC type	6 Kg	One on each floor within radius of 15 meters each

Any other fire extinguishers as per the recommendations of the local fire dept. as the quantity suggested by them.

The ISI marked extinguishers and their installations shall be in accordance with acceptable standards of NBC 2016. These units shall be mounted at a convenient height & locations to enable quick access at all times. All requirement of fire extinguishers shall be fulfilled as per as per NBC 2016, Part-4, Table -7, other statutory norms and directions of Engineer-In-Charge.

2.30. Sign Boards:

- Escape route plans should be provided at each floor directing towards the exits and emergency exits during the emergency.
- Fire order boards indicating the details of the action to be taken by the employees in case of the emergency / fire shall be displayed with the telephone number etc. as per the relevant IS standards
- Any other sign boards as instructed from the local fire department in the adequate number.
- Glowing Exit signages shall be provided in every building and as per IS/ NBC-16 specifications.
- At least one glow sign exit board of appropriate size must be placed at every exit (shutters, gates, etc.) of the building.

III. Commissioning Stage

3.1 PRE-COMMISSIONING

On completion of the installation of all pumps, piping, valves, pipe connections, insulation etc. the Contractor shall proceed as follows:

- a) Prior to start-up and hydraulic testing, the Contractor shall clean the entire installation including all fitments and pipe work and the like after installation and keep them in a new condition. All pumping systems shall be flushed and drained at least once through to get rid of contaminating materials. All pipes shall be rodded to ensure clearance of debris, cleaning and flushing shall be carried out in sections as the installation becomes completed.
- b) All strainers shall be inspected and cleaned out or replaced
- c) When the entire systems are reasonably clean, a pre-treatment chemical shall be introduced and circulated for at least 8 hours. Warning signs shall be provided at all outlets during pre-treatment.

The pre-treatment chemical shall:

- (1) Remove oil, grease and foreign residue from the pipe work and fittings.
- (2) Pre-condition the metal surfaces to resist reaction of water or air.
- (3) Establish an initial protective film.
- (4) After pre-treatment, the system shall be drained and refilled with fresh water and left until the system is put into operation.
- (5) Details and procedures of the pre-treatment shall be submitted to the E-in-C for approval
- d) Check all clamps, supports and hangers provided for the pipes.
- e) Fill up pipes water and apply hydrostatic pressure to the system as given in the relevant section of the specification. If any leakage is found, rectify the same and retest the pipes.

FIRE PROTECTION SYSTEM

- (1) Check all hydrant valves by opening and closing: any valve found to be open shall be closed.
- (2) Check all the piping under hydro test.
- (3) Check that all suction and delivery connections are properly made for all pump sets.
- (4) Check rotation of each motor after decoupling and correct the same if required.
- (5) Test run each pump set.
- (6) All pump sets shall run continuously for 8 hours (if required, temporary piping back to the tank to be made)

COMMISSIONING & TESTING

The contractor shall offer 02 samples each per lot of each dia. Of pipe for testing from appropriate lab as per conditions of testing of materials under this tender.

- a) Pressurize the fire hydrant system by running the jockey pump and after it attains the shut-off pressure of the pump. Then, open bypass valve and allow the pressure to drop in the system. Check that the jockey pump cuts-in and cuts-out at the preset

pressure. If necessary, adjust the pressure switch for the jockey pump. Close bypass valve.

- b) Open hydrant valve and allow the water to flow into the fire water tank in order to avoid wastage of water. The main fire pump shall cut-in at the preset pressure and shall not cutout automatically on reaching the normal line pressure. The main fire pump shall stop only by manual push button. However, the jockey pump shall cut-out as soon as the main pump starts.
- c) Switch off the main fire pump and test check the Diesel engine driven pump in the same manner as the electrically driven pump.
- d) When the fire pumps have been checked for satisfactory working on automatic controls, open fire hydrant valves simultaneously and allow the hose pipes to discharge water into the fire tank to avoid wastage
- e) Check each landing valve, male and female couplings and branch pipes, for compatibility with each other. Any fitting which is found to be incompatible and do not fit into the other properly shall be replaced by the Contractor. Each landing valve shall also be checked by opening and closing under pressure
- f) Check all annunciations by simulating the alarm conditions at site

3.2 FINAL INSPECTION & TESTING

Final Inspection and testing will be done by the Engineer-in-Charge or his representative as per details indicated in Chapter -11 of CPWD General Specifications for Electrical works : Part V (Wet Riser and Sprinkler System).

The installation will be offered for inspection by local bodies (Chief Fire Officer). The contractor or his representative shall attend such inspection of the Chief Fire Officer, extend all test facilities as are considered necessary recently and comply with all observations of the Chief Fire Officer or concern local fire force department of state which are part of the agreement and **arrange for obtaining necessary clearance certificate in favour of the department**. In case the contractor fails to attend the inspection and does not make desired facilities available during inspection, the department reserves the right to provide the same at the risk and cost of the contractor and impose penalty for the same. **The installation will be accepted by the department only after receiving clearance / compliance certificate from Chief Fire Officer or his authorized office/local fire force department of state for the work executed by the contractor under the agreement**

3.3 AFTER SALES SERVICE

The contractor shall ensure adequate and prompt after sales service in the form of maintenance, spares and personnel as and when required and shall minimize the breakdown period. In case of equipment supplied by other manufacturers the firm shall furnish a guarantee from the manufacturer for the same before the installation is taken over

3.4 DOCUMENTS TO BE PROVIDED ON COMPLETION OF WORK

Three sets of following documents shall be furnished to the department by the contractor on completion of work.

- (a) Completion drawings
- (b) 3 sets of manufacturer's technical catalogues of all equipment and accessories,
- (c) Operation and maintenance manual of all major equipment, detailing all adjustments, operation and maintenance procedure

3.5 MAINTENANCE

Maintenance includes free defects liabilities period, of one year from date of record of completion by Engineer-in-Charge and handing over of the installation. One number trained operator for fire-fighting system and one helper shall be made available to meet any exigency of work during the guarantee period of one year from the handing over of the installation. The maintenance, routine as well as preventive, for one year from the date of taking over the installation as per manufacturer's recommendation shall be carried

out

3.6 STATUTORY AUTHORITIES TESTS AND INSPECTIONS

- a) As and when notified in writing or instructed by the Engineer-in-charge, the Contractor shall submit shop drawing and attend all tests and inspections carried out by Local Fire Authorities and other Statutory Authorities, and shall forth execute free of charge any rectification work ordered by the Engineer-in-charge as a result of such tests and inspections where these indicate non-compliance Statutory Regulations. Some of these tests may take place after the issue of Practical Completion of the Main Contract and the Contractor shall make all allowances in this respect.
- b) The Contractor shall be responsible for the submission of all necessary forms and shop drawings to the Statutory Authorities which shall conform in layout to the latest architectural plans submitted to and kept by these Authorities.
- c) The submission shall comply with the requirements set forth in the current Codes of Practice and circular letters of the Statutory Authorities. The shop drawings to be submitted shall be forwarded to the Architect for checking before submission
- d) The Contractor shall allow for at least two submissions of complete sets of shop drawings to the Authorities. The Engineer-in-charge may at his discretion instruct the Contractor for additional submissions to the Local Authorities whenever necessary.
- e) The Contractor shall notify the Engineer-in-charge at least seven days in advance of his application for local Authority tests and inspections. On receipt of a confirmed date for test and inspection the Contractor shall inform the Engineer-in-charge out delay.

3.7 FINAL ACCEPTANCE TESTS

Following commissioning and inspection of the entire installation and prior to issue of the Completion Certificate, the Contractor shall carry out final acceptance tests in accordance to a programme to be agreed with the Engineer-in-charge. If the results of the acceptance tests show that plant, systems and / or equipment fail to perform to the efficiencies or other performance figures as given in this Specification, the Contractor shall adjust, modify and if necessary, replace the equipment without further payment so that the required performance is obtained. Where acceptance tests are required by the relevant Authorities having jurisdiction, these tests shall be carried out by the Contractor prior to the issue of Completion Certificate to the acceptance of the Authorities.

3.8 REJECTION OF INSTALLATION / PLANT

Any item of plant or system or component which fails to comply the requirements of this specification in any respect whatsoever at any stage of manufacture, test, erection or on completion at site shall be rejected either in whole or in part as considered necessary/appropriate. Adjustment and/or modification work as required by the Engineer-in-charge so as to comply the Authority's requirements and the intent of the Specification shall be carried out by the Contractor at his own expense and to the satisfaction of the Authority/Engineer-in-charge.

After works have been accepted, the Contractor may be required to carry out assist in carrying out additional performance tests as reasonably required by the Engineer in-charge /Employer.

3.9 HANDING OVER OF DOCUMENTS

All testing and commissioning shall be done by the Contractor to the entire satisfaction of the Engineer-in-Charge and all testing and commissioning documents shall be handed over to him. The Contractor shall also hand over all maintenance and operation manuals, all certificates and all other documentation as per the terms of the contract to the Engineer-in-Charge.

iv. PAYMENT TERMS:

- The contract where BOQ includes item wise quantity of work and where preliminary design has been provided by CWC, the payment shall be done as per following clauses (i) .
 - (i) The following percentage of contract rates shall be payable against the stages of work shown herein: Deduction / release of security deposit shall be as per standard relevant clause. For part work done, payment on pro-rata basis will be released as per discretion of the Engineer-in-Charge of the respective package

S.No	Stage of work	Machinery and Equipment (Pumps and Electrical Panel)	All other items
I	After initial inspection (wherever specified) and delivery at site in good Condition on pro-rata basis	80%	70%
II	On completion of installation on prorata basis	10%	20%
III	On testing, commissioning and handing over	10%	10%

- In other case of the contract where the design of system is prepared by contractor and BOQ includes only plinth area, the payment terms mentioned in the Schedule A/ price schedule for each stage of the work, shall be payable. Deduction / release of security deposit shall be as per standard relevant clause. For part work done, payment on pro-rata basis will be released as per discretion of the Engineer-in-Charge of the respective package.
-

(ii) Approved makes for Fire Fighting Equipment :

S.No	Description	Approved Make
1	Electrical Control Panel	CPRI Approved Fabricator Having Seven Tank Process For Powder Coating.
2	Pump Sets	Kirloskar/ Ksb/ Grundfoss/ Mather & Platt
3	Sluice Valve / Dual Plate Check Valve / Y-Stainer/ Fire Man Axe/ Hydrant Valves	Kirloskar/ Audco/ Advance/ Zoloto/ Leader/ Sant
4	Fire Hydrant Valves/ Landing Valves/Orifice Plate	New Age / Safeguard / Lifeguard / Padmini / Omex
5	Air Release Valves	Rb / Tbs / Cimbrio / Zoloto
6	Fire Brigade Inlets/Suction Collecting Head	New Age / Safeguard / Lifeguard / Padmini / Omex
7	Fire Extinguishers	Cease Fire/ Lifeguard/ Padmini/ Superex/ Minimax/ Safex
8	MS/GI Pipe And Fitting	Tata / Jindal Hisar / Jindal Star / Prakash Surya
9	Fire Hose Pipe	New Age / Safeguard / Lifeguard / Padmini / Omex
10	First Aid Hose Reel (Drum And Bracket)/ Fire Hose/ Gun Metal Branch Pipe/ Fireman Axe/ Rrl Hose	New Age / Safeguard / Lifeguard / Padmini / Omex
11	Pressure Switches	System Sensor / Indfoss / Danfoss / Switzer
12	Pressure Guage	Danfoss/ H-Guru/ Fiebig
13	Flow Switches	System Sensor / Switzer / Rapid Control / Potter
14	Sprinklers	Hd / Tyco / Reliable / Wormald / Viking
15	Installation Control Valve	Hd / Tyco / Reliable / Wormald / Viking
16	Anchor Fasteners/Uclamp/Clevis/	Hilti/Fisher/Easyflex/Charlie/ Victaulic
17	Exit Sign	Agni Instruments/ Mr. Lite/ Argus/ Advik / GloLine/ Advent
18	Butterfly Valve	Audco / Advance / Kirloskar / Sant / Leader / Zoloto
19	Non-Return Valve	Audco / Advance / Kirloskar / Sant / Leader / Zoloto
20	Sprinkler Anunciator Panel	Agni Instruments/ Notofire/Nsd/ Edward/ Bosch/ Notifier/ Siemens/ Johnson Control/ Honeywell
21	Microprocessor Based Analog Addressable Intelligent Fire Alarm Control Panel	Agni Instruments/ Notofire/Nsd/ Edward/ Bosch/ Notifier/ Siemens/ Johnson Control/ Honeywell
22	Multisensor Detector	Agni Instruments/ Notofire/Nsd/ Edward/ Bosch/ Notifier/ Siemens/ Johnson Control/ Honeywell
23	Aspirating Smoke Detector	Agni Instruments/ Notofire/Nsd/ Edward/ Bosch/ Notifier/ Siemens/ Johnson Control/ Honeywell
24	Electronic Hooter	Agni Instruments/ Notofire/Nsd/ Edward/ Bosch/ Notifier/ Siemens/ Johnson Control/ Honeywell

25	Interface Module / Control Module	Agni Instruments/ Notofire/Nsd/ Edward/Bosch/ Notifier/ Siemens/ Johnson Control/ Honeywell
26	Manual Call Box	Agni Instruments/ Notofire/Nsd/ Edward/Bosch/ Notifier/ Siemens/ Johnson Control/ Honeywell
27	Speakers & Accessories	Ateis/Audiotrak/Bosch/ Philips / Honey Well/ Toa /Jbl/ Supersync
28	Talk Back System	Royal Electronics/Agni Tyco/ Legrand / Bosch/ Notifier/ Siemens/Edward/ Schneider / Mircom/ Supersync
29	Twisted Pair Shielded Cu Conductor	Finolex/Fusion Polymers/ Polycab/ Rr Cables/ Havells/ Avcoab/ Lapp
30	UPS System	Legrand(Numeric)/Apc (Schneider)/Eaton/Siemens /Liebert/Emerson
31	Hot Dip Galvanised Cable Tray	Profab Engineer/ Mem/Ricoh/Slottco/ Steelways/ Bec/Fixotec/Mem/Obo Betterman/ Rmcon/ Profab/Indiana/M Bm/ Legrand
32	Any Other Item	As Per Approval of Engineer-In-Charge.

In case the items of above make is not available or make of any item is not mentioned in this contract document, the contractor can use other make subject to they are pre-approved by Delhi Metro Rail Corporation Ltd./ CPWD/ NBCC, after approval of Engineer-in-charge. No payment shall be done for use of any other make not approved by Engineer-in-charge.

Format of Bill of Material

S.NO	Description of the materials/ Equipment	Quantity	Make	Remarks of EI (Accepted/ Denied)

Details of the Calculations of the quantity of the materials/ equipment shall be provided by the contractor for approval of CWC.

List of Approved Makes (Civil items)

S. Nr.	Name of Material	Make
	Civil Items	
1 (a)	Cement (Portland Pozzolana Cement)	Produced from major plants of following brands: ACC, Ultra Tech, Ambuja, Shree Cement, Lafarge Duraguard cement, Birla, Chettinad Cement, Ramco cement, India Cement, JSW Cement.
1 (b)	Cement (Ordinary Portland Cement)	Produced from major plants of following brands: ACC, Ultra Tech, Ambuja, Shree Cement, Lafarge Duraguard cement, Birla, Chettinad Cement, Ramco cement, India Cement, JSW Cement.
2	Reinforcement Steel	TATA, SAIL, JSW Neo.
4	Ceramic Glazed Tile	Kajaria, Johnson, Nitco and Somany (all first quality)
5	Vitrified Floor Tile	Kajaria, Johnson, Nitco and Somany (all first quality)
7	PVC drain Pipe	Supreme, Finolex, Prakash, Kissan (Agro) (Min 6.0 kgf pressure)
8.	CPVC water supply pipe	Astral, Supreme, Prakash & Prince (wall pressure Min 500 psi)
9.	Ceramic fittings	Roca, Kohler, Cera, Jaquar and Hindware
10.	CP fitting	Grohe, Kohler, Cera, Jaquar and Hindware
13.	C.I. pipe & fitting	SKF, Electro steel
14.	Aluminium frame	Jindal, Hindalco
15.	Float glass	Modi, St Gobains or HNGIL or equivalent
16.	Toughened Glass	GSC, AIS, Assahi
17.	Frameless Glass fitting	Ozone or Dorma
18.	Acrylic Paint	Asian, ICI (Dulux), Nerolac, Berger, Jhonson & Necolson
23.	Stainless Steel	Jindal, SAIL, Indian Stainless Steel
24.	Structural Steel	TATA, SAIL, Jindal steel , RINL.
25.	Structural Steel- Truss pipes (RHS/CHS/SHS sections)	TATA, APPOLO, SAIL, JINDAL
26.	Stainless Steel Hardware	Hettich, Godrej, Droma
27.	PVC casing pipe	Kissan (Agro), Finolex & Supreme
28.	Ply board & Ply	Green Ply, Kitply, Century
31.	Laminate	Greenlam, Merino, Century
32.	Submersible Pump	Crompton Greaves, Kirloskar, KSB, Lubi
33.	Galvalume Sheets	TATA BlueScope, JSW Colouron/ JSW Steel
35.	Self-drilling/ tapping Zinc plated screws size 5.5x55mm for Galvalume sheets	HILTI or equivalent
36.	PUF Panel	Sheets make- TATA BlueScope / JSW -Zn al alloy steel sheet

Approved list of Materials/Equipment/Accessories
Electrical Items

S.N o.	Equipment	IS No.	Approved Makes/ Manufactures
1	LT Panel	Relevant IS	Havells, Neptune, Advance, C&S, Adlec, Geetu Electrical System Pvt. Ltd./ECS, Ghaziabad/Risha Control Engineers Pvt. Ltd./TSR Enterprises, Kolkata
2	MCCB		L&T, Siemens, C&S, GE, Crompton/Schnieder/ABB/Indo-Asian, Havells
3	Floodlight /light fittings	-do-	Bajaj, Crompton, Phillips, Halonix, Havells
4	High Masts		Bajaj, Crompton, Valmont, Phillips
5	XLPE insulated, PVC Sheathed Alu. Conductor armoured/un-armoured power cables (HT & LT)	ISI 7098 (Part I)	M/s Havells, M/s Fort Gloster M/s ICL/Gem Cab, universal, polycab, KEC/KEI, Grandlay
6	Copper conductor cables		Havells/Standard/Finolex/Gem Cab, universal, polycab, Grandlay
7	Cable joints for XLPE LT & HT		Raychem, M-Seal
8	Measuring instruments (Digital)	1248 and 6236 latest	AE, Capital, Neptune/Rishab (L&T)/as per OEM Standard
9	Selector Switch	To relevant ISS	Control Switch Gear/Kaycee/L&T as per OEM standards.
10	Indicating lamps (LED TYPE)/Push Buttons	-do-	Binay/Schneider/L&T/HPL or as per OEM standard
11	Contactors	-do-	L&T/ABB/Schnider/Siemens/Indo-Asian
12	MCB		MDS/ Hager, legrand, ABB/Indo-Asian/Havells
13	Instrument Transformer		AE, Kappa, Alstom or as per OEM standard
14	Diesel Engine		Cummins/Kirlosker/Kirlosker Green/ KOEL/Caterpillar/Greaves/KEC
15	Alternator		AVK/Stamford/KEC/Crompton Greaves/ KOEL/Kirlosker Green
16	Cable Glands	Relevant IS	Comet/Jainson
17	Cable lugs copper/ Aluminium	Relevant IS	Dowells/Jainson
18	Distribution Boards	Relevant IS	Hager/standard/Legrand/ ABB/Havells
19	Battery	Relevant IS	Exide, Standard Feruk/Cummins /as per OEM standard

20	Transformer	As per latest IS/IS-1180	Kirloskar, Indian Transformer(Gurgaon)/KanoHar/AMCO/KOTSONS/Crompton/MEIL
21	HT Panel		AREVA/Kirloskar/Crompton/Tricolite/Adlec/ABB/Schnider/GE
22	Vacuum Circuit Breaker		Kirloskar/AREVA/Crompton/GE ABB/Schnider/ Indo-Asian
23	Relay		ABB/Siemens/L&T/English Electric/Areva/as per OEM standard.
24	Capacitors		Neptune Ducattai/Siemens/Matrix/ABB
25	LED fittings		Crompton/Philips/Bajaj/Orient/Insta Power/Halonix/Havells
26	Ceiling fans/Exhaust Fan		Crompton/Havells/GE/Orient/Bajaj
27	Window Air Conditioner & Split Air Conditioner		Toshiba/ Carrier/ Mitsubishi/ Daikin / Voltas/ Hitachi, / Blue Star/ LG

Note:

- **The brands /make mentioned above shall be preferred over and above any other but in case these make are not available in local then Contractor may use other make with prior approval of Chief Engineer.**
- Items that are not covered in the above list and are required for execution shall be procured with the approval of Engineer In-charge.
- The decision of Engineer In-charge shall be final and binding on the contractor in this respect.

SECTION –IX

(WORK REGISTERS & TESTING PROFORMAS)

SITE ORDERS BOOKS

NAME OF WORK _____

DATE OF COMMENCEMENT / PERIOD FOR COMPLETION _____

SL	REMAKRS OF THE INSPECTING OFFICER OR CONTRACTOR	ACTON TAKEN AND BY WHOM	REMARKS
1	2	3	4

HINDRANCE REGISTER

SL	Nature of Hindrance	Items of Work that Could Not be Executed Due to this Hindrance	Date of Start of Hindrance	Date of Removal of Hindrance	Over-Lapping Period if any	Net Hindrance in Days	Sign of AE	Weightage of the Hindrance	Net Effective Days of Hindrance	Sign of EE	Remarks of Reviewing Officer
1	2	3	4	5	6	7	8	9	10	11	12

MATERIAL AT SITE ACCOUNTS

- ❖ Region _____
- ❖ Name of Work _____
- ❖ Name of Article _____
- ❖ Estimate Requirements _____
- ❖ Issue Rate _____

SL	Date of Receipt	Received From	Unit	Qty. Received	Progressive Received Qty.	Date of Issue	To Whom Issued	Qty. Issued	Progressive Issued Qty.	Balance	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

CEMENT REGISTER

Date of Receipts	Quantity Received	Progressive Recd. Quantity	Date of Issue	Quantity Issued	Items of Work For Which Issued	Quantity Returned at the End of The Day	Total Issue	Progressive Total	Daily Balance at Hand	Contractor's Initial	Site Engineer's Initial	Remarks of AE/EE at Periodical Checks
1	2	3	4	5	6	7	8	9	10	11	12	13

REGISTER FOR RECORDING LEVELS

SL	Changes	Back Sight	Intermediate Sight	Fore Sight	Height of the Instrument	Reduced Level	Remarks
1	2	3	4	5	6	7	8

SAMPLE REGISTER

Material & Identification Mark	No. of Samples Collected	Sl. No. of Sample	Place From Where Sample Collected	Qty. of Work/Lot Represented By Each Sample	Test	Field / Lab	Letter No. & Date By Which Sample Sent For Testing	Signature of Official Drawing Sample	Signature of the Contractor	Reference for the Results Received	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

REGISTER FOR PARTICLE SIZE DISTRIBUTION FOR COARSE AGGREGATE & FINE AGGREGATE

SL	Date	Weight of Sample (Gram)	Size of Sieves	Weight Retained on Each Sieve	%Age of Weight Retained	Cumulative %Age of Weight Retained	%Age of Weight Passing	Specified %age of Weight Passing	Sign. of Contractor With Date	Sign. of Site Engineer With Date	Remarks / Action Taken
1	2	3	4	5	6	7	8	9	10	11	12

Note : Size of Sieve should be as per CPWD Manual / BIS Specifications

PHYSICAL WEIGHMENT REGISTER

Tor Steel Bars / Truss Members / Other Misc. Items

SL	Date	Description of Sample	Actual Weight per Unit	Theoretical Weight per Unit	Actual Thickness (Outer Dia.)	Theoretical Thickness (Outer Dia.)	Remarks Accepted / Rejected	Initials of Site Engineer	Contractor Signature
1	2	3	4	5	6	7	8	9	10

CUBE TEST

APPENDIX T-XI

									1	SL	
									2	Date of Collection	
									3	Grade of Mix	
									4	Mark of Specification	
									5	Date of Testing	7 Days' Test Result
									6	Load in KN	
									7	Compressive Strength (KN/mm ²)	
									8	Average Compressive Strength (KN/mm ²)	
									9	Date of Testing	28 Days' Test Result
									10	Load in KN	
									11	Compressive Strength (KN/mm ²)	
									12	Average Compressive Strength (KN/mm ²)	
									13	Required Specified Strength	
									14	Approx. Qty. Represented By Specimen	
									15	Item of Work from Where the Sample is Collected	
									16	Sign. of Site Engineer With Date	
									17	Contractor's / Contractor's Rep. Sign. With Date	

Density Test by Core Cutter Method

MDD As Per Lab. Test W5 _____

						1	SL
						2	Location (C.H.) / Area Represented by the Test
						3	Core Cutter Nos.
						4	Weight of Core Cutter + Weight of Soil (gram) (W1)
						5	Weight of Empty Core cutter (gram) (W2)
						6	Weight of Wet Soil (gram) $W = W1 - W2$
						7	Volume of Core Cutter (in CC) V
						8	Bulk Density (gram/cc) $W3 = W/V$
						9	Moisture Content of compaction layers (M)
						10	Dry Density gram/cc $W4 = W3 / (1 + M)$
						11	Degree of compaction $W4/W5$
						12	Acceptability Limit
						13	Sign. of Site Engineer with Date
						14	Contractor / Contractor's Representative Signature with Name & Date

TEST FOR THICKNESS AND DENSITY OF THE COMPACTED LAYER
 (BY SAND REPLACEMENT METHOD)
For Asphalt Concrete / Bitumen Macadam / CC Pavement
 Lab Test Density in gm/CC _____

1	SL	
2	Date of Test	
3	Qty. Represented by the Test	
4	Location of Holes	
5	Individual (mm)	Thickness of Layer
6	Average (mm)	
7	A Gm	Weight of Materials Removed from the Carpet Hole
8	W Gm	Initial Weight of Sand taken in Cylinder
9	W1 Gm	Weight of Sand Filling in Cone of Cylinder
10	W2 Gm	Weight of Sand Remaining in Cylinder
11	d gm/CC	Predetermined Bulk Density of Sand
12	gm/CC	Density = $\frac{A*d*W}{W1+W2}$
13	Remarks / Acceptability	
14	Sign. of Site Engineer	
15	Contractor / Contractor's Representative Signature with Name & Date	
16	Action Taken	

DENSITY TEST REGISTER FOR SOIL - BY SAND REPLACEMENT METHOD

APPENDIX T-XIV

Wt. of Standard Sand in gram/cc (W6) = _____
 Unit Lab Test MDD in gram/cc (W10) = _____

				1	SL	
				2	Date of Test	
				3	Qty. Represented by the Test	
				4	Location of Holes	
				5	Individual	Thickness of Layer (mm)
				6	Average	
				7	(W) gm	Wt. of Material from the Hole
				8	(Y)	Moisture Content %age
				9	(W1)	Initial Weight of Sand Taken in the Cylinder before Filling in Hole in gm
				10	(W2)	Wt. of Sand after Filling in hole in gm
				11	(W3) = W1-W2	Wt. of Sand in Hole & Cone (gm)
				12	(W4)	Wt. of Sand in Cone (gm)
				13	W5 = (W3-W4)	Wt. of Sand in Hole (gm)
				14	(W7) = W5/W6	Volume of Hole in CC
				15	(W8) = W/W7	Bulk Density in gm/CC
				16	(W9) = W8/Y	Dry Density in gm/CC
				17	W9/W10 x 100	Degree of Compaction
				18	W9/W10 x 100	Remarks / Acceptability
				19	Sign. of Site Engineer with Date	
				20	Contractor's / Contractor's Representative Signature with Name & of Date	
				21	Action Taken	

TEST OF THE BRICK / BRICK TILES FOR COMPRESSIVE STRENGTH

APPENDIX T-XV

						1	SL
						2	Date of Collection of Sample
						3	Date of Testing
						4	Wt. (in Kg)
						5	No. of Specimen
						6	Size in cm/Area in cm ²
						7	Compressive Strength Obtained for Individual Bricks in Kg. per cm ²
						8	Average Strength in Kg/cm ²
						9	Specified Compressive Strength in Kg/cm ²
						10	Acceptability
						11	Sign. of Site Engineer with Date
						12	Contractor's / Contractor's Representative Signature with Name & Date
						13	Action Taken / Remarks

ROAD ROLLER REGISTER

SL	Date	Period		Hours	Description of Item Rolled	Qty. of Area Rolled	Theoretical Qty. / Area to be Rolled	Signature of Site Engineer	Signature of Contractor	Remarks
		From	To							
1	2	3	4	5	6	7	8	9	10	11

REGISTER FOR DISMANTLED MATERIAL

Name of Work _____

Name of Division _____

SL	Date of Receipt	Ref. to No. & Page of MB	Full Particulars of Material giving Size etc. if any	Opening Balance	Qty. Recd.	Total	Ref. to its Disposal Whether by Write off Sale of Transfer to Other Works	Qty. Issued or Disposed off	Closing Balance	Dated Initial of the Site Engineer	Date of Verification of Balance by Whom Verified	Remarks
1	2	3	4	5	6	7	8	9	10	11	12	13

REGISTER FOR BULKING OF SAND

SL	Date Of Testing	Particulars of Work Represented by Sample	Qty. of Lot/Qty. of Material	Height of Dry Sand (X)	Height of Sand after Mixing Water (Y)	Bulking of Sand $(X/Y-1) \times 100$	Action Taken for Bulkage	Signature of Site Engineer	Signature of Contractor	Remarks
1	2	3	4	5	6	7	8	9	10	11

BILL PROFORMA
{On Letter Head Of Contractor}

Name of Work _____

Date of Start _____

Agreement No. _____

Due Date of Completion

Date of Preparation of Bill _____

Details of Service Provider		Details of Service Receiver	
Name	_____	Name	_____
Address	_____	Address	_____
City	_____	City	_____
State	_____	State	_____
State Code	_____	State Code	_____
GSTIN	_____	GSTIN (if Registered)	_____

Invoice Serial No. _____

HSN _____

Date of Invoice _____

Description of Services _____

SL	Item No.	Description of Items	Unit	Qty. as per Agt.	Rate as per Agt.	Qty. as per Pre. Bill	Qty. as per this Bill	Cumulative Qty.	Amt. as per Previous Bill	Amt. as per this Bill	Cumulative Amount
1.											
2.											
3.											
4.											
								Total			
								Grand Total			

Total Invoice Value (in figures)

Total Invoice Value (in words)

Amount of Tax Subject to reverse Charge : Nil

Total Taxable Value		
Tax	Rate	
CGST	_____%	
SGST	_____%	
IGST*	_____%	
Total Invoice Amount		

Signature _____

Name of the Signatory _____

Designation / Status _____

SECTION – X
(Field Quality Plan)
(LIST & PROFORMA OF MANDATORY TESTS)

LIST OF MANDATORY TESTS

SL	Description of Material	Test	Ref. of IS Code/Specs for Testing	Field / Laboratory Test	Frequency of Testing
1.	Cement (Approved Brand)	Physical & Chemical Properties	IS : 4031	Lab	Initial Test-01 test for each brand of cement. Subsequently, 01 test for 200 MT or part thereof for each brand. Cement should be of approved brand and each lot should be accompanied by manufacturer's test certificates
2.	Reinforcement Steel (Approved Brand)	Physical & Chemical Properties	IS :1786	Lab	Initial Test-01 test for each brand and each dia of reinforcement steel , Subsequently - One test for every 25/35/45 MT or part thereof (As specified in Special condition of Contract Para 6.7) Reinforcement Steel should be of approved brand and each lot should be accompanied by manufacturer's test certificates
3.	Water	PH Value, Chlorides, Sulphates, Alkalinity Test, Acidity Test, Suspended Matter, Organic Matter and Inorganic Matter	IS:3025	Lab	Initial Test- Source approval at commencement of work and Subsequently- every six months or change of source.
4.	Coarse Aggregate	Gradation	IS 2386 - I	Field / Lab	Minimum one test for every 50 cum or part thereof.
		Deleterious Material	IS 2386 - II	Field / Lab	
		Specific Gravity	IS 2386 - III	Field / Lab	
		Crushing Value	IS 2386 - IV	Field / Lab	
		Impact Value	IS 2386 - IV	Field / Lab	
		10% Fine Value	IS 2386 - IV	Field / Lab	
5.	Fine Aggregate	Organic Impurities	Appendix 'A' of Chapter 3, CPWD Specifications	Field	Minimum one test for every 50 cum or part thereof.

SL	Description of Material	Test	Ref. of IS Code/Specs for Testing	Field / Laboratory Test	Frequency of Testing
		Silt Content	Appendix 'C' of Chapter 3, CPWD Specifications	Field	
		Bulking of Sand	Appendix 'D' of Chapter 3, CPWD Specifications	Field	
		Gradation	Appendix 'B' of Chapter 3, CPWD Specifications	Field / Lab	
6.	Slump Test		Appendix 'D' of Chapter 4, CPWD Specifications	Field	Minimum one test for every 20 cum of concrete or part thereof
7.	Cube Test				
(i)	Reinforced Cement Concrete	7 days and 28 days Compressive Strength	IS 516	Lab	One sample of six cubes for every 50 cum or part thereof
8.	Earthwork				
	Control Test on Borrow Pits	Gradation	IS 2720 -IV	Lab	One or two tests per 8000 cum
		Plasticity	IS: 2720-V	Lab	
		Proctor Test	IS 2720- VIII	Lab	
		Maximum Dry Density / OMC	IS 2720-VIII	Lab	
		Deleterious Content		Lab	As and when required by Engineer
		Moisture Content	IS 2720-II	Lab	250 cum
	Embankment under (OMC Conditions)	Field Density	IS 2720-XXVIII		250 cum
		Moisture Content	IS 2720-II		250 cum
9.	Granular Sub-Base	Gradation	IS 2386-I	Field / Lab	Minimum 1 test per source and additional test after every 1000 cum
		Water Absorption	IS 2386-III	Lab	Minimum 1 test per source and additional test as required by Engineer

SL	Description of Material	Test	Ref. of IS Code/Specs for Testing	Field / Laboratory Test	Frequency of Testing
		Wet Aggregate Impact Value test (if WA > 2%)	IS 5640	Lab	As required by Engineer
		Aggregate Impact Value	IS 2386-IV	Lab	Minimum 1 test per source and additional test after every 2000 cum
		Atterberg's Limit	IS 2720-V	Lab	Minimum 1 test per source and additional test after every 1000 cum
		Maximum Dry Density / OMC	IS 2720-VIII	Lab	Minimum 1 test per source and additional test as required by Engineer
		Moisture Content prior to compaction	IS 2720-II	Field	Minimum 1 test every 400 cum
		Field Density	IS 2720-XXVIII	Field	one test per 2000 Sqm or part thereof
		Deleterious Material	IS 2720-XXVII	Lab	Minimum 1 test per source and additional test as required by Engineer
		CBR	IS 2720-XVI	Lab	Minimum 1 test per source and additional test as required by Engineer
10.	Water Bound Macadam	Gradation	IS 2386-I	Field / Lab	Minimum 1 test per source and additional test after every 500 cum
		Aggregate Value or Aggregate Impact Value	IS 2386-IV or IS5640	Lab	Minimum 1 test per source and additional test after every 500 cum
		Combined Flakiness	IS 2386-I	Lab	Minimum 1 test per source and additional test after every 500 cum
		Los Angles	IS 2386-IV	Lab	Minimum 1 test per source and additional test after every 500 cum or part thereof
11.	Wet Mix Macadam	Gradation	IS 2386-I	Field / Lab	Minimum 1 test per source and additional test after every 500 cum
		Water Absorption	IS 2386-III	Lab	Minimum 1 test per source and additional test as required by Engineer

SL	Description of Material	Test	Ref. of IS Code/Specs for Testing	Field / Laboratory Test	Frequency of Testing
		Soundness (if WA > 2%)	IS 2386-V	Lab	As required by Engineer
		Atterberg's Limit of Portion of Aggregate Passing 425 micron Sieve	IS 2720-V	Lab	Minimum 1 test per source and additional test after every 500 cum or part thereof
		Aggregate Impact Value	IS 2386-IV or IS 5640	Lab	Minimum 1 test per source and additional test after every 500 cum
		Maximum Dry Density / OMC	IS 2720-VIII	Lab	Minimum 1 test per source and additional test as required by Engineer
		Combined Flakiness and Elongation Indices	IS 2386-I	Lab	Minimum 1 test per source and additional test after every 500 cum
		Moisture Content	IS 2720-II	Field	Minimum 3 tests per day
		Field Density	IS 2720-XXVIII	Field	One set of three tests per 2000 sqm or part thereof
12.	Bitumen	As prescribed in IS 73	As prescribed in IS 73	Lab	As required by the Engineer-in-charge
13.	Brickwork / Brick Tiles / Sewer Brick / Burnt Clay Perforated Building Bricks	Dimension	Appendix A, B, C & D of Chapter 6 of CPWD Specifications	Lab	Minimum one test for every 50000 bricks or part thereof
		Compressive Strength		Lab	
		Water Absorption		Lab	
		Efflorescence		Lab	
14.	Structural Steel (other than PEB)	Tensile Strength	IS 1599	Lab	Minimum one test for every 20 tonnes or part thereof per source and also manufacturer's test certificates for each consignment
		Bend Test			
15.	Steel Tubular Pipes	Tensile Test	IS 1608	Lab	Minimum one test for every 8 tonne or part thereof per source and also manufacturer's test certificates for each consignment
		Bend Test (For pipes with Dia. 50 mm or less)	IS 2329		
		Flattening Test (For pipes with Dia. More than 50 mm)	IS 2328		

SL	Description of Material	Test	Ref. of IS Code/Specs for Testing	Field / Laboratory Test	Frequency of Testing
16.	M-40/50 Grade Cement Concrete Paver Blocks				
(i)	M-40/50 Grade Pre-Cast Concrete Paving Blocks	Compressive Strength	As per IS Code 15658	Field / Lab	Minimum one test for every 50000 bricks or part thereof
		Water absorption	As per IS Code 15658	Field / Lab	
		Dimensions	As per IS Code 15658	Field / Lab	
(ii)	Sand for Bedding Layer	Percentage of Deleterious material	IS 2386	Lab	Minimum one test for every 50 cum or part thereof
		Particle Size Distribution	As per Technical specification	Field / Lab	
		Silt Content	As per Appendix 'C' of Chapter 3 of CPWD Specifications	Field	
		Moisture Content	IS 2720	Field	
(iii)	Sand for Joint Filling	Particle Size Distribution	As per Technical Specification	Field / Lab	Minimum one test for every 50 cum or part thereof.

Note: For items not covered above may be dealt with as per the Technical Specifications in the contract/ mandatory tests will be carried out as per CPWD's Specifications.

General Instructions for prices:

1. Schedule A consists of following sub schedule.
 - Fire Fighting Works
2. Tenderers are required to quote their rate in %age **above/below/at par** for items in each sub schedule.
3. Summary sheet of the rate quoted against each sub schedule is enclosed at the end.
4. Where rate/percentage rate is asked for, tenderer should quote in **figures**. In E- Tender, values in words are not acceptable. Tenderer should note that noncompliance of above, may lead to rejection of their tender.
5. Items and quantities given in the Bill of Quantities are approximate and are just to give an idea of work involved. CWC reserves the right to delete/operate any other items scheduled in the DSR or non-schedule item (market rates item) without any limit of variation to complete the work. The payment of DSR items/MR items shall be made at the accepted percentage **above/below/at par** of DSR /MR and in terms of relevant clause of **SCC/GCC**.
6. Tenderers are required to quote **their rate in percentage only in the excel sheet designed for quoting rates in the uploaded tender on the tender website**.
7. Tenderer is required to dump/stack all excavated material as per the instruction of Engineer/PMC at site, for use in the work. Contractor is not supposed to take any excavated material out of site without permission of CWC.

Schedule A	
Name of Work:	Design, supply, installation, testing and commissioning of Fire Fighting System for Godown No. 1 & 2 at CW Kolathur, Kerala.
NIT Number	E NIT_ CWC/CO/Engg./NIT/24-25/06
Sub Schedule (I)	Fire-fighting work items based CPWD Plinth Area Rates 2023

S/ N	Description of Work	Amount as per SOR (Rs.)	% Quote by Bidder (In Fig)		Amount Quoted (Rs.)	
			Above/ Below/ At Par	% Fig	In Figures	In words
1	Sub Schedule-I: All Items of fire-fighting works	1,07,46,000.00				
	Total of sub-Schedule (I)	1,07,46,000.00				

Note: The Estimated amount of this sub schedule, after considering applicable GST @ 18% & Labour Cess, cost index, etc. complete as per CWC assessment is Rs. 1,28,95,200.00

Important Note:

(TENDERER SHALL NOT QUOTE THE RATE ANY WHERE IN TECHNICAL BID. THE RATES SHALL BE QUOTED IN THE PRICE BID XL SHEET DESIGNED FOR QUOTING RATES IN THE UPLOADED TENDER ON THE TENDER WEBSITE. THE RATES IF ANY MENTION IN TECHNICAL BID SHALL NOT BE CONSIDERED FOR PRICE EVALAUTION AND WILL BE NULL AND VOID TO THIS EFFECT.)

- **The payment schedule for works under Sub- Schedule-I is as follows –**

S. No.	Description	Payment percentage of total quoted value of Sub-Schedule-II
1	preparing of the Detail drawings including workshop drawings and getting the approval from Local fire department and Getting the Initial NOC/ recommendations as per the site conditions from the Local Fire department.	2.00 %
2	Supply, installation and testing of required number of Electrical Main pumps, Diesel engine driven pumps, Jockey pumps and sufficient water curtain pumps, Priming pumps, terrace pumps as per technical specifications, with electric control panel for operation of pumps and complete wiring/ cabling to the pumps and from the mains to the control panel by adequate engineering practice as per specifications, including electrical fixtures, exhaust system in the pump room.	
2A	Upon supply of equipment/pumps/panel, etc. complete as per approved bill of materials	5.00 %

2B	Upon installation/ erection in position and initial testing of complete pump house equipment/pumps/panel etc. as per specification	2.00 %
3	Supply, Installation and Testing of the Outer and Internal Hydrant system along with all accessories as per the technical specifications including Pipes, Fire brigade inlet & outlet, Hydrant posts, Fire Hose, First-aid hose reel, Fire hose cabinet, necessary valves, Gong alarm, sluice valves etc.	
3A	Upon supply of equipment/pipes/accessories, etc. complete as per approved bill of materials	21.00 %
3B	Upon installation/ erection in position and initial testing of complete outer & internal hydrant system equipment/pipes/accessories etc. as per specification	05.00 %
4	Supply, Installation and Testing of the sprinkler and water curtain (as per requirement) system along with all accessories as per the technical specifications including etc.	
4A	Upon supply of equipment/pipes/accessories, etc. complete as per approved bill of materials	29.00%
4B	Upon installation/ erection in position and initial testing of complete sprinkler and water curtain system equipment/pipes/accessories etc. as per specification	07.00%
5	Supplying and installation (including testing where required) of different types of portable fire extinguishers, signage, escape route plans etc. as required complete as per approved bill of materials	1.00%
6	Supply, Installation and Testing of the addressable fire detection and Alarm system as per the technical specifications	
6A	Upon supply of equipment/detectors/cables/ main fire control panel/accessories, etc. complete as per approved bill of materials	6.00%
6B	Upon installation/ erection in position and initial testing of complete Fire detection and fire alarm system equipment/detectors/cables/ main fire control panel/accessories etc. as per specification	2.00%
7	Supply, Installation and Testing of the Public Addressing System and talk-back system as per the technical specifications	
7A	Upon supply of equipment/speakers/cables/ control panels/accessories, etc. complete as per approved bill of materials	3.00%
7B	Upon installation/ erection in position and initial testing of complete Public Addressing System and talk-back system equipment/speakers/cables/ control panels/accessories, etc. as per specification	2.00%
8	Final Testing and commissioning of the Firefighting system as per the technical specifications and Getting trained to the employee of the CWC over the operation, Getting the Final Fire NOC for the project as per the instructions of the Engineer In charge	15.00%
		100.00%

CENTRAL WAREHOUSING CORPORATION
(A Govt. of India Undertaking)

SUMMARY SHEET

Name of Tenderer
(address)

Name of Work: - Design, supply, installation, testing and commissioning of Fire Fighting System for Godown No. 1 & 2 at CW Kolathur, Kerala.

NIT Number: No. E NIT_ CWC/CO/Engg./NIT/24-25/06

Description of Sub schedule	Items of works	Contractor quoted amount over and above price schedule amount (Rs.)
Total Sub-schedule (I)	All Items of fire-fighting works	
Total for all Sub-Schedules (I)		

(Tenderer)

Important Note:

(TENDERER SHALL NOT QUOTE THE RATE ANY WHERE IN TECHNICAL BID. THE RATES SHALL BE QUOTED IN THE PRICE BID XL SHEET DESIGNED FOR QUOTING RATES IN THE UPLOADED TENDER ON THE TENDER WEBSITE. THE RATES IF ANY MENTION IN TECHNICAL BID SHALL NOT BE CONSIDERED FOR PRICE EVALAUTION AND WILL BE NULL AND VOID TO THIS EFFECT.



केंद्रीय भंडारण निगम

(भारत सरकार का एक उपक्रम)

CENTRAL WAREHOUSING CORPORATION

(A Govt. of India Undertaking)

Corporate Office	4/1, Siri Institutional Area, August Kranti Marg, Hauz Khas, New Delhi-110016, Ph. No. & Fax No. (011) 49857894 Email Id: engg.cwhc@cewacor.nic.in
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E- Tender

Tender Reference Number: E NIT_ CWC/CO/Engg./NIT/24-25/06)

For Procurement of Works:

Name of Work:

Design, supply, installation, testing and commissioning of Fire Fighting System for Godown No. 1 & 2 at CW Kolathur, Kerala.

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SL	Section	Content	Page No.
Volume – I (NIT & INSTRUCTIONS TO BIDDER (ITB))			See Vol.I
1.		E-Tender Notice	
2.	Section-I	Notice Inviting Tender (NIT)	-----
3.	Section-II	Instructions to Bidder (ITB)	-----
4.		Eligibility Declaration	-----
5.	Section-III	Annexure – A: Qualification Norms for Bidders	-----
6.	Section-III A	<ul style="list-style-type: none"> • Tender Forms & Annexures-I to X to be filled by bidder • Operative Schedule – Annexure-XI 	-----
7.		General Tenets of interpretation	-----
8.		Terms and Abbreviations under the Contract.	-----
Volume – II			See Vol.II
9.	Section-IV	Special condition of contract	-----
10.	Section-V	CWC's General Condition of Contract	-----
11.	Section-VI	Model rules for the protection of health and sanitary arrangements for workers	-----
12.	Section-VII	Contractor's Labour Regulations	-----
Volume – III			See Vol.III
13.	Section-VIII	Technical conditions and specifications	-----
14.	Section-IX	Work Registers and testing proformas	-----
15.	Section-X	Field quality plan (list & proforma of mandatory tests)	
Volume – IV			
16.	Section-XI	Price Schedules-Sub-Schedules	4
17.	Section-XII	LOP of Central Warehouses	6

CENTRAL WAREHOUSING CORPORATION
(A Govt. of India Undertaking)

SCHEDULE OF QUANTITY-cum Price Schedule -A
(Sub-SCHEDULE-I)

Name of Work: - Design, supply, installation, testing and commissioning of Fire Fighting System for Godown No. 1 & 2 at CW Kolathur, Kerala.

SL. No	Description of item of works	Qty.	Unit	Rate (INR)	Amount
	SH. Schedule-I (Fire-Fighting works)				
I	Designing, supply, installation, testing and commissioning of Fire-fighting system inclusive of the following works:				
a.	Designing of Wet riser, automatic sprinkler, water curtain, Fire Alarm system, Fire detection system, PA and talk-back system and other ancillary systems as per requirement of NBC-16, CPWD specifications and local Byelaws including specifications of local fire force department along with getting statutory approval/ recommendation of drawings from local fire department.				
b.	Supply, installation, testing and commissioning of fire-fighting system as per technical specifications and terms & conditions of Contract/tender document.				
c.	Obtaining final NOC from Fire Department and handing over the complete fire-fighting system to CWC.				
d.	Payment shall be done as per Schedule-A in Technical Conditions of Contract on outer-to-outer wall measurement of Godown building excluding verandaha/platforms and any other ancillary infrastructure.				
	Godown No. 1 & 2 at CW Kolathur	5,970.00	Sqm.	1800.00	1,07,46,000.00
Total Cost (Schedule-I, Fire-fighting work)					1,07,46,000.00

(Rupees One Crore Seven Lakh Forty Six Thousand Only)

CENTRAL WAREHOUSING CORPORATION
(A Govt. of India Undertaking)

Price Bid

**Schedule-I (FIRE FIGHTING WORK ITEMS BASED ON CPWD
PAR 2023)**

NIT Number

E NIT_CWC/CO/Engg./NIT/24-25/06

Name of Work

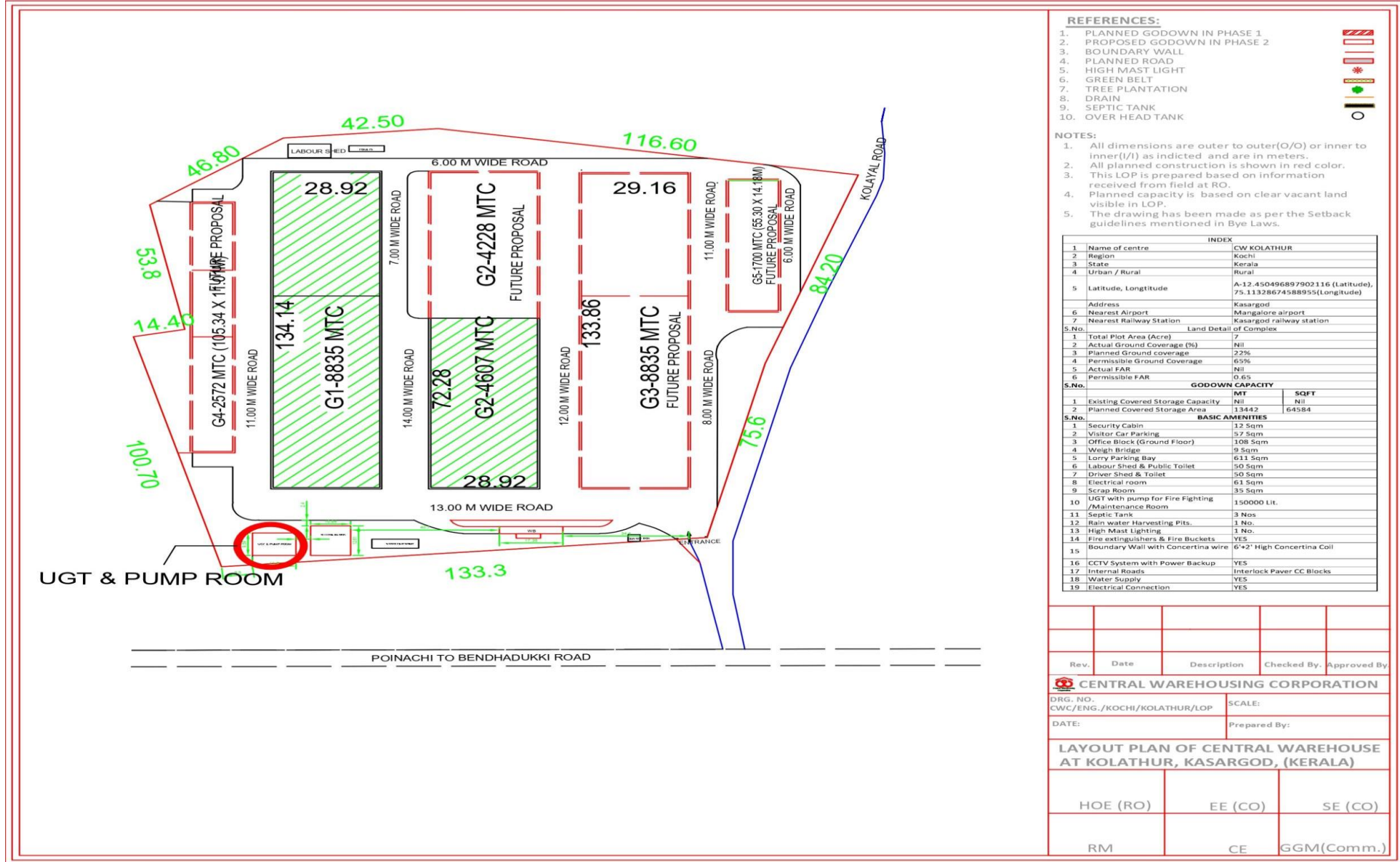
Design, supply, installation, testing and commissioning of Fire Fighting System for Godown No. 1 & 2 at CW Kolathur, Kerala.

NAME OF CONTRACTOR

Sr. No.	Name of Work	Total Amount (In Rs.)	Quoted rates (Above/Below/At par)	Rate to be quoted in percentage(%)	Quoted % In Words	Quoted amount in figure
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Sub-Schedule-I (FIRE FIGHTING WORK ITEMS BASED ON CPWD PAR 2023)	1,07,46,000.00				-
					TOTAL QUOTED PRICE=	-
	Amount Quoted (In Words)					

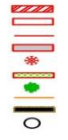
Note:

Total CWC estimated Cost for this schedule including labour cess, Cost index & applicable GST (Rs.) 1,28,95,200.00



REFERENCES:

1. PLANNED GODOWN IN PHASE 1
2. PROPOSED GODOWN IN PHASE 2
3. BOUNDARY WALL
4. PLANNED ROAD
5. HIGH MAST LIGHT
6. GREEN BELT
7. TREE PLANTATION
8. DRAIN
9. SEPTIC TANK
10. OVER HEAD TANK



NOTES:

1. All dimensions are outer to outer(O/O) or inner to inner(I/I) as indicated and are in meters.
2. All planned construction is shown in red color.
3. This LOP is prepared based on information received from field at RO.
4. Planned capacity is based on clear vacant land visible in LOP.
5. The drawing has been made as per the Setback guidelines mentioned in Bye Laws.

INDEX	
1	Name of centre
2	Region
3	State
4	Urban / Rural
5	Latitude, Longitude
6	Nearest Airport
7	Nearest Railway Station
8.No.	Land Detail of Complex
1	Total Plot Area (Acre)
2	Actual Ground Coverage (%)
3	Planned Ground coverage
4	Permissible Ground Coverage
5	Actual FAR
6	Permissible FAR
GODOWN CAPACITY	
1	Existing Covered Storage Capacity
2	Planned Covered Storage Area
BASIC AMENITIES	
1	Security Cabin
2	Visitor Car Parking
3	Office Block (Ground Floor)
4	Weigh Bridge
5	Lorry Parking Bay
6	Labour Shed & Public Toilet
7	Driver Shed & Toilet
8	Electrical room
9	Scrap Room
10	UGT with pump for Fire Fighting /Maintenance Room
11	Septic Tank
12	Rain water Harvesting Pits.
13	High Mast Lighting
14	Fire extinguishers & Fire Buckets
15	Boundary Wall with Concertina wire
16	CCTV System with Power Backup
17	Internal Roads
18	Water Supply
19	Electrical Connection

Rev.	Date	Description	Checked By.	Approved By

CENTRAL WAREHOUSING CORPORATION
 DRG. NO. CWC/ENG./KOCHI/KOLATHUR/LOP SCALE: _____
 DATE: _____ Prepared By: _____

LAYOUT PLAN OF CENTRAL WAREHOUSE AT KOLATHUR, KASARGOD, (KERALA)

HOE (RO)	EE (CO)	SE (CO)
RM	CE	GGM(Comm.)