

# वाष्कोस लिमिटेड WAPCOS LIMITED

(भारत सरकार का उपक्रम)  
जल शक्ति मंत्रालय  
(A Government of India Undertaking)  
Ministry of Jal Shakti

## TENDER DOCUMENT

### FOR

**Resurfacing of Bitumen Roads at NIFTEM Kundli,  
Sonipat, Haryana**

**NIT No.: WAP/INFS-1/NIFTEM/SR/2025/01**

**Dated 07.08.2025**



**76-C, Institutional Area, Sector - 18  
Gurugram-122015, Haryana  
Email: [iwrm@wapcos.co.in](mailto:iwrm@wapcos.co.in)  
Website: [www.wapcos.co.in](http://www.wapcos.co.in)**

**August 2025**

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**NOTICE INVITING e-TENDER (NIT)****NIT No. WAP/INFS-1/NIFTEM/SR/2025/01****Dated : 07/08/2025**

WAPCOS Limited (A Govt. of India Undertaking), for and behalf of National Institute of Food Technology Entrepreneurship and Management, Kundli (NIFTEM-K), Sonipat invites Online Electronic Tenders on Item Rate Mode from experienced and competent bidders, meeting prescribed qualifying criteria as mentioned in tender document.

1.	<b>Name of Work / Project</b>	:	Selection of Contractor for “Resurfacing of Bitumen Roads at NIFTEM-K, Sonipat, Haryana”
2.	Site / Location	:	Kundli, Sonipat, Haryana
3.	Website for Viewing tender/ Corrigendum/ Addendum	:	www.wapcos.co.in and https://etenders.gov.in/eprocure/app
4.	Website for Procurement, Downloading & Uploading/Submission of tender documents/ Corrigendum's/ Addendums	:	https://etenders.gov.in/eprocure/app (Central Public Procurement (CPP) Portal)
5.	Estimated Cost of Work	:	Total Rs. 1,13,77,849.88/- (excluding GST)
6.	Cost of Tender Document	:	Rs. 5,000/- (Non Refundable). The tender fee shall be paid through NEFT/RTGS in the following Bank Account:  Account Number – 193502000000405 A/c Holder – WAPCOS Limited Bank Name – Indian Overseas Bank Branch name: NHB, Gurugram IFSC code: IOBA0001935
7.	Amount of Earnest Money Deposit	:	Rs. 2,27,600/- in the form as per the NIT.  <b>(Rupees Two Lacs Twenty Seven Thousand Six hundred only)</b> shall be deposited in the form of Account Payee Demand Draft, Fixed Deposit Receipt, safeguarding the purchaser's interest in all respects in favour of “WAPCOS Limited” payable at New Delhi / Gurugram and submitted in sealed envelope cover before the last date of technical bid submission.
8.	Project Completion Period	:	4 (Four) Months from the Date of Award excluding Monsoon period + Defect Liability Period of 1 year.
9.	Validity of Bid/Tender	:	120 Days
10.	Last date & time of Procurement / download of tender Document	:	As per CPPP Portal The bidder must officially procure/download the tender documents from the CPP portal of WAPCOS before the last date and time of sale of tender document in order to bid.
11.	Offline Submission of Technical document, Tender Fees, EMD, and Pass phrases etc. as detail in Tender	:	Within 24 hours of last due date on CPPP Portal to following address:  WAPCOS Limited Chief Engineer-II, INFS-I Division

			76-C, Institutional Area, Sector – 18, Gurugram-122015, Haryana Email id: wapcos.niftem@gmail.com
12.	Last date & time for online submission of Technical & Financial Bid.	:	As per CPPP Portal
13.	Online Opening of Technical Bid	:	As per CPPP Portal
14.	Online Opening of Financial Bid	:	To be Intimated to Technical Qualified Bidders.
15.	WAPCOS Contact information	:	WAPCOS Limited INFS-I Division 76-C, Institutional Area, Sector - 18 Gurugram-122015, Haryana Email: wapcos.niftem@gmail.com Tel. (+91-124) 2399225

If the office of WAPCOS Limited, Gurugram happens to be closed on the last date and time mentioned for any of the event, the said event will take place on the next working day at the same time and venue.

The tender document has to be downloaded from above specified websites. Bidders are advised to visit above specified websites regularly for updates /Amendments/ Corrigendum, if any. The Updates/Corrigendum/Addendum shall be followed up to submission of tender and it will be the part of tender. The full details about the work, specifications, Drawings, terms and conditions shall be available in the Tender Document.

The purpose of this NIT is to provide interested parties with information to assist the preparation of their bid. While WAPCOS Limited has taken due care in the preparation of the information contained herein, and believe it to be complete and accurate, neither it nor any of its authorities or agencies nor any of its respective officers, employees, agents or advisors give any warranty or make any representations, expressed or implied as to the completeness or accuracy of the information contained in this document or any information which may be provided in association with it.

Further, WAPCOS Limited does not claim that the information is exhaustive. Respondents to this NIT are required to make their own inquiries/ surveys and will be required to confirm, in writing, that they have done so and they did not rely solely on the information in NIT. WAPCOS Limited is not responsible if no due diligence is performed by the bidders.

## **IMPORTANT POINTS**

- 1.1 The bidder should be an Indian Registered Company under Companies Act 1956/ 2013 Proprietorship Firm/ Partnership Firm.
- 1.2 The Joint Venture is not allowed to Participate in this tender.
- 1.3 All Bidders are hereby cautioned that Bids containing any deviation or reservation as described in Clauses of “Instructions to Bidders” shall be considered as non-responsive and shall be summarily rejected.
- 1.4 WAPCOS Ltd. reserves the right to accept or reject any or all bids without assigning any reasons. No Bidder shall have any cause of action or claim against the WAPCOS Ltd. For rejection of his Bid and will not be bound to accept the lowest or any other tender.
- 1.5 No reimbursement of cost of any type or on any account will be paid to persons or entities submitting their Bid.
- 1.6 All information submitted in response to this NIT shall be the property of WAPCOS Limited and it shall be free to use the concept of the same at its will.

- 1.7 It is hereby declared that WAPCOS is committed to follow the principle of transparency, equity and competitiveness in public procurement. The subject Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the Bidder will sign the integrity Agreement, which is an integral part of tender/bid documents, failing which the tenderer/bidder will stand disqualified from the tendering process and the bid of the bidder would be summarily rejected. This declaration shall form part and parcel of the Integrity Agreement and signing of the same shall be deemed as acceptance and signing of the Integrity Agreement on behalf of the WAPCOS.

**Chief Engineer-II**  
**For and on behalf of WAPCOS LIMITED**

# **SECTION– I**

## **INSTRUCTIONS TO BIDDER**

## **SECTION– I INSTRUCTIONS TO BIDDER**

### **1.0 SPECIAL INSTRUCTIONS TO BIDDERS FOR E-TENDERING**

#### **1.1 GENERAL**

The Special Instructions (for e-Tendering) supplement ‘Instruction to Bidders’, as given in these Tender Documents. Submission of Online Bids is mandatory for this Tender.

1. E-Tendering is a new methodology for conducting Public Procurement in a transparent and secured manner. For conducting electronic tendering, bidders shall use the portal <https://etenders.gov.in/eprocure/app>. Tender is invited in Single Stage -Two Envelope system, one Technical Bid and second as Financial bid.

### **1.2 SPECIAL INSTRUCTIONS TO BIDDERS FOR E-TENDERING**

#### **Instructions for Online Bid Submission**

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal. More information useful for submitting online bids on the CPP Portal may be obtained at: <https://etenders.gov.in/eprocure/app>.

#### **Registration**

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

#### **Searching For Tender Documents**

- i. There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters

such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.

- ii. Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective ‘My Tenders’ folder. This would enable the CPP Portal to intimate the bidders through SMS / e- mail in case there is any corrigendum issued to the tender document.
- iii. The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

### **Preparation of Bids**

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

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

### **Submission of Bids**

- i. Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- ii. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- iii. Bidder has to select the payment option as “offline” to pay the tender fee / EMD as applicable and enter details of the instrument.
- iv. Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned

copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected. – Not Applicable

- v. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white colored (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.
- vi. The server time (which is displayed on the bidders’ dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- vii. All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid opener’s public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- viii. Upon the successful and timely submission of bids (i.e. After Clicking “Freeze Bid Submission” in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- ix. The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

#### **Assistance to Bidders**

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

#### **For any technical related queries please call at 24 x 7 Help Desk Number:**

0120-4001 002

0120-4001 005

0120-6277 787

International Bidders are requested to prefix +91 as country code

#### **Email Support:**

For any Issues or Clarifications relating to the published tenders, bidders are requested to contact the respective Tender Inviting Authority

Technical - support-eproc@nic.in

Policy Related - cppp-doe@nic.in

## **2.0 INSTRUCTIONS TO BIDDER**

The purpose of these instructions to serve as a guide to Bidders for preparing offer for carrying out the project in all respect.

- a) The Schedule of Quantity is given in **Section XI**. The tenderer has to quote their offer in Item Rate in Schedule of Quantities. The Item-Rate shall be quoted up to 2 decimals. The tenderer shall quote rate(s) in figures as well as in words. In case of any discrepancy between the two, rate(s) quoted in words shall prevail. In case of discrepancy between quoted rate and amount, rate shall prevail. The payment will be made as per the actual work done and item wise measurement basis. Bidders are advised to examine the available Cost Index/ Market Rate while submitting the tender.
- b) Bidders are advised to quote their rates including the lead/lift/carriage of material at site as per the site conditions. No request for the lead/lift carriage shall be considered after the award of the work.
- c) Submission of a tender by a tenderer implies that the tenderer has read this notice and all other Tender Documents and has made himself aware of the scope, the specifications, and conditions of contract, local conditions and other factors having bearings on the execution of the work.
- d) WAPCOS Limited desires that the bidders, suppliers, and Sub-contractors under the Project, observe the highest standard of ethics during the performance, procurement and execution of such contracts. In pursuance of this requirement, WAPCOS Limited, defines, for the purposes of this provision, the terms set forth below:
  - i. “Corrupt Practice” means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party;
  - ii. “Fraudulent Practice” means any act of submission of forged documentation, or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation, or to succeed in a competitive bidding process;
  - iii. “Coercive Practice” means impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
  - iv. “Collusive Practice” means an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party.

Will reject the award of Contract, even at a later stage, if it determines that the bidder recommended/ selected for award/awarded has, directly or through an agent, engaged in Corrupt, Fraudulent, Collusive, Or Coercive Practices in competing for the Contract;

Will sanction a party or its successors, including declaring ineligible, either indefinitely or for a stated period of time, to participate in any further bidding/procurement proceedings under the Project, if it at any time determines that the party has, directly or through an agent, engaged in Corrupt, Fraudulent, Collusive, Or Coercive Practices in competing for, or in executing, the contract; and

The party may be required to sign an Integrity Pact, if required; and WAPCOS Limited will have the right to require the bidders, or its suppliers, contractors and consultants to permit WAPCOS Limited to inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by WAPCOS Limited at the cost of the bidders.

The Bidder must obtain for himself on his own responsibility and at his own expenses all the information which may be necessary for the purpose of making a bid and for entering into a contract, must examine the Drawings, must inspect the sites of the work, acquaint himself with

all local conditions, means of access to the work, nature of the work and all matters pertaining thereto. WAPCOS Limited will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

- e) The Contract shall be governed by each SECTION OF TENDER DOCUMENT i.e. instructions to bidders, selection & qualifying criteria, scope of works, General Conditions for Contract (GCC), Special Conditions for Contract (SCC), Annexures, Forms, Drawings, Technical Specification, Addendum / Clarification / Corrigendum etc. and all other Conditions mentioned in the tender documents.
- f) All Bidders are hereby explicitly informed that conditional offers or offers with deviations from the Conditions of Contract, the bids not meeting the minimum eligibility criteria, Technical Bids not accompanied with EMD and Tender Document Fees of requisite amount in acceptable format, Bids in altered/modified formats, or in deviation with any other requirements stipulated in the tender documents are liable to be rejected.
- g) The bidders shall not tamper or modify any part of the tender documents in any manner. In case in part of the bid is found to be tampered or modified at any stage, the bids are liable to be rejected, the contract is liable to be terminated and the full earnest deposit/retention money/performance guarantee will be forfeited and the bidder will be liable to be banned from doing any business with WAPCOS Limited.
- h) Incomplete Price bid shall be liable to be rejected, at the discretion of WAPCOS Limited. The total bid price shall cover the entire scope of works & drawings covered in the tender.

### **3.0 EARNEST MONEY DEPOSIT (EMD)**

The Earnest Money Deposit **as mentioned in NIT and shall also be submitted** in physical form in favor of WAPCOS Ltd payable at Gurugram.

The EMD may be accepted only in the following forms:

- **Demand Draft of a Scheduled Bank.**
- **Fixed Deposit Receipt (FDR) of a Scheduled Bank in the name of WAPCOS Ltd.**
- **Bank Guarantee from Nationalized/ Scheduled Commercial Bank**

A part of earnest money is acceptable in the form of bank guarantee (in the specified format) also. In such cases 50% of earnest money or Rs. 20 lakh whichever is less, will have to be deposited in shape prescribed above and balance can be accepted in form of bank Guarantee issued by a scheduled bank as per the format mentioned in the tender (**Appendix-I**). The Bank Guarantee submitted as a part of Earnest Money shall be valid for a period of **SIX MONTHS** or more from the date of submission of the tender.

The EMD of unsuccessful tenderer(s) will be refunded after finalization of tender process. The Earnest Money deposit submitted by the successful tenderer shall be retained by WAPCOS Limited until the Performance Bank Guarantee (PBG) is submitted. EMD shall not carry any interest.

If any tenderer withdraws or make any changes in his offer already submitted before the expiry of the above validity period or any extension thereof without the written consent of the company, the EMD amount will be forfeited for such act of the tenderer.

WAPCOS Limited reserves the right of forfeiture of Earnest Money deposit (EMD) in case of the successful tenderer.

- i. After opening of Tender, revokes his tender within the validity period or increases his earlier quoted rates.
- ii. Does not commence the work within the period as per LOI/Contract. In case the LOI/Contract is silent in this regard then within 15 days after award of contract.
- iii. The successful Tenderer shall not accept the LOI within 15 (Fifteen) days from receipt of the

same. If failed, the EMD shall be forfeited and the award of work may be liable to be cancelled.

#### **4.0 COST OF BIDDING**

The Bidder shall bear all costs associated with the preparation & submission of the Bid as well as costs associated for facilitating the evaluation. WAPCOS Ltd shall in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

#### **5.0 LANGUAGE OF BID**

The Bid and all related correspondence and documents relating to the Project shall be in English language only. Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate English translation which shall be certified by a qualified translator. Any material that is submitted in a language other than English and which is not accompanied by an accurate English translation will not be considered.

#### **6.0 CURRENCY OF BID**

Bid prices shall be quoted in Indian Rupees.

Tender submitted by tenderer shall remain valid for acceptance as mentioned in NIT from the date set for submission of the tender. The tenderer shall not be entitled within the said period to revoke or cancel or vary the tender given or any item thereof, without the consent of WAPCOS Limited. In case tenderer revokes, cancels, or varies his tender in any manner without the consent of WAPCOS Limited, within this period, his earnest money will be forfeited.

#### **7.0 ANNEXURES**

The successful Bidder shall submit the following documents and also follow the guidelines as per “**Section of Annexures**” mentioned in tender document.

ANNEXURE – I : PERFORMANCE SECURITY
ANNEXURE – II : AFFIDAVIT

WAPCOS Limited reserves the right to reject any or all the bids or to cancel the Tender, without assigning any reason(s) whatsoever.

**For & on behalf of Tenderer**

## **SECTION– II**

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### **SELECTION AND QUALIFYING CRITERIA**

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## SECTION-II SELECTION AND QUALIFYING CRITERIA

### 1. SITE VISIT

Intending Bidder(s) are advised to inspect and examine the site at his own cost and its surroundings and satisfy themselves before submitting their bids as to access the present condition of the site (so far as is practicable), the form & nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. No extra charge consequent on any misunderstanding or otherwise shall be allowed.

For Site visit, the bidder may contact Junior Engineer, WAPCOS at Mob. No. +91-7027000119 during the office hours.

The bidder(s) shall be responsible for arranging and maintaining at his own cost all materials, tools & 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. Submission of a bid by a bidder(s) 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 plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.

Site visit is to understand the actual scope of work, site condition, details & levels of already constructed structure & balance works to be done and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The site visit may be conducted by the bidder any time before the last date of submission of the bid. Before site visit, the bidder may request at email ID mentioned in NIT for site visit mentioning the date & time of visit. Accordingly, it is advised to bidders to visit the site with proper authorization letter of bidder representative from Bidder Company/ agencies. Bidder representative will submit the authorization letter to WAPCOS representative.

### 2. QUALIFYING CRITERIA: ONLINE TECHNICAL BID SUBMISSION

The intending bidders must read the terms & conditions of tender documents carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.

The Technical Bid shall be uploaded **with colored scanned copies of following documents. All the documents must be serial wise as stated below along with check list and clearly marked page no. and sign & stamp on each page of the Technical Bid (MANDATORY)**

Table 2: Format of Check List				
S.N	Particular of Document	Yes	No	Page Nos. (from – to)
a)	Authorization Letter to sign the Tender on bidder's original letter head or Power of attorney or Board Resolution from the competent authority of the firm.			
b)	Scanned copy of EMD of amount as mentioned in NIT.			
c)	Scanned copy of Tender Fees of the amount as mentioned in NIT along with <b>Cancelled Cheque Copy</b>			
d)	Letter of Transmittal for Technical Bid in prescribed format on bidder's original letter Head <b>(Form-1)</b> .			
e)	Yearly Turnover and Audited Balance Sheet for Last 3 (three) years ending on the financial year 2023-24.			

	<ul style="list-style-type: none"> <li>The Bidder should be a profit making entity during last three financial years i.e. 2021-22, 2022-23 &amp; 2023-24. Audited Balance Sheet and Profit &amp; Loss account must be submitted with Bid.</li> </ul>			
	<ul style="list-style-type: none"> <li><b>Turnover:</b> Average annual financial turnover of the Bidder should be at least 50% of the Estimated Value of work during immediate last 3 consecutive financial years i.e. 2021-22, 2022-23 &amp; 2023-24. Certificate issued by Chartered Accountant with registration number, seal and UDIN must be submitted.</li> </ul>			
	<ul style="list-style-type: none"> <li>Full Balance Sheet and Profit &amp; loss Statements of Bidder for Last 3 (three) years ending on the financial year 2023-24.</li> </ul>			
f)	Name, Address, details of the Organization, Name(s) of the Owner/Partners/Promoters and Directors of the firm / company. <b>(Form-B)</b>			
g)	Bidder should not be blacklisted/ debarred by any government/ semi government department/ PSU. Bidders shall give undertaking for not being involved in any form of corrupt and fraudulent practices. <b>(Form-C).</b>			
h)	Letter of understanding of the project site on bidder's Letter Head <b>(Form-D).</b>			
i)	'No Deviation Certificate' in prescribed format in Bidder's Letter Head <b>(Form-E).</b>			
j)	Consent Letter to execute the Integrity Pact <b>(Form-F).</b>			
k)	Bidder shall submit Information on litigation history, liquidated damages, disqualification etc. in bidder Letter Head <b>(Form-G).</b>			
l)	The bidder should not be insolvent, in receivership, bankrupt or being wound up, not have had their business activities suspended. Accordingly, Bidder shall submit Solvency certificate issued by nationalized or schedule Commercial bank with details of Financial Status i.e. Name of the Banker & Current Solvency Certificate ( <b>i.e. the solvency certificate shall be dated after the date of publication of Tender</b> ) from Banker <b>in Original</b> for a sum of at least 40% of the Estimated Value of work. <b>(Form-I)</b>			
m)	<p>The Bidder as a Prime Contractor should have satisfactorily completed any similar work in the last seven years ending on the last date of bid submission of value with any State/ Central Government Organization/ PSU/ Govt. Autonomous Body</p> <p style="text-align: center;">One work of at least 80% of Estimated value of Project Or Two works of at least 50% of Estimated Value of Project Or Three works of at least 40% of Estimated Value of Project</p> <p><b>(Form-J).</b></p> <p><b>Similar work shall mean</b> Repair/ Resurfacing/ Construction of Bitumen Roads.</p>			

	The bidder shall submit <b>Completion Certificate(s)</b> along with Supply Order from respective Owner(s)/Client(s).			
n)	The bidder should have the paver machine registered on his company name. If not, the bidder should submit either an agreement of hiring the machinery (or) a document of owning a new paver machine before the commencement of pavement works.			
o)	Copy of P.F and PAN Number.			
p)	<b>Goods and Service Tax (GST):</b> Bidders are advised to get themselves registered for GST, which are mandatory, as per Govt. of India notification regarding GST. Accordingly, bidder shall submit relevant documents if already registered. If not registered till date of submission of bid, bidder will give undertaking on bidder letter head stating that they will get registered in GST as per Govt. norms before submission of bills.			
q)	The bidder should be an Indian Registered Company under Companies Act 1956/2013 Proprietorship Firm/ Partnership Firm/ Limited company private or public or corporation. Copy of Certificate of Incorporation/ Registration/ Partnership Deed or any other relevant document, as applicable, should be submitted along with a copy of address proof. <b>Joint Venture is not allowed</b>			
r)	Each page of the all Volume of Tender document & Addendum/ Corrigendum shall be digitally signed by the bidders submitting the Tender in token of his/their having acquainted himself/ themselves and accepted the entire tender documents including various conditions of contract. Any Bid with any of the Documents not so signed is liable to be rejected at the discretion of WAPCOS Limited.			

No information relating to financial terms of services should be included in the technical bid. Bids are to be submitted to determine that the bidder has a full comprehension of the tendered work. Where a bidder technical submittal is found non - compliant with the requirement of work, it may be rejected. This process is to assure that only technical acceptable bids are considered for the tendered work.

**Contractors who fulfill the above requirements shall be eligible to apply.**

### 3. OFFLINE SUBMISSIONS OF DOCUMENTS

The Bidder shall submit following Document offline also.

- All the documents in Original, which is uploaded as Technical Bid (See Checklist, In Qualifying Criteria: Online Technical Bid Submission of Section-II, Table-2) shall be submitted with page numbering (MANDATORY)** in separate sealed envelope clearly labeled as “TECHNICAL BID” for the Work (Write Name of Work/Project as mentioned in NIT) along with Details of Bidders Address, Phone, E-mail on Envelope. **All the pages of the Technical Bid must be stamped & signed.** Note: The Solvency Certificate shall be mandatorily submitted in Original i.e. no colour printout or photocopy shall be accepted.
- EMD & Tender submission fee in Original** in separate sealed envelope clearly labeled as “EMD & TENDER FEE” for the work (Write Name of Work/Project as mentioned in NIT) along with Details of Bidders Address, Phone, and E-mail on Envelope.

**NOTE:** Above two envelopes shall be submitted in one single envelope clearly labeled as “Documents for Offline Submission” for the Work (Write Name of Work/Project as mentioned in NIT) along with Details of Bidders Address, Phone, and E-mail on Envelope.

**The offline submissions (duly stamped & signed) as mentioned above shall be submitted on WAPCOS address as per date & time mentioned in NIT. In case of non-submission of above offline documents, bids are liable to be rejected.**

**Note:** The Company reserves the right to waive minor deviations/ submissions if they do not materially affect the capability of the Tenderer to perform the contract.

#### **4. CONTENTS OF FINANCIAL BID**

The Financial Bid should be uploaded separately along with Technical bid before last date & time of submission of Tender Document.

The quoted cost filled in Summary of Cost, by bidders, should include all associated costs with the project including any out of pocket / mobilization expenses/ Custom duty (if any), Buildings and other construction workers’ welfare cess, TDS, taxes (except GST) if any applicable as per Govt. terms, shall be paid by the Contractor. The Goods and Services Tax (GST) shall be paid extra over quoted cost.

It is mandatory to bidders to deposit GST within time limit framed by Govt. of India, if applicable. The Goods and Services Tax (GST), shall be reimbursed to the Agency only after uploading of bills by Contractor on GST Portal “to avail Input benefit of GST”

The company shall be performing all its duties of deduction of TDS and other deduction on payment made to the contractor as per applicable legislation in force on the date of submission of bid or to be newly / amended introduced during the execution of the Contract.

The tenderer shall quote cost up to zero decimal and as well as in words. In case of any discrepancy rate quoted in words shall prevail.

The payment will be made as per the schedule of stage wise payment.

The Summary of cost to be filled for this tender is attached in Microsoft Excel format, bidder shall quote the amount only in soft format to avoid mistakes. The bidder will upload same filled soft Microsoft Excel copy during uploading of financial bid.

#### **5. OPENING OF FINANCIAL BID**

The financial bids of the technically qualified bidders shall be opened at the notified date & time after technical evaluation stage.

#### **6. AWARD CRITERIA**

After closing of Technical & Financial Bid process, WAPCOS Ltd. will award, the contract to the bidder, whose tender has been determined to be substantially responsive, complete and in accordance with the tender document, and whose total evaluation price for the undertaking the project as detailed in the scope of work is the lowest (L1). If the financial bids of lowest two bidders are equal, then the tender will be treated as cancelled and shall be re-tendered as per the WAPCOS rules.

**For & on behalf of Tenderer**

## **SECTION – III**

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### **GENERAL CONDITIONS OF CONTRACT**

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**SECTION – III**  
**GENERAL CONDITIONS TO CONTRACT**

**1.0 GENERAL RULES AND DIRECTIONS**

<b>General Rules &amp; Directions</b>	1.	<p>The work proposed for execution by contract will be notified in a form of invitation to tender by publication in Newspapers and / or posted on website as the case may be.</p> <p>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 the 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.</p>
	2.	<p>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, 1952.</p>
	3.	<p>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</p>
	4	<p>Any person who submits a tender shall fill up the usual printed form, stating at what rate he is willing to undertake each item of the work. Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort, including conditional rebates, will be summarily rejected.</p> <p>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 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 online. The lowest tender shall be decided on the basis of revised offer.</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 contractors.</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 bid shall not be allowed to participate in the retendering process of the work.</p>
	5.	<p>The designated committee will open tenders in the presence of any intending contractors who may be present at the time, and will enter the amounts of the several tenders in a comparative statement in a suitable form. In the event of a tender being accepted, a receipt for the earnest money shall thereupon be given to the contractor who shall thereupon for the purpose of identification sign copies of the specifications and other documents. In the event of a tender being rejected, the earnest money shall thereupon be returned to the contractor remitting the same, without any interest as per NIT.</p>
	6.	<p>WAPCOS 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>

	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.
	8.	Deleted
	9.	The tenderers shall sign a declaration under the officials Secret Act 1923, for maintaining secrecy of the tender documents drawings or other records connected with the work given to them.
	9A	Use of correcting fluid, anywhere in tender document is not permitted. Such tender is liable for rejection.
	10.	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 and words shall be accurately filled in so that there is no discrepancy in the rates written in figures and words. 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 either in figures or in words, then the rates quoted by the contractor in words shall be taken as correct. Where the rates quoted by the contractor in figures and in words 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 both in figure(s), word(s), and amount blank, it will be presumed that 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.
	10A	Deleted
	11.	In the case of any tender where unit rate of any item/items appear unrealistic, such tender will be considered as unbalanced and in case the tenderer is unable to provide satisfactory explanation, such a tender is liable to be disqualified and rejected.
	12.	All rates shall be quoted on the tender form. The amount for each item should be worked out and requisite totals given. Special care should be taken to write the rates in figures as well as in words and the amount in figures only, in such a way that interpolation is not possible. The total amount should be written both in figures and in words. 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. 2.15 P’ and in case of words, the word, ‘Rupees’ should precede and the word ‘Paise’ should be written at the end. Unless the rate is in whole rupees and followed by the word ‘only’ it should invariably be upto two decimal places. While quoting the rate in schedule of quantities, the word ‘only’ should be written closely following the amount and it should not be written in the next line.
	12A	Deleted
	13.	<ul style="list-style-type: none"> <li>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 Special Conditions of Contract. 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 Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form.</li> </ul>

		ii. The contractor whose tender is accepted will also be required to furnish by way of Security Deposit for the fulfillment 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 above. 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.
	14.	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 shall be communicated in writing to the Engineer-in-Charge.
	15.	All the taxes including GST applicable in respect of this contract shall be payable by the Contractor and WAPCOS will not entertain any claim whatsoever in respect of the same.
	16.	The contractor shall give a list of WAPCOS employees related to him.
	17.	The tender for the work shall not be witnessed by a contractor or contractors who himself/themselves has/have tendered or who may and has/have tendered for the same work. Failure to observe this condition would render, tenders of the contractors tendering, as well as witnessing the tender, liable to summary rejection.
	18.	The tender for composite work includes construction of balance civil work, water supply and sanitation, electrification work, HVAC, Building Management System, External Development Works, horticulture work, roads, paths etc. and allied works. The tenderer apart from being a registered contractor (B&R) of appropriate class, must associate himself with agencies of appropriate class which are eligible to tender for sanitary and water supply drainage, electrical and horticulture works in the composite tender.
	19.	Deleted
	20.	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 WAPCOS may in his discretion, without prejudice to any other right or remedy available in law, cancel the contract. 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.

## 2.0 CONDITIONS OF CONTRACT

Definitions	1.	The <b>Contract</b> means the documents forming the tender and acceptance thereof and the formal agreement executed between the WAPCOS and the Contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-In-Charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.
	2.	<p>In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:-</p> <ul style="list-style-type: none"> <li>i. <b>“Client/ Employer”</b> shall mean “WAPCOS Limited”, A Government of India undertaking- Ministry of Jal Shakti having their Registered office at 5<sup>th</sup> floor, Kailash building, 26-Kasturba Gandhi Marg, New Delhi-110001, India &amp; include their successors &amp; permitted assigns as well as their authorized officer / representatives, for execution of the Work / Project as mentioned in NIT.</li> <li>ii. The <b>“Company / WAPCOS”</b> shall mean WAPCOS Limited.</li> <li>iii. <b>“Principal Client Owner”</b> shall mean “Registrar, National Institute of Food Technology Entrepreneurship and Management (NIFTEM) Kundli &amp; include their successors &amp; permitted assigns as well as their authorized officer / representatives, for execution of the Work / Project as mentioned in NIT.</li> <li>iv. The expression <b>works</b> or <b>work</b> 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.</li> <li>v. The <b>Site</b> 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.</li> <li>vi. The <b>Bidder</b> 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 who are participating in Bidding process and will Execution the project after award of the works as Contractor.</li> <li>vii. The <b>Engineer-in-Charge</b> shall means the Engineer Officer appointed by WAPCOS or his duly authorized representative who shall direct, supervise and be in-charge of the work for the purpose of this Contract</li> <li>viii. <b>Accepting Authority</b> shall mean the authority mentioned in Special Conditions of Contract.</li> <li>ix. <b>Tenderer / Bidder</b> shall mean the firm/party who intends to participate in this Notice Inviting Tender.</li> <li>x. <b>Excepted Risk</b> are risks due to riots (other than those on account of contractor’s employees), war (whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion revolution, insurrection, military or usurped power, any acts of Government, damages from aircraft, acts of God, such as earthquake, lightening and unprecedented floods, and other causes over which the contractor has no control and accepted as such by the Accepting Authority or causes solely due to use or occupation by Government of the part of the works in respect of which a certificate of completion has been issued or a cause solely due to Government’s faulty design of works.</li> <li>xi. <b>Market Rate</b> 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</li> </ul>

		<p>executed plus the percentage mentioned in Special Conditions of Contract to cover, all overheads and profits.</p> <p>xii. <b>Schedule(s)</b> referred to in these conditions shall mean the relevant schedule(s) annexed to the tender papers or the standard Schedule of Rates of the government mentioned in Special Conditions of Contract hereunder, with the amendments thereto issued upto the date of receipt of the tender.</p> <p>xiii. <b>District Specifications</b> shall means the specifications followed by the State Government in the area where the work is to be executed.</p> <p>xiv. The <b>Contractor/Successful Bidder</b> shall mean the firm or company whose bid has been accepted by WAPCOS and 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>xv. <b>Consultant</b> shall mean any consultant nominated by the WAPCOS</p> <p>xvi. <b>Tendered value</b> means the value of the entire work as stipulated in the letter of award.</p> <p>xvii. <b>Date of commencement of work:</b> The date of commencement of work shall be the date of start as specified in Special Conditions of Contract 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>
Scope and Performance	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.
	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.
	5.	The contractor shall be furnished, free of cost one certified copy of the contract documents except standard specifications 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.
Works to be carried out	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. The descriptions given in the Schedule of Quantities shall, unless otherwise stated, be held to include wastage on materials, carriage and cartage, carrying and return of empties, hoisting, setting, fitting and fixing in position and all other labours necessary in and for the full and entire execution and completion of the work as aforesaid in accordance with good practice and recognized principles.
Sufficiency of Tender	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 (Not Applicable) <b>rates &amp; prices</b> quoted in the Schedule of Quantities/ Building Components, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the works.
Discrepancies and Adjustment of Errors	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.
	8.1	<p>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> <ol style="list-style-type: none"> <li>Description of Schedule of Quantities</li> <li>Particular Specification and Special Condition, if any.</li> <li>Drawings.</li> </ol>

		iv. CPWD Specifications. v. Indian Standard Specifications of B.I.S.
	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 and binding on the contractor.
	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.
<b>Signing of Contract</b>	9.	<p>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> <ol style="list-style-type: none"> <li>The notice inviting tender, all the documents including corrigendum, drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.</li> <li>Agreement &amp; acceptance of the following: <ol style="list-style-type: none"> <li>Various standard clauses with corrections up to the date stipulated in Special Conditions of Contract along with annexures thereto.</li> <li>Safety Codes.</li> <li>Model Rules for the protection of health, sanitary arrangements for workers employed WAPCOS or its contractors.</li> <li>Contractor's Labour Regulations.</li> <li>List of Acts and omissions for which fines can be imposed.</li> <li>No payment for the work done will be made unless contract is signed by the contractor.</li> </ol> </li> </ol>

### 3.0 CLAUSES OF CONTRACT

#### CLAUSE 1: PERFORMANCE GUARANTEE

- The contractor shall submit an irrevocable **Performance Guarantee of 3% (Three percent) of the tendered 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 Special Conditions of Contract from the date of issue of letter of acceptance. This period can be further extended by the Engineer-in-Charge up to a maximum period as specified in Special Conditions of Contract 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 shall be in the form of Cash (in case guarantee amount is less than Rs. 10,000/-) or 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 Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the form annexed hereto. In case a fixed deposit receipt of any Bank is furnished by the contractor to the WAPCOS as part of the performance guarantee 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 WAPCOS to make good the deficit.
- The Performance Guarantee shall be initially valid up to 60 days beyond the stipulated date of completion plus 1 year claim period beyond that.** In case the time for completion of work get 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 50% of Performance

Guarantee shall be retained as Security Deposit. The same shall be returned year wise proportionately.

- iii. The Engineer-in-Charge shall not make a claim under the performance guarantee except for amounts to which the WAPCOS is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:
  - (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.
  - (b) Failure by the contractor to pay WAPCOS 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.
- 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 WAPCOS.
- v. The Performance Guarantee shall be refunded to the Contractor soon after the completion of works and issuance of the completion certificate.

#### **CLAUSE 1A: RECOVERY OF SECURITY DEPOSIT**

The person/persons whose tender(s) may be accepted (hereinafter called the contractor) shall permit WAPCOS at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 5% 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 WAPCOS 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 WAPCOS 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 WAPCOS to make good the deficit.

All compensations or the other sums of money payable by the contractor under the terms of this contract may be deducted from, or paid by the sale of a sufficient part of his security deposit or from the interest arising therefrom, or from any sums which may be due to or may become due to the contractor by WAPCOS on any account whatsoever and in the event of his Security Deposit being reduced by reason of any such deductions or sale as aforesaid, the contractor shall within 10 days make good in cash or fixed deposit receipt tendered by the State Bank of India or by Scheduled Banks endorsed in favour of WAPCOS LIMITED, 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.

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 lac subject to the condition that amount of such bank guarantee, except last one, shall not be less than Rs. 5 lac. 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.

The Security Deposit shall be released after successful completion of Defect Liability Period

In case of contracts involving maintenance of building and services/any other work after construction of same building and services/other work, then 50% of Performance Guarantee shall be retained as Security Deposit. The same shall be returned year wise proportionately.

**Note-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 Divisional Officer 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.

**Note-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.

**Note-3:** Note 1 & 2 above shall be applicable for both clause 1 and 1A

## **CLAUSE 2: COMPENSATION FOR DELAY**

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 or justified extended date of completion as per clause 5 (excluding any extension under Clause 5.51 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 Government 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 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.

(i) Compensation for delay of work @ 0.50% of the total project cost per week basis.

Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10 % of the Tendered Value of work or of the Tendered Value of the Sectional part of work as mentioned In Schedule 'F' for which a separate period of completion is originally given.

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 Government. 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:** In case, the contractor completes the work ahead of stipulated date of completion or justified extended date of completion as determined under clauses 5.3, 12 & 15, a bonus @ 1% (one per cent) 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 per cent) 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'.

### **CLAUSE 3: WHEN CONTRACT CAN BE DETERMINED**

Subject to other provisions contained in this clause, the Engineer-in-Charge may, without prejudice to his any other rights or remedy against the contractor in respect of any delay, inferior workmanship, any claims for damages and/or any other provisions of this contract or otherwise, and whether the date of completion has or has not elapsed, by notice in writing absolutely determine the contract in any of the following cases:

- i. If the contractor having been given by the Engineer-in-Charge a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or unworkman like manner shall omit to comply with the requirement of such notice for a period of seven days thereafter.
- ii. If the contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence and continues to do so after a notice in writing of seven days from the Engineer-in-Charge.
- iii. If the contractor fails to complete the work or section of work with individual date of completion on or before the stipulated or justified extended date, on or before such date of completion; and the Engineer in Charge without any prejudice to any other right or remedy under any other provision in the contract has given further reasonable time in a notice given in writing in that behalf as either mutually agreed or in absence of such mutual agreement by his own assessment making such time essence of contract and in the opinion of Engineer-in-Charge the contractor will be unable to complete the same or does not complete the same within the period specified.
- iv. If the contractor persistently neglects to carry out his obligations under the contract and/ or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge.
- v. If the contractor shall offer or give or agree to give to any person in WAPCOS 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 WAPCOS.
- vi. If the contractor shall enter into a contract with WAPCOS in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Engineer-in-Charge.
- vii. If the contractor had secured the contract with WAPCOS as a result of wrong tendering or other non-bonafide methods of competitive tendering or commits breach of Integrity Agreement.
- viii. If the contractor being an individual, or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of his estate made against him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport so to do, or if any application be made under any Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors.

- ix. If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.
- x. If the contractor shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days.
- xi. If the contractor assigns (excluding part(s) of work assigned to other agency(s) by the contractor as per terms of contract), transfers, sublet (engagement of labour on a piece-work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Engineer -in-Charge. When the contractor has made himself liable for action under any of the cases aforesaid, the Engineer in-Charge on behalf of the WAPCOS shall have powers:

When the contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in-Charge on behalf of the WAPCOS shall have powers:

- 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 and Performance Guarantee under the contract shall be liable to be forfeited and shall be absolutely at the disposal of the Government.
- 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. In the event of above courses being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provision aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

In the event of above courses being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provision aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

### **CLAUSE 3A**

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:

- |   |         |
|---|---------|
| a) Tendered value of work is up to Rs. 45 lac                                   | 15 days |
| b) If the Tendered value of work is more than Rs.45 lac and up to Rs. 2.5 Crore | 21 days |
| c) If the Tendered value of work exceeds Rs. 2.5 Crore :                        | 30 days |

Neither party shall claim any compensation for such eventuality. This clause is not applicable for any breach of the contract by either party

#### **CLAUSE 4: CONTRACTOR LIABLE TO PAY COMPENSATION EVEN IF ACTION NOT TAKEN UNDER**

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. 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 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.

#### **CLAUSE 5: TIME AND EXTENSION FOR DELAY**

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. However, the handing over of site by the Engineer in Charge, in full or in part (if so provided in contract), shall be completed within two months from issue of acceptance letter. 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 Government without prejudice to any other right or remedy available in law.

**5.1** As soon as possible but within twenty one days of award of work and in consideration of

- 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 mile stone. The Engineer-in-Charge may within 30 days thereafter, if required modify, and communicate the program approved to the contractor failing which the program submitted by the contractor shall be deemed to be approved by the Engineer-in Charge. The work programme shall include all details of balance drawings and decisions required to complete the contract with specific dates by which these details are required by contractor without causing any delay in execution of the work. The 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 the 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, and further to ensure good progress during the execution of the work, the contractor shall in all cases in which the time allowed for any work, exceeds one month (save for special jobs for which a separate programme has been agreed upon) complete the work as per mile stones given in Schedule 'F'.

#### **PROGRAMME CHART**

- (i) The Contractor shall prepare an integrated programme chart in MS Project/Primavera software for the execution of work, showing clearly all activities from the start of work to completion, with details of manpower, equipment and machinery required for the fulfillment of the programme within the stipulated period or earlier and submit the same for approval to the Engineer-in- Charge

within ten days of award of the contract. A recovery of Rs. 2500/- (for works costing upto Rs. 20 Crores) / Rs. 5000/- (for works costing more than Rs. 20 Crores) shall be made on per day basis in case of delay in submission of the above programme.

- (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 and 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 Rs. 2500/- (for works costing upto Rs. 20 Crores) I Rs. 5000/- (for works costing more than Rs. 20 Crores) 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) non-availability of stores, which are the responsibility of WAPCOS to supply or
- (vii) non-availability or break down of tools and Plant to be supplied or supplied by WAPCOS or
- (viii) Any other cause like above which, in the absolute discretion 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 for entry in the hindrance register (physical or web-based as prescribed in schedule F) but shall nevertheless use constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the works. The contractor shall have no claim of damages for extension of time granted or rescheduling of milestone/s for events listed in sub clause 5.2.

- 5.3** In case the work is hindered by any reasons, in the opinion of the contractor, by the Department or for someone for whose action the Department is responsible, the contractor may immediately give notice thereof in writing to the Engineer-in-Charge in the same manner as prescribed under sub Clause 5.2 seeking extension of time or rescheduling of milestone/s. The authority as indicated in Schedule 'F' shall, if justified, give a fair and reasonable extension of time and reschedule the mile stones for completion of work after due consideration of the same within 30 days of receipt of such request. In event of non-application by the contractor for extension of time E-in-C after affording opportunity to the contractor may give, supported with a programme, a fair and reasonable extension within a reasonable period of occurrence of the event.

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 Mile stones 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 (Appendix-XVI) or Form of application by the contractor for seeking extension of time (Appendix -XVII) respectively to the authority as indicated in Schedule 'F'. The Contractor shall indicate in such a request the period by which rescheduling of milestone/s or extension of time is desired.

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.

- 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 mile stones. Such extension or rescheduling of the milestones shall be communicated to the Contractor by the authority as indicated in Schedule 'F' in writing, within 30 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 E-in-C after affording opportunity to the contractor, may give, supported with a programme (as specified under 5.4 above), a fair and reasonable extension within a reasonable period of occurrence of the event.
- 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.

## **CLAUSE 6: MEASUREMENTS OF WORK DONE**

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement, the value in accordance with the contract of work done.

All measurement of all items having financial value shall be entered in Measurement Book and/or level field book so that a complete record is obtained of all works performed under the contract.

All measurements and levels shall be taken jointly by the Engineer-in-Charge or his authorized representative and by the contractor or his authorized representative from time to time during the progress of the work and such measurements shall be signed and dated by the Engineer- in-Charge and the contractor or their representatives in token of their acceptance. If the contractor objects to any of the measurements recorded, a note shall be made to that effect with reason and signed by both the parties. If for any reason the contractor or his authorized representative is not available and the work of recording measurements is suspended by the Engineer-in-Charge or his representative, the Engineer-in-Charge and the WAPCOS shall not entertain any claim from contractor for any loss or damages on this account. If the contractor or his authorized representative does not remain present at the time of such measurements after the contractor or his authorized representative has been given a notice in writing three (3) days in advance or fails to countersign or to record objection within a week from the date of the measurement, then such measurements recorded in his absence by the Engineer-in-Charge or his representative shall be deemed to be accepted by the Contractor.

The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for measurements and recording levels.

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 measurement any work in order that the same may be measured and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of 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 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.

Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the WAPCOS to check the measurements recorded jointly or otherwise as aforesaid and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.

It is also a term of this contract that recording of measurements of any item of work in the measurement book and/or its payment in the interim, on account or 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.

#### **CLAUSE 6A: COMPUTERIZED MEASUREMENT BOOK**

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement the value of work done in accordance with the contract.

All measurements of all items having financial value shall be entered by the contractor and compiled in the shape of the Computerized Measurement Book having pages of A-4 size as per the format of the WAPCOS so that a complete record is obtained of all the items of works performed under the contract.

All such measurements and levels recorded by the contractor or his authorized representative from time to time, during the progress of the work, shall be got checked by the contractor from the Engineer-in-Charge or his authorized representative as per interval or program fixed in consultation with Engineer-in-Charge or his authorized representative. After the necessary corrections made by the Engineer-in-Charge, the measurement sheet shall be returned to the contractor for incorporating the corrections and for resubmission to the Engineer-in-Charge for the dated signatures by the Engineer-in-Charge and the contractor or their representatives in token of their acceptance.

Whenever bill is due for payment, the contractor would initially submit draft computerized measurement sheet 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 WAPCOS 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. The contractor shall submit two spare copies of such computerized MB's for the purpose of reference and records.

The contractor shall also submit to the WAPCOS separately his computerized Abstract of Cost and the bill based on these measurements, duly bound, and its pages machine numbered along with two spare copies of the bill. Thereafter, this bill will be processed by the Engineer-In-Charge

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 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.

Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the WAPCOS to check the measurements recorded by contractor and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.

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.

#### **CLAUSE 7: PAYMENT ON INTERMEDIATE CERTIFICATE TO BE REGARD AS ADVANCE**

No payment shall be made for work, estimated to cost Rs. One lac or less till after the whole of the work shall have been completed and certificate of completion given. For work estimated to cost over Rs. One 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. 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 Asstt. Engineer together with the account of the material issued by the department, or dismantled materials, if any. In the case of works outside the headquarters of the Engineer- in-Charge, the period of ten working days will be extended to fifteen working days. In case of delay in payment of intermediate bills after 45 days of submission of bill by the contractor provided the bill submitted by the contractor found to be in order, a simple interest @ 10% per annum shall be paid to the contractor from the date of expiry of prescribed time limit which will be compounded on yearly basis.

All such interim payments shall be regarded as payment by way of advances against final payment only and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected. Any certificate given by the Engineer-in-Charge relating to the

work done or materials delivered forming part of such payment, may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates is/are in accordance with the contract and specifications. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer-in-Charge under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract.

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 WAPCOS 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.

The Engineer-in-Charge in his sole discretion on the basis of a certificate from the Asstt. Engineer to the effect that the work has been completed up to the level in question make interim advance payments without detailed measurements for work done (other than foundations, items to be covered under finishing items) up to 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 Government from the date of expiry of prescribed time limit which will be compounded on yearly basis.

In case of composite tenders, running payment for the major component shall be made by Engineer-In-Charge 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.

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.

#### **CLAUSE 8: COMPLETION CERTIFICATE AND COMPLETION PLANS**

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 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. 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. 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.

#### **CLAUSE 8A: CONTRACTOR TO KEEP SITE CLEAN**

When the annual repairs and maintenance of works are carried out, the splashes and droppings from white washing, colour washing, painting etc., on walls, floor, windows, etc. shall be removed and the surface cleaned simultaneously with the completion of these items of work in the individual rooms, quarters or

premises etc. where the work is done: without waiting for the actual completion of all the other items of work in the contract. In case the contractor fails to comply with the requirements of this clause, the Engineer-in-Charge shall have the right to get this work done at the cost of the contractor either WAPCOS or through any other agency. Before taking such action, the Engineer-in-Charge shall give ten days’ notice in writing to the contractor.

#### **CLAUSE 8B: COMPLETION PLANS TO BE SUBMITTED BY THE CONTRACTOR**

The contractor shall submit completion plan as required vide General Specifications for Electrical works (Part-I internal) 2005 and (Part-II External) 1994 as applicable within thirty days of the completion of the work.

In case, the contractor fails to submit the completion plan as aforesaid, he shall be liable to pay a sum of 0.1 % of Tendered Value or limit prescribed in Schedule F whichever is more as may be fixed by the Superintending Engineer concerned and in this respect the decision of the Superintending Engineer shall be final and binding on the contractor.

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.

#### **CLAUSE 9: PAYMENT OF FINAL BILL**

The final bill shall be submitted by the contractor in the same manner as specified in interim bills within one month of the date of the final certificate of completion furnished by the Engineer-in-Charge. No further claims shall be made by the contractor after submission of the final bill and these shall be deemed to have been waived and extinguished. Payments of those items of the bill in respect of which there is no dispute and of items in dispute, for quantities and rates as approved by Engineer-in-Charge, will, as far as possible be made within the period specified hereinunder, the period being reckoned from the date of receipt of the bill by the Engineer-in-Charge or his authorized Engineer, complete with account of materials issued by the WAPCOS and dismantled materials.

- |  |          |
|--|----------|
| a) Tendered value of work is up to Rs. 45 lac                                    | 2 months |
| b) If the Tendered value of work is more than Rs. 45 lac and up to Rs. 2.5 Crore | 3 months |
| c) If the Tendered value of work exceeds Rs. 2.5 Crore :                         | 6 months |

#### **CLAUSE 9A: PAYMENT OF CONTRACTOR’S BILLS TO BANKS**

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 (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 (2) his own acceptance of the correctness of the amount made out as being due to him by WAPCOS or his signature on the bill or other claim preferred against WAPCOS 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. 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.

Nothing herein contained shall operate to create in favor of the bank; registered financial, co-operative or thrift societies or recognized financial institutions any rights or equities vis-à-vis the WAPCOS.

#### **CLAUSE 10: MATERIALS SUPPLIED BY WAPCOS**

Materials which WAPCOS will supply are shown in Special Conditions of Contract (SCC) which also stipulates quantum, place of issue and rate(s) to be charged in respect thereof. The contractor shall be bound to procure them from the Engineer-in-Charge.

As soon as the work is awarded, the contractor shall finalize the programme for the completion of work as per clause 5 of this contract and shall give his estimates of materials required on the basis of drawings/or schedule of quantities of the work. The Contractor shall give in writing his requirement to the Engineer-in-Charge which shall be issued to him keeping in view the progress of work as assessed by the Engineer-in-Charge, in accordance with the agreed phased programme of work indicating monthly requirements of various materials. The contractor shall place his indent in writing for issue of such materials at least 7 days in advance of his requirement.

Such materials shall be supplied for the purpose of the contract only and the value of the materials so supplied at the rates specified in the aforesaid schedule shall be set off or deducted, as and when materials are consumed in items of work (including normal wastage) for which payment is being made to the contractor, from any sum then due or which may therefore become due to the contractor under the contract or otherwise or from the security deposit. At the time of submission of bills, the contractor shall certify that balance of materials supplied is available at site in original good condition.

The contractor shall submit along with every running bill (on account or interim bill) material wise reconciliation statements supported by complete calculations reconciling total issue, total consumption and certified balance (diameter/section-wise in the case of steel) and resulting variations and reasons therefore. Engineer-in-Charge shall (whose decision shall be final and binding on the contractor) be within his rights to follow the procedure of recovery in clause 42 at any stage of the work if reconciliation is not found to be satisfactory.

The contractor shall bear the cost of getting the material issued, loading, transporting to site, unloading, storing under cover as required, cutting assembling and joining the several parts together as necessary. Notwithstanding anything to the contrary contained in any other clause of the contract and (or the CPWA Code) all stores/materials so supplied to the contractor or procured with the assistance of the WAPCOS shall remain the absolute property of WAPCOS and the contractor shall be the trustee of the stores/materials, and the said stores/materials shall not be removed/disposed off from the site of the work on any account and shall be at all times open to inspection by the Engineer-in-Charge or his authorized agent. Any such stores/materials remaining unused shall be returned to the Engineer-in-Charge in as good a condition in which they were originally supplied at a place directed by him, at a place of issue or any other place specified by him as he shall require, but in case it is decided not to take back the stores/materials the contractor shall have no claim for compensation on any account of such stores/materials so supplied to him as aforesaid and not used by him or for any wastage in or damage to in such stores/materials.

On being required to return the stores/materials, the contractor shall hand over the stores/ materials on being paid or credited such price as the Engineer-in-Charge shall determine, having due regard to the condition of the stores/materials. The price allowed for credit to the contractor, however, shall be at the prevailing market rate not exceeding the amount charged to him, excluding the storage charge, if any. The decision of the Engineer-in-Charge shall be final and conclusive. In the event of breach of the aforesaid condition, the contractor shall in addition to throwing himself open to account for contravention of the terms of the licenses or permit and/or for criminal breach of trust, be liable to WAPCOS for all advantages or profits resulting or which in the usual course would have resulted to him by reason of such breach. Provided that the contractor shall in no case be entitled to any compensation or damages on account of any delay in supply or non-supply thereof all or any such materials and stores provided further that the contractor shall be bound to execute the entire work if the materials are supplied by the WAPCOS within the original scheduled time for completion of the work plus 50% thereof or schedule time plus 6 months whichever is more if the time of completion of work exceeds 12 months, but if a part of the materials only has been supplied within the aforesaid period, then the contractor shall be bound to do so much of the work as may be possible with the materials and stores supplied in the aforesaid period. For the completion of the rest of the work, the contractor shall be entitled to such extension of time as may be determined by the Engineer-in-Charge whose decision in this regard shall be final and binding on the contractor.

The contractor shall see that only the required quantities of materials are got issued. Any such material remaining unused and in perfectly good/original condition at the time of completion or determination of the contract shall be returned to the Engineer-in-Charge at the stores from which it was issued or at a place directed by him by a notice in writing. The contractor shall not be entitled for loading, transporting,

unloading and stacking of such unused material except for the extra lead, if any involved, beyond the original place of issue.

**CLAUSE 10A: MATERIALS TO BE PROVIDED BY CONTRACTOR**

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 WAPCOS

The contractor shall, at his own expense and without delay, supply to the Engineer-in-Charge samples of materials to be used on the work and shall get these approved in advance. All such materials to be provided by the Contractor shall be in conformity with the specifications laid down or referred to in the contract. The contractor shall, if requested by the Engineer-in-Charge furnish proof, to the satisfaction of the Engineer-in-Charge that the materials so comply. The Engineer-in-Charge shall within thirty days of supply of samples or within such further period as he may require intimate to the Contractor in writing whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the Engineer-in-Charge for his approval, fresh samples complying with the specifications laid down in the contract. When materials are required to be tested in accordance with specifications, approval of the Engineer-in-Charge shall be issued after the test results are received.

The Contractor shall at his risk and cost submit the samples of materials to be tested or analyzed and shall not make use of or incorporate in the work any materials represented by the samples until the required tests or analysis have been made and materials finally accepted by the Engineer-in-Charge. The Contractor shall not be eligible for any claim or compensation either arising out of any delay in the work or due to any corrective measures required to be taken on account of and as a result of testing of materials.

The contractor shall, at his risk and cost, make all arrangements and shall provide all facilities as the Engineer-in-Charge may require for collecting, and preparing the required number of samples for such tests at such time and to such place or places as may be directed by the Engineer-in-Charge and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications. The Engineer-in-Charge or his authorized representative shall at all times have access to the works and to all workshops and places where work is being prepared or from where materials, manufactured articles or machinery are being obtained for the works and the contractor shall afford every facility and every assistance in obtaining the right to such access.

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.

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 Special Conditions of Contract.

Minimum 01 year warranty for Mechanical & Electrical equipment and other bought out items, at the discretion of WAPCOS Limited, if supplied directly by the contractor. The standard warranty period offered by the Manufacturer shall be retained, in case the original warranty period is more than one year.

**CLAUSE 10B:**

**(i) SECURED ADVANCE ON NON-PERISHABLE MATERIALS**

The contractor, on signing an indenture in the form in Annexure XVIII by the Engineer-in-Charge, shall be entitled to be paid during the progress of the execution of the work up to 75% of the assessed value of any materials 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 have not at the time of advance been incorporated in the works. When materials on account of which an advance has been made under this sub-clause

are incorporated in the work, the amount of such advance shall be recovered/deducted from the next payment made under any of the clause or clauses of this contract.

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 the contractor provides a comprehensive insurance cover for the full cost of such materials. The 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.

**(ii) MOBILISATION ADVANCE**

Mobilization advance not exceeding 10% of the tendered value may be given, if requested by the contractor in writing within one month of the order to commence the work. Such advance shall be in two or more installments to be determined by the Engineer-in-Charge at his sole discretion. The first installment of such advance shall be released by the Engineer-in-charge to the contractor on a request made by the contractor to the Engineer-in-Charge in this behalf. The second and subsequent installments shall be released by the Engineer-in-Charge only after the contractor furnishes a proof of the satisfactory utilization of the earlier installment to the entire satisfaction of the Engineer-in-Charge.

Before any installment of advance is released, the contractor shall execute a Bank Guarantee Bond from Scheduled Bank for the amount equal to 110% of the amount of advance and valid for the contract period. This (Bank Guarantee from Scheduled Bank for the amount equal to 110% of the balance amount of advance) shall be kept renewed from time to time to cover the balance amount and likely period of complete recovery.

**(iii) PLANT MACHINERY & SHUTTERING MATERIAL ADVANCE**

An advance for plant, machinery & shuttering material required for the work and brought to site by the Contractor may be given if requested by the contractor in writing within one month of bringing such plant and machinery to site. Such advance shall be given on such plant and machinery which in the opinion of the Engineer-in-charge will add to the expeditious execution of work and improve the quality of work. The amount of advance shall be restricted to 5% percent of the tender value. In the case of new plant and equipment to be purchased for the work, the advance shall be restricted to 90% of the price of such new plant and equipment paid by the contractor for which the contractor shall produce evidence satisfactory to the Engineer-in-Charge. In the case of second hand and used plants and equipment, the amount of such advance shall be limited to 50% of the depreciated value of plant and equipment as may be decided by the Engineer-in-Charge. The contractor shall, if so required by the Engineer-in-Charge, submit the statement of value of such old plant and equipment duly approved by a Registered Value recognized by the Central Board of Direct Taxes under the Income- Tax Act, 1961. No such advance shall be paid on any plant and equipment of perishable nature and on any plant and equipment of a value less than Rs. 50,000/- Seventy five per cent of such amount of advance shall be paid after the plant & equipment is brought to site and balance twenty five percent on successfully commissioning the same.

Leasing of equipment shall be considered at par with purchase of equipment and shall be covered by tripartite agreement with the following:

1. Leasing company which gives certificate of agreeing to lease equipment to the contractor.
2. Engineer in Charge, and
3. The contractor.

This advance shall further be subject to the condition that such plant and equipment (a) are considered by the Engineer-in-Charge to be necessary for the works; (b) and are in working order and are maintained in working order; (c) hypothecated to the WAPCOS as specified by the Engineer-in-Charge before the payment of advance is released. The contractor shall not be permitted to remove from the site such hypothecated plant and equipment without the prior written permission of the Engineer-in-Charge. The contractor shall be responsible for maintaining

such plant and equipment in good working order during the entire period of hypothecation failing which such advance shall be entirely recovered in lump sum. For this purpose, steel scaffolding and form work shall be treated as plant and equipment.

The contractor shall insure the Plant and Machinery for which mobilization advance is sought and given, for a sum sufficient to provide for their replacement at site. Any amounts not recovered from the insurer will be borne by the contractor.

**(iv) INTEREST & RECOVERY**

The mobilization advance and secured advance in (i) & (ii) above bear simple interest at the rate of 10 per cent per annum and shall be calculated from the date of payment to the date of recovery, both days inclusive, on the outstanding amount of advance. Recovery of such sums advanced shall be made by the deduction from the contractors bills commencing after first 10% of the gross value of the work is executed and paid, on pro-rata percentage basis to the gross value of the work billed beyond 10% in such a way that the entire advance is recovered by the time 80% of the gross value of the contract is executed and paid, together with interest due on the entire outstanding amount up to the date of recovery of the installment.

**CLAUSE 10C: PAYMENT ON ACCOUNT OF INCREASE IN PRICE / WAGES DUE TO STATUTORY ORDER**

If after submission of the tender, if the price of any material incorporated in the works (excluding the materials covered under Clause 10CA and not being a material supplied from the Engineer-in-Charge's stores in accordance with Clause 10 thereof) and/or wages of labour increases as a direct result of the coming into force of any fresh law, or statutory rule or order (but not due to any variation of rates in GST applicable on such material(s) being considered under this clause) beyond the prices/wages prevailing at the time of the last stipulated date of receipt of tenders including extensions, if any, for the work during contract period including the justified period extended under the provisions of clause 5 of the contract without any action under clause 2, then the amount of the contract shall accordingly be varied.

If after submission of the tender, the price of any material incorporated in the works (excluding the materials covered under Clause 10CA and not being a material supplied from the Engineer-in-Charge's stores in accordance with Clause 10 thereof) and/or wages of labour as prevailing at the time of last stipulated date of receipt of tender including extensions, if any, is decreased as a direct result of the coming into force of any fresh law or statutory rules or order (but not due to any changes of rate in sales tax/VAT, Central/State Excise/Custom Duty), WAPCOS shall in respect of materials incorporated in the works (excluding the materials covered under Clause 10CA and not being material supplied from the Engineer-in-Charge's stores in accordance with Clause 10 hereof) and/or labour engaged on the execution of the work after the date of coming into force of such law statutory rule or order be entitled to deduct from the dues of the contractor, such amount as shall be equivalent to the difference between the prices of the materials and/or wages as prevailed at the time of the last stipulated date for receipt of tenders including extensions if any for the work and the prices of materials and/or wages of labour on the coming into force of such law, statutory rule or order. This will be applicable for the contract period including the justified period extended under the provisions of clause 5 of the contract without any action under clause 2.

Engineer-in-Charge may call books of account and other relevant documents from the contractor to satisfy himself about reasonability of increase in prices of materials and wages. The contractor shall, within a reasonable time of his becoming aware of any alteration in the price of any such materials and/or wages of labour, give notice thereof to the Engineer-in-Charge stating that the same is given pursuant to this condition together with all information relating thereto which he may be in position to supply.

For this purpose, the labour component of 85% of the value of the work executed during period under consideration shall not exceed the percentage as specified in Schedule F, and the increase/decrease in labour shall be considered on the minimum daily wages in rupees of any unskilled mazdoor, fixed under any law, statutory rule or order.

**CLAUSE 10CA: PAYMENT DUE TO VARIATION IN PRICES OF MATERIALS AFTER RECEIPT OF TENDER**

If after submission of the tender, the price of materials specified in Special Conditions of Contract increases/ decreases beyond the base price(s) as indicated in Special Conditions of Contract for the work, then the amount of the contract shall accordingly be varied and provided further that any such variations shall be effected for stipulated period of Contract including the justified period extended under the provisions of Clause 5 of the Contract without any action under Clause 2.

However for work done/during the justified period extended as above, it will be limited to indices prevailing at the time of updated stipulated date of completion considering the effect of extra work (extra time to be calculated on pro-rata basis only as cost of extra work x stipulated period/tendered cost).

The increase/decrease in prices of cement, steel reinforcement, structural steel and POL shall be determined by the Price indices Economic Advisor to Government of India, Ministry of Commerce and Industry. For other items provided in the Special Conditions of Contract, this shall be determined by the All India Wholesale Price Indices of materials as published by Economic Advisor to Government of India, Ministry of Commerce and Industry. Base price for cement, steel reinforcement, structural steel and POL shall be as issued by the state / Central Govt. from time to time. In case, price index of a particular material is not issued by Ministry of Commerce and Industry, then the price index of nearest similar material as indicated in Special Conditions of Contract shall be followed.

The amount of the contract shall accordingly be varied for all such materials and will be worked out as per the formula given Clause 10CA, Conditions of Contract of CPWD.

#### **CLAUSE 10CC: PAYMENT DUE TO INCREASE/DECREASE IN PRICES/WAGES (EXCLUDING MATERIALS COVERED UNDER CLAUSE 10 CA) AFTER RECEIPT OF TENDER FOR WORKS**

If the prices of materials (not being materials supplied or services rendered at fixed prices by the WAPCOS in accordance with clause 10 & 34 thereof) and/or wages of labour required for execution of the work increase, the contractor shall be compensated for such increase as per provisions detailed below and the amount of the contract shall accordingly be varied, subject to the condition that that such compensation for escalation in prices and wages shall be available only for the work done during the stipulated period of the contract including the justified period extended under the provisions of clause 5 of the contract without any action under clause 2. However, for the work done during the justified period extended as above, the compensation as detailed below will be limited to prices/wages prevailing at the time of updated stipulated date of completion considering the effect of extra work ( extra time to be calculated on pro-rata basis only as cost of extra work x stipulated period/tendered cost). No such compensation shall be payable for a work for which the stipulated period of completion is equal to or less than the time as specified in Special Conditions of Contract. Such compensation for escalation in the prices of materials and labour, when due, shall be worked out based on the provisions mentioned in the Clause 10CC of CPWD Conditions of Contract.

#### **CLAUSE 10D: DISMANTLED MATERIAL WAPCOS PROPERTY**

The contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work, etc. as WAPCOS's/Client property and such materials shall be disposed off to the best advantage of WAPCOS according to the instructions in writing issued by the Engineer-in-Charge.

#### **CLAUSE 11: WORKS TO BE EXECUTED IN ACCORDANCE WITH SPECIFICATIONS, DRAWINGS, ORDERS ETC.**

The contractor shall execute the whole and every part of the work in the most substantial and workmanlike manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect of the work signed by the Engineer-in-Charge 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 specified in Special Conditions of Contract 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.

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.

At least to 10% of prescribed Tests as per Central Public Works Department Manual/IS Codes/MORTH of construction materials shall be carried out from the outside approved/NABL recognized Laboratory as may be approved by WAPCOS without any extra expenditure to WAPCOS.

The Contractor shall establish a field test laboratory on the site with latest equipment's for carrying out field tests of construction materials and will maintain proper records of all the test results.

#### **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 may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer-in-Charge and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided.

**12.1** The time for completion of the works shall, in the event of any deviations resulting in additional cost over the tendered value sum being ordered, be extended, if requested by the contractor, as follows:

- (i) In the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value plus
- (ii) 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer-in-Charge.

#### **12.2(a) Deviations, Extra Items and Pricing –**

##### **A. For Project and Original Works**

In the case of contract items, substituted items, contract cum substituted items, which exceed the limits laid down in schedule F, the contractor may within fifteen days of receipt of order or occurrence of the excess, claim revision of the rates, supported by proper analysis for the work in excess of the above mentioned limits, provided that if the rates so claimed are in excess of the rates specified in the schedule of quantities, the Engineer-in-Charge shall within prescribed time limit of receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.

##### **B. For Maintenance works including works of upgradation, aesthetic, special repair, addition/ alteration:**

In the case of Extra Item(s) being the schedule items (Delhi Schedule of Rates items), these shall be paid as per the schedule rate plus cost index (at the time of tender) plus/minus percentage above/ below quoted contract amount.

Payment of Extra items in case of non-schedule items (Non-DSR items) shall be made as per the prevailing market rate.

#### **12.2(b) Deviations, Substituted Items and Pricing.**

##### **A. For Project and original works:**

In the case of substituted items (items that are taken up with partial substitution or in lieu of items of work in the contract), the rate for the agreement item (to be substituted) and substituted item shall also be determined in the manner as mentioned in the following para.

- (a) If the market rate for the substituted item so determined is more than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so increased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).
- (b) (b) If the market rate for the substituted item so determined is less than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so decreased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).

**B. For Maintenance works including works of upgradation, aesthetic, special repair, addition/ alteration:**

In the case of Substitute Item(s) being the schedule items (Delhi Schedule of Rates items), these shall be paid as per the schedule rate plus cost index (at the time of tender) plus/minus percentage above/ below quoted contract amount. Payment of Substitute in case of non-schedule items (Non-DSR items) shall be made as per the prevailing market rate.

**12.2(c) Deviations Deviated Quantities, Pricing.**

**A. For Project and original works:**

In the case of contract items, substituted items, contract cum substituted items, which exceed the limits laid down in schedule F, the contractor may within fifteen days of receipt of order or occurrence of the excess, claim revision of the rates, supported by proper analysis for the work in excess of the above mentioned limits, provided that if the rates so claimed are in excess of the rates specified in the schedule of quantities, the Engineer-in-Charge shall within prescribed time limit of receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.

**B. For Maintenance works including works of upgradation, aesthetic, special repair, addition/ alteration:**

In the case of contract items, which exceed the limits laid down in schedule F, the contractor shall be paid rates specified in the schedule of quantities.

The prescribed time limits for finalizing rates for Extra Item(s), Substitute Item(s) and Deviated Quantities of contract items are as under:

- (i) If the Tendered value of work is up to Rs. 45 lac : 30 days.
- (ii) If the Tendered value of work is more than Rs 45 lac and up to Rs. 2.5 Crore : 45 days.
- (iii) If the Tendered value of work exceeds Rs. 2.5 Crore : 60 days.

**12.3 A. For Project and original works:**

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.

**B. For Maintenance works including works of upgradation, aesthetic, special repair, addition/ alteration:**

In case of decrease in the rates prevailing in the market of items for the work in excess of the limits laid down in Schedule F, 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.

- 12.4** The contractor shall send to the Engineer-in-Charge once every three months, an up to date account giving complete details of all claims for additional payments to which the contractor may consider himself entitled and of all additional work ordered by the Engineer-in-Charge which he has executed during the preceding quarter failing which the contractor shall be deemed to have waived his right.
- 12.5** For the purpose of operation of Special Conditions of Contract, the following works shall be treated as works relating to foundation unless & otherwise defined in the contract:
- (i) For Buildings: All works up to 1.2 meters above ground level or up to floor 1 level whichever is lower.
  - (ii) For abutments, piers and well staining: All works up to 1.2 m above the bed level.
  - (iii) For retaining walls, wing walls, compound walls, chimneys, overhead reservoirs/ tanks and other elevated structures: All works up to 1.2 meters above the ground level.
  - (iv) For reservoirs/tanks (other than overhead reservoirs/tanks): All works up to 1.2 metres above the ground level.
  - (v) For basement: All works up to 1.2 m above ground level or up to floor 1 level whichever is lower.
  - (vi) For Roads, all items of excavation and filling including treatment of sub base.
- 12.6** Any operation incidental to or necessarily has to be in contemplation of tenderer while filing 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. **(This clause 12.6 is Not Applicable)**

### **CLAUSE 13: FORECLOSURE OF CONTRACT DUE TO ABANDONMENT OR REDUCTION IN SCOPE OF WORK**

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.

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;

- (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.
- (ii) WAPCOS 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). For materials taken over or to be taken over by WAPCOS, 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.
- (iii) If any materials supplied by WAPCOS are rendered surplus, the same except normal wastage shall be returned by the contractor to WAPCOS at rates not exceeding those at which these were originally issued, less allowance for any deterioration or damage which may have been caused

- whilst the materials were in the custody of the contractor. In addition, cost of transporting such materials from site to WAPCOS stores, if so required by WAPCOS, shall be paid.
- (iv) Reasonable compensation for transfer of T & P from site to contractor's permanent stores or to his other works, whichever is less. If T & P are not transported to either of the said places, no cost of transportation shall be payable.

The contractor shall, if required by the Engineer-in-Charge, furnish to him, books of account, wage books, time sheet and other relevant documents and evidence as may be necessary to enable him to certify the reasonable amount payable under this condition.

The reasonable amount of items on (i), (iv) and (v) 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 WAPCOS as per item (ii) above. 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 WAPCOS from the contractor under the terms of the contract.

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.

#### **CLAUSE 14: CARRYING OUT PART WORK AT RISK & COST OF CONTRACTOR**

If contractor:

- (i) At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do so even after a notice in writing of 7 days in this respect from the Engineer-in-Charge; or
- (ii) Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it within 7 days even after a notice in writing is given in that behalf by the Engineer-in-Charge; or

Fails to complete the work(s) or items of work with individual dates of completion, on or before the date(s) so determined, and does not complete them within the period specified in the notice given in writing in that behalf by the Engineer-in-Charge. The Engineer-in-Charge without invoking action under clause 3 may, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to WAPCOS, 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:

- (a) Take possession of the site and any materials, constructional plant, implements, stores, etc., thereon; and/or
- (b) Carry out the part work / part incomplete work of any item(s) by any means at the risk and cost of the contractor.

The Engineer-in-Charge shall determine the amount, if any, is recoverable from the contractor for completion of the part work/ part incomplete work of any item(s) taken out of his hands and execute at the risk and cost of the contractor, the liability of contractor on account of loss or damage suffered by WAPCOS because of action under this clause shall not exceed 10% of the tendered value of the work.

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 and machinery belonging to the contractor. 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 WAPCOS are less than the amount payable to the contractor at his agreement rates, the difference shall not be payable to the contractor.

Any excess expenditure incurred or to be incurred by WAPCOS in completing the part work/ part incomplete work of any item(s) or the excess loss of damages suffered or may be suffered by WAPCOS as aforesaid after allowing such credit shall without prejudice to any other right or remedy available to WAPCOS 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.

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.

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.

#### **CLAUSE 15: SUSPENSION OF WORK**

(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:

- (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.

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.

(ii) If the suspension is ordered for reasons (b) and (c) in sub-para (i) above:

- (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 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.

(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 WAPCOS or where it affects whole of the works, as an abandonment of the works by WAPCOS, shall within ten days

of expiry of such period of 15 days give notice in writing of his intention to the Engineer-in-Charge. In the event of the contractor treating the suspension as an abandonment of the contract by WAPCOS, 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.

#### **CLAUSE 15A: COMPENSATION IN CASE DELAY OF SUPPLY OF MATERIAL**

The contractor shall not be entitled to claim any compensation from WAPCOS for the loss suffered by him on account of delay by WAPCOS in the supply of materials in Special Conditions of Contract where such delay is covered by the difficulties relating to the supply of wagons, force majeure or any reasonable cause beyond the control of the WAPCOS. This clause 15 A will not be applicable for works where no material is stipulated.

#### **CLAUSE 16: ACTION IN CASE WORK NOT DONE AS PER SPECIFICATIONS**

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 WAPCOS or any organization engaged by the WAPCOS 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.

If it shall appear to the Engineer-in-charge or his authorized subordinates in-charge of the work or to the Chief Engineer in charge of Quality Assurance or his subordinate officers or the officers of the organization engaged by the WAPCOS for Quality Assurance or to the Chief Technical Examiner or his subordinate officers, that any work has been executed with unsound, imperfect, or unskillful workmanship, or with materials or articles provided by him for the execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract, the contractor shall, on demand in writing which shall be made within twelve months (six months in the case of work costing Rs. 10 Lac and below except road work) 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.

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 Special Conditions of Contract 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 and 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.

#### **CLAUSE 17: CONTRACTOR LIABLE FOR DAMAGES, DEFECTS DURING DEFECT LIABILITY PERIOD**

If the contractor or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road kerb, fence, enclosure, water pipe, cables, drains,

electric or telephone post or wires, trees, grass or grassland, or cultivated ground contiguous to the premises on which the work or any part is being executed, or if any damage shall happen to the work while in progress, from any cause whatever or if any defect, shrinkage or other faults appear in the work within twelve months (six months in the case of work costing Rs. Ten lacs and below except road work) after a certificate final or otherwise of its completion shall have been given by the Engineer-in- Charge as aforesaid arising out of defect or improper materials or workmanship the contractor shall upon receipt of a notice in writing on that behalf make the same good at his own expense or in default the Engineer-in-Charge cause the same to be made good by other workmen and deduct the expense from any sums that may be due or at any time thereafter may become due to the contractor, or from his security deposit or the proceeds of sale thereof or of a sufficient portion thereof. The security deposit of the contractor shall not be refunded before the expiry of twelve months (six months in the case of work costing Rs. Ten lacs and below except road work) 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 work, if in the opinion of the Engineer-in-Charge, half of the security deposit is sufficient, to meet all liabilities of the contractor under this contract, half of the security deposit will be refundable after six months and the remaining half after twelve months of the issue of the said certificate of completion or till the final bill has been prepared and passed whichever is later.

The defects liability period will be one year from the date of completion of development and construction works. During this period the Contractor will get the defects rectified without any cost to WAPCOS. For the item of water proofing roof treatment the Contractor will give guarantee bond for ten years. Similarly for other items, like electrical/mechanical equipment which have guarantee/warranty period beyond one year, wherever applicable as per manufacturer recommendations, will also be given guarantee bond by the Contractor to WAPCOS.

#### **CLAUSE 18: CONTRACTOR SUPPLY TOOLS & PLANTS ETC.**

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 Special Conditions of Contract. In addition to this, appliances, implements, other plants, ladders, cordage, tackle, scaffolding and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specifications or other documents forming part of the contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage therefore to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials, necessary for the purpose of setting out works, and counting, weighing and assisting the measurement for examination at any time and from time to time of the work or materials. Failing his so doing, the same may be provided by the Engineer-in-Charge at the expense of the contractor and the expenses may be deducted, from any money due to the contractor, under this contract or otherwise and/or from his security deposit or the proceeds of sale thereof, or of a sufficient portions thereof.

#### **CLAUSE 18A: RECOVERY OF COMPENSATION PAID TO WORKMEN**

In every case in which by virtue of the provisions sub-section (1) of Section 12, of the Workmen's Compensation Act, 1923, WAPCOS is obliged to pay compensation to a workman employed by the contractor, in execution of the works, WAPCOS will recover from the contractor, the amount of the compensation so paid; and, without prejudice to the rights of the WAPCOS under sub-section (2) of Section 12, of the said Act, WAPCOS 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 WAPCOS to the contractor whether under this contract or otherwise. WAPCOS 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 WAPCOS full security for all costs for which WAPCOS might become liable in consequence of contesting such claim.

#### **CLAUSE 18B: ENSURING PAYMENT AND AMENITIES TO WORKERS, IF CONTRACTOR FAILS**

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, WAPCOS is obliged to pay any amounts of wages to a workman employed by the contractor in execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act and the rules under Clause 19H or under the C.P.W.D. Contractor's Labour Regulations, or under the Rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by C.P.W.D. Contractors, WAPCOS 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 WAPCOS under sub-section(2) of Section 20, and sub-section (4) of Section 21, of the Contract Labour (Regulation and Abolition) Act, 1970, WAPCOS 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 WAPCOS to the contractor whether under this contract or otherwise WAPCOS 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 WAPCOS full security for all costs for which WAPCOS might become liable in contesting such claim.

#### **CLAUSE 19: LABOUR LAWS TO BE COMPLIED BY CONTRACTOR**

The contractor shall obtain a valid license under the Contract Labour (R&A) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, before the commencement of the work, and continue to have a valid license until the completion of the work. The contractor shall also abide by the provisions of the Child Labour (Prohibition and Regulation) Act, 1986.

The contractor shall also comply with the provisions of the building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996.

Any failure to fulfill these requirements shall attract the penal provisions of this contract arising out of the resultant non-execution of the work.

#### **CLAUSE 19A**

No labour below the age of fourteen years shall be employed on the work.

#### **CLAUSE 19B: PAYMENT OF WAGES**

- (i) The contractor shall pay to labour employed by him either directly or through subcontractors, wages not less than fair wages as defined in the C.P.W.D. 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.
- (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 subcontractors in connection with the said work, as if the labour had been immediately employed by him.
- (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 Contractor's Labour Regulations made by WAPCOS from time to time in regard to payment of wages, wage period, deductions from wages recovery of wages not paid and deductions unauthorized made, maintenance of wage books or wage slips, publication of scale of wages 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 and Abolition) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.
- (iv)
  - (a) The Engineer-in-Charge concerned shall have the right to deduct from the moneys 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-fulfillment of the conditions of the contract for the benefit of the 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.
  - (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.

In the case of Union Territory of Delhi, however, as the all-inclusive minimum daily wages fixed under Notification of the Delhi Administration 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.

- (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 and Abolition) Act 1970, or the modifications thereof or any other laws relating thereto and the rules made thereunder from time to time.
- (vi) The contractor shall indemnify and keep indemnified WAPCOS against payments to be made under and for the observance of the laws aforesaid and the C.P.W.D. Contractor’s Labour Regulations without prejudice to his right to claim indemnity from his sub-contractors.
- (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.
- (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.
- (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.

#### **CLAUSE 19C**

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 C.P.W.D. Safety Code 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 of Rs.200/- 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 19 D**

The contractor shall submit by the 4th and 19th of every month, to the Engineer-in-Charge, a true statement showing in respect of the second half of the preceding month and the first half of the current month respectively:-

- (1) The number of labourers employed by him on the work,
- (2) Their working yours,
- (3) The wages paid to them,
- (4) 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, and
- (5) The number of female workers who have been allowed maternity benefit according to Clause 19F and the amount paid to them.

Failing which the contractor shall be liable to pay to WAPCOS, a sum not exceeding Rs.200/- for each default or materially incorrect statement. The 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.

#### **CLAUSE 19 E**

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 WAPCOS and its contractors.

#### **CLAUSE 19 F**

Leave and pay during leave shall be regulated as follows:-

**1. Leave :**

- (i) in the case of delivery - maternity leave not exceeding 8 weeks, 4 weeks up to 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 :**

- (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 -I and II, and the same shall be kept at the place of work.**

**CLAUSE 19 G**

In the event of the contractor(s) committing a default or breach of any of the provisions of the WAPCOS, 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 Government a sum not exceeding Rs.200/- 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 Rs.200/- 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. The decision of the Engineer-in-Charge shall be final and binding on the 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 C.P.W.D. Contractor's Labour Regulations and Model Rules and the provisions of the Contract Labour (Regulation and Abolition) Act 1970, and the Contract Labour (R& A) Central Rules 1971, for the protection of health and 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 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 hereinbefore mentioned at the cost of the contractor(s). The contractor(s) shall erect, make and 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 Fd 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).

**CLAUSE 19 H**

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.

- (i)
  - (a) The minimum height of each hut at the eaves level shall be 2.10m (7 ft.) and the floor area to be provided will be at the rate of 2.7 sq.m. (30 sq.ft.) for each member of the worker’s family staying with the labourer.
  - (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.
  - (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.
  - (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.
- (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.
  - (b) The contractor(s) shall provide each hut with proper ventilation.
  - (c) All doors, windows, and ventilators shall be provided with suitable leaves for security purposes.
  - (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
- (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 and 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 therefore.
- (iv) The site selected for the camp shall be high ground, removed from jungle.
- (v) **Disposal of Excreta** - The contractor(s) shall make necessary arrangements for the disposal 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 incineration 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.
- (vi) **Drainage** - The contractor(s) shall provide efficient arrangements for draining away sullage water so as to keep the camp neat and tidy.
- (vii) The contractor(s) shall make necessary arrangements for keeping the camp area sufficiently lighted to avoid accidents to the workers.
- (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.

#### **CLAUSE 19 I**

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/JE 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.

#### **CLAUSE 19J**

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 the WAPCOS whose decision shall be final both with regard to the justification and quantum and be binding on the contractor.

However, WAPCOS, through a notice, may require the contractor to remove the illegal occupation any time on or before construction and delivery.

#### **CLAUSE 19K: Employment of Skilled / Semi Skilled Workers**

The contractor shall, at all stages of work, deploy skilled/semi-skilled tradesmen who are qualified and possess certificate in particular trade from 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 Government. The 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. The contractor shall submit number of man days required in respect of each trade, it's scheduling and the list of qualified tradesmen along with requisite certificate from recognized Institute to Engineer in charge for approval. 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 of Rs. 100 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.

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 crores.

#### **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. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-charge to the contractor on actual basis.

#### **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 to do so, or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempt to do so, or if any bribe, gratuity, gift, loan, perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the contractor, or any of his servants or agent to any public officer or person in the employ of WAPCOS 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 WAPCOS shall have power to adopt the course specified in Clause 3 hereof in the interest of WAPCOS 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 WAPCOS 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 carry out the works hereby undertaken by the contractor. If previous approval as aforesaid is not obtained, the contract shall be deemed to have been assigned in contravention of Clause 21 hereof and the same action may be taken, and the same consequences shall ensue as provided in the said Clause 21.

#### **CLAUSE 24**

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.

#### **CLAUSE 25: SETTLEMENT OF DISPUTES & ARBITRATION - DELETED**

##### **Amicable Resolution and Mediation**

Save where expressly stated to the contrary in the Contract, any dispute, difference or controversy of whatever nature between the Parties, howsoever arising under, out of or in relation to the Contract including disputes, if any, with regard to any acts, decision or opinion of WAPCOS Limited Representative and so notified in writing by either Party to the other (the “Dispute”) shall in the first instance be attempted to be resolved amicably in accordance with the procedure set out in this clause.

Either Party may require such Dispute to be referred to a person (not connected with work directly) nominated by each Party, for amicable settlement. Upon such reference, the two shall meet at the earliest mutual convenience and in any event within [30 (thirty)] days of such reference to discuss and attempt to amicably resolve the Dispute.

In the event that the Dispute in question is not resolved amicably within 30 (thirty) days of such meeting between the Parties, either Party may refer the Dispute to arbitration in accordance with [Arbitration Procedure].

##### **Arbitration Procedure**

Save where expressly stated to the contrary in the Contract, any Dispute shall be finally settled by binding arbitration under the Arbitration and Conciliation Act 1996 by sole arbitrator appointed by CMD, WAPCOS.

##### **Place of Arbitration**

The place of arbitration shall be New Delhi.

##### **English Language**

The request for arbitration, the answer to the request, the terms of reference, any written submissions, any orders and awards shall be in English and, if oral hearings take place, English shall be the language to be used in the hearings.

##### **Enforcement of Award**

The Parties agree that the decision or award resulting from arbitration shall be final and binding upon the Parties and shall be enforceable in accordance with the provisions of the Arbitration and Conciliation Act.

##### **Performance during Arbitration**

Pending the submission of and/or decision on a Dispute and until the arbitral award is published, the Parties shall continue to perform their respective obligations under the Contract without prejudice to a final adjustment in accordance with such award.

**CLAUSE 26: CONTRACTOR INDEMNIFY WAPCOS AGAINST PATENT RIGHTS**

The contractor shall fully indemnify and keep indemnified the WAPCOS 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 WAPCOS 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 WAPCOS if the 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: LUMP SUM 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 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.

**CLAUSE 28: ACTION WHERE NO SPECIFICATIONS ARE SPECIFIED**

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. 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 District Specifications. In case there are no such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge.

**CLAUSE 29: WITHHOLDING AND LIEN IN RESPECT OF SUM DUE FROM CONTRACTOR**

- a) 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 WAPCOS 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 WAPCOS 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. 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 WAPCOS 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 of the WAPCOS or any contracting person through the Engineer-in-Charge pending finalization of adjudication of any such claim.

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 WAPCOS will be kept withheld or retained as such by the Engineer-in-Charge or WAPCOS 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. For the purpose of this clause, where the contractor is a partnership firm or a limited company, the Engineer-in-Charge or the WAPCOS 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 found payable to any partner/limited company as the case may be, whether in his individual capacity or otherwise.

- b) WAPCOS 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 WAPCOS 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 WAPCOS to the contractor, without any interest thereon whatsoever.

Provided that the Government 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 WAPCOS on the one hand and the contractor on the other under any term of the contract permitting payment for work after assessment by WAPCOS.

#### **CLAUSE 29A: LIEN IN RESPECT OF CLAIMS IN OTHER CONTRACTS**

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 WAPCOS or any other contracting person or persons through Engineer-in-Charge against any claim of the Engineer-in-Charge or WAPCOS 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 WAPCOS or with such other person or persons.

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 WAPCOS will be kept withheld or retained as such by the Engineer-in-Charge or the WAPCOS 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.

#### **CLAUSE 30: EMPLOYMENT OF COAL MINING OR CONTROLLED AREA LABOUR NOT PERMISSIBLE**

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.

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.

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 WAPCOS 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 and binding upon all parties to this contract.

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.

**Explanation:** - Controlled Area means the following areas:

Districts of Dhanbad, Hazaribagh, Jamtara - a Sub-Division under Santhal Pargana Commissionery, Districts of Bankura, Birbhum, Burdwan, District of Bilaspur.

Any other area which may be declared a Controlled Area by or with the approval of the Central Government.

### **CLAUSE 31: UNFILTERED WATER SUPPLY**

The contractor(s) shall make his/their own arrangements for water required for the work and nothing extra will be paid for the same. This will be subject to the following conditions.

- (i) That the water used by the contractor(s) shall be fit for construction purposes to the satisfaction of the Engineer-in-Charge.
- (ii) The Engineer-in-Charge shall make alternative arrangements for supply of water at the risk and cost of contractor(s) if the arrangements made by the contractor(s) for procurement of water are in the opinion of the Engineer-in-Charge, unsatisfactory.

### **CLAUSE 31A: WATER SUPPLY, IF AVAILABLE**

Water if available may be supplied to the contractor by the WAPCOS subject to the following conditions:-

- (iv) The water charges @ 1 % shall be recovered on gross amount of the work done.
- (v) The contractor(s) shall make his/their own arrangement of water connection and laying of pipelines from existing main of source of supply.
- (vi) The WAPCOS 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 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.

### **CLAUSE 32: ALTERNATE WATER ARRANGEMENTS**

- (i) Where there is no piped water supply arrangement and the water is taken by the contractor from the wells or hand pump constructed by the Government, no charge shall be recovered from the contractor on that account. The contractor shall, however, draw water at such hours of the day that it does not interfere with the normal use for which the hand pumps and wells are intended. He will also be responsible for all damage and abnormal repairs arising out of his use, the cost of which shall be recoverable from him. The Engineer-in-Charge shall be the final authority to determine the cost recoverable from the contractor on this account and his decision shall be binding on the contractor.
- (ii) The contractor shall be allowed to construct temporary wells in the proposed land for Construction 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 33: RETURN OF SURPLUS MATERIALS**

Notwithstanding anything contained to the contrary in this contract, where any materials for the execution of the contract are procured with the assistance of WAPCOS either by issue from WAPCOS stocks or purchase made under orders or permits or licences issued by WAPCOS, the contractor shall hold the said materials economically and solely for the purpose of the contract and not dispose of them without the written permission of the WAPCOS and return, if required by the Engineer-in-Charge, all surplus or unserviceable materials that may be left with him after the completion of the contract or at its termination for any reason whatsoever on being paid or credited such price as the Engineer-in-Charge shall determine having due regard to the condition of the materials. The price allowed to the contractor however shall not exceed the amount charged to him excluding the element of storage charges. The decision of the Engineer-in-Charge shall be final and conclusive. In the event of breach of the aforesaid condition, the contractor shall in addition to throwing himself open to action for contravention of the terms of the license or permit and/or for criminal breach of trust, be liable to WAPCOS for all moneys, advantages or profits resulting or which in the usual course would have resulted to him by reason of such breach.

### **CLAUSE 34: HIRE OF PLANT & MACHINERY**

- (ii) The contractor shall arrange at his own expense all tools, plant, machinery and equipment (hereinafter referred to as T&P) required for execution of the work except for the Plant & Machinery listed in Schedule ‘C’ and stipulated for issue to the contractor. If the contractor requires any item of T&P on hire from the T&P available with the WAPCOS over and above the T&P stipulated for issue, the WAPCOS will, if such item is available, hire it to the contractor at rates to be agreed upon between him and the Engineer-in-Charge. In such a case, all the conditions hereunder for issue of T&P shall also be applicable to such T&P as is agreed to be issued.
- (iii) Plant and Machinery when supplied on hire charges shown in Schedule ‘C’ shall be made over and taken back at the WAPCOS equipment yard/shed shown in Schedule ‘C’ and the contractor shall bear the cost of carriage from the place of issue to the site of work and back. The contractor shall be responsible to return the plant and machinery with condition in which it was handed over to him, and he shall be responsible for all damage caused to the said plant and machinery at the site of work or elsewhere in operation and otherwise during transit including damage to or loss of plant and for all losses due to his failure to return the same soon after the completion of the work for which it was issued. The Engineer-In-Charge shall be the sole judge to determine the liability of the contractor and its extent in this regard and his decision shall be final and binding on the contractor.
- (iv) The plant and machinery as stipulated above will be issued as and when available and if required by the contractor. The contractor shall arrange his programme of work according to the availability of the plant and machinery and no claim, whatsoever, will be entertained from him for any delay in supply by the WAPCOS.
- (v) The hire charges shall be recovered at the prescribed rates from and inclusive of the date the plant and machinery made over upto and inclusive of the date of the return in good order even though the same may not have been working for any cause except major breakdown due to no fault of the contractor or faulty use requiring more than three working days continuously (excluding intervening holidays and Sundays) for bringing the plant in order. The contractor shall immediately intimate in writing to the Engineer-in- Charge when any plant or machinery get out of order requiring major repairs as aforesaid. The Engineer-in-Charge shall record the date and time of receipt of such intimation in the log sheet of the plant or machinery. Based on this if the breakdown before lunch period or major breakdown will be computed considering half a day’s breakdown on the day of complaint. If the breakdown occurs in the post lunch period of major breakdown will be computed starting from the next working day. In case of any dispute under this clause, the decision of the WAPCOS shall be final and binding on the contractor.
- (vi) The hire charges shown above are for each day of 8 hours (inclusive of the one hour lunch break) or part thereof.
- (vii) Hire charges will include service of operating staff as required and also supply of lubricating oil and stores for cleaning purposes. Power fuel of approved type, firewood, kerosene oil etc. for running the plant and machinery and also the full time chowkidar for guarding the plant and machinery against any loss or damage shall be arranged by the contractor who shall be fully responsible for the safeguard and security of plant and machinery. The contractor shall on or before the supply of plant and machinery sign an agreement indemnifying the WAPCOS against any loss or damage caused to the plant and machinery either during transit or at site of work.
- (viii) Ordinarily, no plant and machinery shall work for more than 8 hours a day inclusive of one hour lunch break. In case of an urgent work however, the Engineer-in-Charge may, at his discretion, allow the plant and machinery to be worked for more than normal period of 8 hours a day. In that case, the hourly hire charges for overtime to be borne by the contractor shall be 50% more than the normal proportionate hourly charges (1/8th of the daily charges) subject to a minimum of half day’s normal charges on any particular day. For working out hire charges for over time, a period of half an hour and above will be charged as one hour and a period of less than half an hour will be ignored.
- (ix) The contractor shall release the plant and machinery every seventh day for periodical servicing and/or wash out which may take about three to four hours or more. Hire charges for full day shall

be recovered from the contractor for the day of servicing/ wash out irrespective of the period employed in servicing.

- (x) The plant and machinery once issued to the contractor shall not be returned by him on account of lack of arrangements of labour and materials, etc. on his part, the same will be returned only when they are required for major repairs or when in the opinion of the Engineer-in-Charge, the work or a portion of work for which the same was issued is completed.
- (xi) Log Book for recording the hours of daily work for each of the plant and machinery supplied to the contractor will be maintained by the WAPCOS and will be countersigned by the contractor or his authorized agent daily. In case the contractor contests the correctness of the entries and/or fails to sign the Log Book, the decision of the Engineer-in-Charge shall be final and binding on him. Hire charges will be calculated according to the entries in the Log Book and will be binding on the contractor. Recovery on account of hire charges for road rollers shall be made for the minimum number of days worked out on the assumption that a roller can consolidate per day and maximum quantity of materials or area surfacing as noted against each in the annexed statement (see attached annexure).
- (xii) In the case of concrete mixers, the contractors shall arrange to get the hopper cleaned and the drum washed at the close of the work each day or each occasion.
  - (a) In case rollers for consolidation are employed by the contractor himself, log book for such rollers shall be maintained in the same manner as is done in case of WAPCOS's rollers, maximum quantity of any items to be consolidated for each roller-day shall also be same as in Annexure to Clause 34(x). For less use of rollers, recovery for the less roller days shall be made at the stipulated issue rate.
- (xiii) The contractor shall be responsible to return the plant and machinery in the condition in which it was handed over to him and he shall be responsible for all damage caused to the said plant and machinery at the site of work or elsewhere in operation or otherwise or during transit including damage to or loss of parts, and for all losses due to his failure to return the same soon after the completion of the work for which it was issued. The Engineer-In-Charge shall be the sole judge to determine the liability of the contractor and its extent in this regard and his decision shall be final and binding on the contractor.
- (xiv) The contractor will be exempted from levy of any hire charges for the number of days he is called upon in writing by the Engineer-in-Charge to suspend execution of the work, provided WAPCOS plant and machinery in question have, in fact, remained idle with the contractor because of the suspension
- (xv) In the event of the contractor not requiring any item of plant and machinery issued by WAPCOS though not stipulated for issue in Schedule 'C' any time after taking delivery at the place of issue, he may return it after two days written notice or at any time without notice if he agrees to pay hire charges for two additional days without, in any way, affecting the right of the Engineer-in-Charge to use the said plant and machinery during the said period of two days as he likes including hiring out to a third party.

#### **CLAUSE 35: CONDITION RELATING TO USE OF ASPHALTIC MATERIALS**

- (i) The contractor undertakes to make arrangement for the supervision of the work by the firm supplying the tar or bitumen used.
- (ii) The contractor shall collect the total quantity of tar or bitumen required for the work as per standard formula, before the process of painting is started and shall hypothecate it to the Engineer-in-Charge. If any bitumen or tar remains unused on completion of the work on account of lesser use of materials in actual execution for reasons other than authorized changes of specifications and abandonment of portion of work, a corresponding deduction equivalent to the cost of unused materials as determined by the Engineer-in-Charge shall be made and the material return to the contractors. Although the materials are hypothecated to WAPCOS, the contractor undertakes the responsibility for their proper watch, safe custody and protection against all risks. The materials shall not be removed from site of work without the consent of the Engineer-in-Charge in writing.

- (iii) The contractor shall be responsible for rectifying defects noticed within a year from the date of completion of the work and the portion of the security deposit relating to asphaltic work shall be refunded after the expiry of this period.

### **CLAUSE 36: EMPLOYMENT OF TECHNICAL STAFF AND EMPLOYEES**

Contractors Superintendence, Supervision, Technical Staff & Employees

- (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.

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 along with 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 Special Conditions of Contract. 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. 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.

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 technical representative(s) shall be deemed to have the same force as if these have been given to the contractor. 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.

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 (nonrefundable) shall be effected from the contractor as specified in Special Conditions of Contract 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. 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) along with every on account bill final bill and shall produce evidence if at any time so required by the Engineer-in-Charge.

- (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.

#### **CLAUSE 37: LEVY / TAXES PAYABLE BY CONTRACTOR**

- (i) All the taxes including GST applicable in respect of this contract shall be payable by the Contractor and WAPCOS will not entertain any claim whatsoever in respect of the same.
- (ii) The contractor shall deposit royalty and obtain necessary permit for supply of the red bajri, stone, kankar, etc. from local authorities.

If pursuant to or under any law, notification or order any royalty, cess or the like becomes payable by the WAPCOS and does not any time become payable by the contractor to the State Government, 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 WAPCOS and it will have the right and be entitled to recover the amount paid in the circumstances as aforesaid from dues of the contractor

#### **CLAUSE 38: CONDITIONS FOR REIMBURSEMENT OF LEVY/TAXES IF LEVIED AFTER RECEIPT OF TENDERS**

- (i) All tendered cost shall be inclusive of all taxes and levies (excluding GST) payable under respective statutes. However, if any further tax or levy or cess is imposed by Statute, after the last stipulated date for the receipt of tender including extensions if any and the contractor thereupon necessarily and properly pays such taxes/levies/cess, the contractor shall be reimbursed the amount so paid, provided such payments, if any, is not, in the opinion of the WAPCOS attributable to delay in execution of work within the control of the contractor.
- (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 WAPCOS 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.
- (iii) The contractor shall, within a period of 30 days of the imposition of any such further 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.

#### **CLAUSE 39: TERMINATION OF CONTRACT ON DEATH OF CONTRACTOR**

Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the Engineer-In-Charge on behalf of the WAPCOS shall have the option of terminating the contract without compensation to the contractor.

#### **CLAUSE 40: IF RELATIVE WORKING IN WAPCOS THEN THE CONTRACTOR NOT ALLOWED TO TENDER**

The contractor shall not be permitted to tender for works in the WAPCOS responsible for award and execution of contracts in which his near relative is posted in WAPCOS. 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 WAPCOS. Any breach of this condition by the contractor would render him liable to be debarred from tendering in WAPCOS any breach of this condition.

NOTE: By the term “near relatives” is meant wife, husband, parents and grandparents, children and grandchildren, brothers and sisters, uncles, aunts and cousins and their corresponding in-laws.

**CLAUSE 41: NO GAZETTED ENGINEER TO WORK AS CONTRACTOR WITHIN ONE YEAR OF RETIREMENT**

No engineer of gazetted rank or other gazetted officer employed in engineering or administrative duties in an engineering department of the Government of India shall work as a contractor or employee of a contractor for a period of one year after his retirement from government service without the previous permission of Government of India 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 Government of India as aforesaid, before submission of the tender or engagement in the contractor's service, as the case may be.

**CLAUSE 42: RETURN OF MATERIALS & RECOVERY FOR MATERIAL ISSUED**

- (ii) After completion of the work and also at any intermediate stage in the event of non-reconciliation of materials issued, consumed and in balance - (see Clause 10), theoretical quantity of materials issued by the WAPCOS for use in the work shall be calculated on the basis and method given hereunder:-
- (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 Special Conditions of Contract. 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.
  - (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.
  - (c) Theoretical quantity of G.I. & C.I. or other pipes, conduits, wires and cables, pig lead and G.I./M.S. sheet shall be taken as quantity actually required and measured plus 5% for wastage due to cutting into pieces (except in the case of G.I./M.S. sheet it shall be 10%), such determination & comparison being made diameter wise & category wise.
  - (d) For any other material as per actual requirements.
- (iii) Over the theoretical quantities of materials so computed a variation shall be allowed as specified in Special Conditions of Contract. The difference in the net quantities of material actually issued to the contractor and the theoretical quantities including such authorized variation, if not returned by the contractor or if not fully reconciled to the satisfaction of the Engineer-in-Charge within fifteen days of the issue of written notice by the Engineer-in-charge to this effect shall be recovered at the rates specified in Special Conditions of Contract, without prejudice to the provision of the relevant conditions regarding return of materials governing the contract. Decision of Engineer-in-Charge in regard to theoretical quantities of materials, which should have been actually used as per the Annexure of the standard schedule of rates and recovery at rates specified in Special Conditions of Contract, shall be final & binding on the contractor.
- For non-scheduled items, the decision of the Engineer-In-Charge regarding theoretical Quantities of materials which should have been actually used shall be final and binding on the contractor.
- (iv) The said action under this clause is without prejudice to the right of the WAPCOS to take action against the contractor under any other conditions of contract for not doing the work according to the prescribed specifications.

**CLAUSE 43: COMPENSATION DURING WARLIKE SITUATION**

The work (whether fully constructed or not) and all materials, machines, tools and 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. 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. 5,000/- and by the WAPCOS 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.

Provided always that no compensation shall be payable for any loss in consequence of hostilities or warlike operations (a) unless the contractor had taken all such precautions against air raid as are deemed necessary by the A.R.P. Officers or the Engineer-in-Charge (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.

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.

#### **CLAUSE 44: APPRENTICES ACT PROVISIONS TO BE COMPLIED WITH**

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 WAPCOS may, in his discretion, cancel the contract. 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.

#### **CLAUSE 45: RELEASE OF SECURITY DEPOSIT AFTER LABOUR CLEARANCE**

Release of Security Deposit of the work shall not be refunded 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.

#### **CLAUSE 46: INSURANCE**

##### **1. Requirements**

Before commencing execution of works, unless stated otherwise in the special conditions of contract, it shall be obligatory for the contractor to obtain at his own cost stipulated insurance cover under the following requirements:

- a) Contractor's all risk and Third Party Cover.
- b) Liability under the workmen's compensation Act, 1923, Minimum Wages Act, 1948 and Contract Labour (Regulation and Abolition) Act, 1970.
- c) Accidents to staff, Engineers, Supervisors and others who are not governed by workmen's compensation Act.
- d) Damage to material, machinery and works due to fire theft etc.
- e) Any other risk to be covered by insurance as may be specified by the employer in the special conditions of contract.

##### **2. Policy in Joint Names of Contractor and Employer**

The policy referred to under sub-clause 46(1) above shall be obtained in the joint names of the contractor and the employer and shall inter-alia provide coverage against the following, arising out of or in connection with execution of works, their maintenance and performance of the contract.

- a) Loss of life or injury involving public, employee of the contractor, or that of employer and Engineer, labour etc.

- b) Injury, loss or damage to the works or property belonging to public, government bodies, local authorities, utility organizations, contractors, employer or others.

### **3. Currency of Policy**

The policies shall remain in force throughout the period of execution of the works and till the expiry of the defect liability period. The contractor shall, whenever called upon, produce to the engineer or his representative the various insurance policies obtained by him as also the rates of premia and the premia paid by him to ensure that the policies indeed continue to be in force. If the contractor fails to effect or keep in force or provide adequate cover in the insurance policies mentioned in the sub clause 46(1) or any other insurance he might be required to effect under the contract, then in such cases, the employer may effect and keep in force any such insurance or further insurance and the cost and expenses incurred by him in this regard shall be deductible from payments due to the contractor or from the contractor's performance security.

### **CLAUSE 47: CONDITIONS SPECIFIC TO GREEN BUILDINGS PRACTICES**

The contractor shall strictly adhere to the following conditions as part of his contractual obligations:

#### **1. SITE**

- 1.1** The contractor shall ensure that adequate measures are taken for the prevention of erosion of the top soil during the construction phase. The contractor shall implement the Erosion and Sedimentation Control Plan (ESCP) provided to him by the Engineer-in-charge as part of the larger Construction Management Plan (CMP). The contractor shall obtain the Erosion and Sedimentation Control Plan (ESCP) Guidelines from the Engineer-in-charge and then prepare “working plan” for the following month's activities as a CAD drawing showing the construction management, staging & ESCP. At no time soil should be allowed to erode away from the site and sediments should be trapped where necessary.
- 1.2** The contractor shall ensure that all the top soil excavated during construction works is neatly stacked and is not mixed with other excavated earth. The contractors shall take the clearance of the architects / Engineer-in-charge before any excavation. Top soil should be stripped to a depth of 20 cm (centimeters) from the areas to be disturbed, for example proposed area for buildings, roads, paved areas, external services and area required for construction activities etc. It shall be stockpiled to a maximum height of 40 cm in designated areas, covered or stabilized with temporary seeding for erosion prevention and shall be reapplied to site during plantation of the proposed vegetation. Top soil shall be separated from subsoil, debris and stones larger than 50 mm (millimeter) diameter. The stored top soil may be used as finished grade for planting areas.
- 1.3** The contractor shall carry out the recommendations of the soil test report for improving the soil under the guidance of the Engineer-in-charge who would also advise on the timing of application of fertilizers and warn about excessive nutrient levels.
- 1.4** The contractor shall carry out post-construction placement of topsoil or other suitable plant material over disturbed lands to provide suitable soil medium for vegetative growth. Prior to spreading the topsoil, the sub-grade shall be loosened to a depth of 50mm to permit bonding. Topsoil shall be spread uniformly at a minimum compacted depth of 50mm on grade 1:3 or steeper slopes, a minimum depth of 100mm on shallower slopes. A depth of 300mm is preferred on relatively flatter land.
- 1.5** The Contractor should follow the construction plan as proposed by the Engineer-in-charge to minimize the site disturbance such as soil pollution due to spilling. Use staging and spill prevention and control plan to restrict the spilling of the contaminating material on site. Protect top soil from erosion by collection storage and reapplication of top soil, constructing sediment basin, contour trenching, mulching etc.
- 1.6** No excavated earth shall be removed from the campus unless suggested otherwise by Engineer-in-charge. All subsoil shall be reused in backfilling/landscape, etc as per the instructions of the Engineer-in-charge
- 1.7** The contractor shall not change the natural gradient of the ground unless specifically instructed by the architects / landscape consultant. This shall cover all natural features like water bodies, drainage gullies, slopes, mounds, depressions, rocky outcrops, etc. Existing drainage patterns through or

into any preservation area shall not be modified unless specifically directed by the Engineer-in-charge.

- 1.8 The contractor shall not carry out any work which results in the blockage of natural drainage.
- 1.9 The contractor shall ensure that existing grades of soil shall be maintained around existing vegetation and lowering or raising the levels around the vegetation is not allowed unless specifically directed by the Engineer-in-charge
- 1.10 Contractor shall reduce pollution and land development impacts from automobiles use during construction.
- 1.11 Overloading of trucks is unlawful and creates and erosion and sedimentation problems, especially when loose materials like stone dust, excavated earth, sand etc. are moved. Proper covering must take place. No overloading shall be permitted.

## **2. CONSTRUCTION PHASE AND WORKER FACILITIES**

- 2.1 The contractor shall specify and limit construction activity in preplanned/ designated areas and shall start construction work after securing the approval for the same from the Engineer-in-charge. This shall include areas of construction, storage of materials, and material and personnel movement.

### **2.2 Preserve and Protect Landscape during Construction**

- a) The contractor shall ensure that no trees, existing or otherwise, shall be harmed and damage to roots should be prevented during trenching, placing backfill, driving or parking heavy equipment, dumping of trash, oil, paint, and other materials detrimental to plant health. These activities should be restricted to the areas outside of the canopy of the tree, or, from a safe distance from the tree/plant by means of barricading. Trees will not be used for support; their trunks shall not be damaged by cutting and carving or by nailing posters, advertisements or other material. Lighting of fires or carrying out heat or gas emitting construction activity within the ground, covered by canopy of the tree is not to be permitted.
- b) The contractor shall take steps to protect trees or saplings identified for preservation within the construction site using tree guards of approved specification.
- c) The contractor shall conserve existing natural areas and restore damaged areas to provide habitat and promote biodiversity. Contractor should limit all construction activity within the specified area as per the Construction Management Plan (CMP) proposed by the Engineer-in-charge. All the existing trees should be preserved, if not possible than compensate the loss by re-planting trees in the proportion of 1:3.
- d) The contractor shall avoid cut and fill in the root zones, through delineating and fencing the drip line (the spread limit of a canopy projected on the ground) of all the trees or group of trees. Separate the zones of movement of heavy equipment, parking, or excessive foot traffic from the fenced plant protection zones.
- e) The contractor shall ensure that maintenance activities shall be performed as needed to ensure that the vegetation remains healthy. The preserved vegetated area shall be inspected by the Engineer-in-charge at regular intervals so that they remain undisturbed. The date of inspection, type of maintenance or restorative action followed shall be recorded in the logbook.

- 2.3 Contractor shall be required to develop and implement a waste management plan, quantifying material diversion goals. He shall establish goals for diversion from disposal in landfills and incinerators and adopt a construction waste management plan to achieve these goals. A project-wide policy of “Nothing leaves the Site” should be followed. In such a case when strictly followed, care would automatically be taken in ordering and timing of materials such that excess doesn’t become “waste”. The Contractor’s ingenuity is especially called towards meeting this prerequisite/ credit (GRIHA). Consider recycling cardboard, metal, brick, acoustical tile, concrete, plastic, clean wood, glass, gypsum wallboard, carpet and insulation. Designate a specific area(s) on the construction site for segregated or commingled collection of recyclable material, and track recycling efforts throughout the construction process. Identify construction haulers and recyclers to handle

the designated materials. Note that diversion may include donation of materials to charitable organizations and salvage of materials on-site.

- 2.4 Contractor shall collect all construction waste generated on site. Segregate these wastes based on their utility and examine means of sending such waste to manufacturing units which use them as raw material or other site which require it for specific purpose. Typical construction debris could be broken bricks, steel bars, broken tiles, spilled concrete and mortar etc.
- 2.5 The contractor shall provide clean drinking water for all workers
- 2.6 The contractor shall provide the minimum level of sanitation and safety facilities for the workers at site. The contractor shall ensure cleanliness of workplace with regard to the disposal of waste and effluent; provide clean drinking water and latrines and urinals as per applicable standard. Adequate toilet facilities shall be provided for the workman within easy access of their place of work. The total no. to be provided shall not be less than 1 per 30 employs in any one shift. Toilet facilities shall be provided from the start of building operations, connection to a sewer shall be made as soon as practicable. Every toilet shall be so constructed that the occupant is sheltered from view and protected from the weather and falling objects. Toilet facilities shall be maintained in a sanitary condition. A sufficient quantity of disinfectant shall be provided. Natural or artificial illumination shall be provided.
- 2.7 The contractor shall ensure that air pollution due to dust/generators is kept to a minimum, preventing any adverse effects on the workers and other people in and around the site. The contractor shall ensure proper screening, covering stockpiles, covering brick and loads of dusty materials, wheel-washing facility, gravel pit, and water spraying. Contractor shall ensure the following activities to prevent air pollution during construction:
- Clear vegetation only from areas where work will start right away
  - Vegetate / mulch areas where vehicles do not ply.
  - Apply gravel / landscaping rock to the areas where mulching / paving is impractical
  - Identify roads on-site that would be used for vehicular traffic. Upgrade vehicular roads (if these are unpaved) by increasing the surface strength by improving particle size, shape and mineral types that make up the surface & base. Add surface gravel to reduce source of dust emission. Limit amount of fine particles (smaller than 0.075mm) to 10 – 20%
  - Water spray, through a simple hose for small projects, to keep dust under control. Fine mists should be used to control fine particulate. However, this should be done with care so as not to waste water. Heavy watering can also create mud, which when tracked onto paved public roadways, must be promptly removed. Also, there must be an adequate supply of clean water nearby to ensure that spray nozzles don't get plugged. Water spraying can be done on:
    - a) Any dusty materials before transferring, loading and unloading
    - b) Area where demolition work is being carried out
    - c) Any un-paved main haul road
    - d) Areas where excavation or earth moving activities are to be carried out
  - The contractor shall ensure that the speed of vehicles within the site is limited to 10 km/hr.
  - All material storages should be adequately covered and contained so that they are not exposed to situations where winds on site could lead to dust / particulate emissions.
  - Spills of dirt or dusty materials will be cleaned up promptly so the spilled material does not become a source of fugitive dust and also to prevent of seepage of pollutant laden water into the ground aquifers. When cleaning up the spill, ensure that the clean-up process does not generate additional dust. Similarly, spilled concrete slurries or liquid

wastes should be contained / cleaned up immediately before they can infiltrate into the soil / ground or runoff in nearby areas

- Provide hoardings of not less than 3m high along the site boundary, next to a road or other public area
  - Provide dust screens, sheeting or netting to scaffold along the perimeter of the building
  - Cover stockpiles of dusty material with impervious sheeting
  - Cover dusty load on vehicles by impervious sheeting before they leave the site
- 2.8 Contractor shall be required to provide an easily accessible area that serves the entire building and is dedicated to the separation, collection and storage of materials for recycling including (at a minimum) paper, corrugated cardboard, glass, plastics, and metals. He shall coordinate the size and functionality of the recycling areas with the anticipated collections services for glass, plastic, office paper, newspaper, cardboard, and organic wastes to maximize the effectiveness of the dedicated areas. Consider employing cardboard balers, aluminum can crushers, recycling chutes, and collection bins at individual workstations to further enhance the recycling program.
- 2.9 The contractor shall ensure that no construction leach ate (Ex: cement slurry), is allowed to percolate into the ground. Adequate precautions are to be taken to safeguard against this including, reduction of wasteful curing processes, collection, basic filtering and reuse. The contractor shall follow requisite measures for collecting drainage water run-off from construction areas and material storage sites and diverting water flow away from such polluted areas. Temporary drainage channels, perimeter dike/swale, etc. shall be constructed to carry the pollutant-laden water directly to the treatment device or facility (municipal sewer line).
- 2.10 Staging (dividing a construction area into two or more areas to minimize the area of soil that will be exposed at any given time) should be done to separate undisturbed land from land disturbed by construction activity and material storage.
- 2.11 The contractor shall comply with the safety procedures, norms and guidelines (as applicable) as outlined in the document Part 7 \_Constructional practices and safety, 2005, National Building code of India, Bureau of Indian Standards. A copy of all pertinent regulations and notices concerning accidents, injury and first-aid shall be prominently exhibited at the work site. Depending upon the scope & nature of work, a person qualified in first-aid shall be available at work site to render and direct first-aid to casualties. A telephone may be provided to first-aid assistant with telephone numbers of the hospitals displayed. Complete reports of all accidents and action taken thereon shall be forwarded to the competent authorities.
- 2.12 The contractor shall ensure the following activities for construction workers safety, among other measures:
- Guarding all parts of dangerous machinery.
  - Precautionary signs for working on machinery
  - Maintaining hoists and lifts, lifting machines, chains, ropes, and other lifting tackles in good condition.
  - Durable and reusable formwork systems to replace timber formwork and ensure that formwork where used is properly maintained.
  - Ensuring that walking surfaces or boards at height are of sound construction and are provided with safety rails or belts.
  - Provide protective equipment; helmet etc.
  - Provide measures to prevent fires. Fire extinguishers and bucket of sand to be provided in the fire-prone area and elsewhere.
  - Provide sufficient and suitable light for working during night time.
- 2.13 Adopt additional best practices, prescribed norms in construction industry.
- 2.14 The storage of material shall be as per standard good practices as specified in Part 7, Section 2 – Storage, Stacking and Handling practices, NBC 2005 and shall be to the satisfaction of the Engineer-in-charge to ensure minimum wastage and to prevent any misuse, damage, inconvenience

or accident. Watch and ward of the Contractor’s materials shall be his own responsibility. There should be a proper planning of the layout for stacking and storage of different materials, components and equipments with proper access and proper maneuverability of the vehicles carrying the materials. While planning the layout, the requirements of various materials, components and equipments at different stages of construction shall be considered. The Owner shall not take any responsibility on any account.

- 2.15 The contractor shall provide for adequate number of garbage bins around the construction site and the workers facilities and will be responsible for the proper utilisation of these bins for any solid waste generated during the construction. The contractor shall ensure that the site and the workers facilities are kept litter free. Separate bins should be provided for plastic, glass, metal, biological and paper waste and labeled in both Hindi and English.
- 2.16 The contractor shall prepare and submit ‘Spill prevention and control plans’ before the start of construction, clearly stating measures to stop the source of the spill, to contain the spill, to dispose the contaminated material and hazardous wastes, and stating designation of personnel trained to prevent and control spills. Hazardous wastes include pesticides, paints, cleaners, and petroleum products.
- 2.17 Contractor shall collect the relevant material certificates for materials with high recycled (both post-industrial and post-consumer) content, including materials for structural use like TMT steel rolled with high percentage of recycled steel, and RMC mix with fly-ash etc. (see appendix)
- 2.18 Contractor shall collect the relevant material certificates for rapidly renewable materials such as bamboo, wool, cotton insulation, agrifiber, linoleum, wheat board, strawboard and cork.
- 2.19 Contractor shall adopt an IAQ (Indoor Air Quality) management plan to protect the system during construction, control pollutant sources, and interrupt pathways for contamination. He shall sequence installation of materials to avoid contamination of absorptive materials such as insulation, carpeting, ceiling tile, and gypsum wallboard. He shall also protect stored on-site or installed absorptive materials from moisture damage.
- 2.20 The contractor shall ensure that a flush out of all internal spaces is conducted prior to andover. This shall comprise an opening of all doors and windows for 14 days to vent out any toxic fumes due to paints, varnishes, polishes, etc.
- 2.21 Contractor shall make efforts to reduce the quantity of indoor air contaminants that are dorous or potentially irritating harmful to the comfort and well-being of installer and building occupants. Contractor shall ensure that the VOC (Volatile Organic Compounds) content of paints, coatings and primers used must not exceed the VOC content limits mentioned below:  
Paints  
Non-flat - 150 g/L  
Flat (Mat) - 50 g/L  
Anti-corrosive/ anti rust - 250 g/L  
Coatings  
Clear wood finishes  
Varnish - 350 g/L  
Lacquer - 550 g/L  
Floor coatings - 100 g/L  
Stains - 250 g/L  
Sealers  
Waterproofing sealer - 250 g/L  
Sanding sealer - 275 g/L  
Other sealers - 200 g/L  
The VOC (Volatile Organic Compounds) content of adhesives and sealants used must be less than VOC content limits mentioned:  
  
Architectural Applications VOC Limit (g/l less water)  
Indoor Carpet adhesives - 50

Carpet Pad Adhesives - 50  
 Wood Flooring Adhesive - 100  
 Rubber Floor Adhesives - 60  
 Sub Floor Adhesives - 50  
 Ceramic Tile Adhesives - 65  
 VCT and Asphalt Tile adhesives - 50  
 Dry Wall and Panel Adhesives - 50  
 Structural Glazing Adhesives - 100  
 Multipurpose Construction Adhesives - 70  
 Substrate Specific Application VOC Limit (g/l less water)  
 Metal to Metal - 30  
 Plastic Foams - 50  
 Porous material (except wood) - 50  
 Wood - 30  
 Fiber Glass – 80

- 2.22 Wherever required, Contractor shall meet and carry out documentation of all activities on site, supplementation of information, and submittals in accordance with GRIHA program standards and guidelines. Towards meeting the aforementioned building environmental rating standard(s) expert assistance shall be provided to him up on request.

**2.23 Water Use during Construction**

Contractor should spray curing water on concrete structure and shall not allow free flow of water. After liberal curing on the first day, all the verticals surfaces of concrete structures should be painted with curing chemical to save water nothing extra shall be paid. Concrete structures should be kept covered with thick cloth/gunny bags and water should be sprayed on them. Contractor shall do water ponding on all sunken slabs using cement and sand mortar.

- 2.24 The Contractor shall remove from site all rubbish and debris generated by the Works and keep Works clean and tidy throughout the Contract Period. All the serviceable and non-serviceable (malba) material shall be segregated and stored separately. The malba obtained during construction shall be collected in well-formed heaps at properly selected places, keeping in a view safe condition for workmen in the area. Materials which are likely to cause dust nuisance or undue environmental pollution in any other way, shall be removed from the site at the earliest and till then they shall be suitable covered. Glass & steel should be dumped or buried separately to prevent injury. The work of removal of debris should be carried out during day. In case of poor visibility artificial light may be provided.

**2.25 MATERIALS & FIXTURES FOR THE PROJECT**

- 2.26 The contractor shall endeavor to source most of the materials for construction at this project. Contractor shall collect the relevant material certificates to prove the same
- a) All cement used at site for reinforced concrete, precast members, mortar, plaster, building blocks, etc. shall be PPC (Ordinary Portland Cement). The PPC must meet the requirements of IS 1489: 1991. (Minimum 25% replacement of cement with fly ash in PPC (Portland Pozzolona Cement) by weight of the cement used in the overall RC for meeting the equivalent strength requirements).
  - b) As a measure to reduce wastage and water consumption during construction, the contractor shall source or set up the infrastructure for a small scale ready mix concrete, all concreting works at site shall utilise only batch mix concrete.
  - c) The contractor has to comply as per MoEF issued notification 8.0.763(E) dated 14<sup>th</sup> Sept.1999 containing directive for greater fly ash utilization, where it stipulates that ii. Every construction agency engaged in the construction of buildings within a radius of 50 km radius of a Thermal Power Plant, have to use of 100% fly ash based bricks/blocks in their construction. Any brick/block containing more than 25% fly ash is designated as fly ash brick/block. As per GRIHA credits, bricks / blocks should contain more than 40% fly ash.

- d) The contractor shall ensure that sand from approved source is used in place of sand in all concreting works unless specifically instructed otherwise by the Engineer-in-charge.
- e) Timber and aluminum use should be minimized in the project. If used, timber shall constitute of reclaimed timber and aluminum shall constitute recycled content. The source of such reclaimed timber shall be approved by the Engineer-in-charge.
- f) The contractor shall ensure that nontoxic anti-termite and other pest control is strictly used.
- g) The contractor shall ensure that all paints, polishes, adhesives and sealants used both internally and externally, on any surface, shall be Low VOC products. The contractor shall get prior approval from the Engineer-in-charge before the application of any such material.
- h) All plumbing and sanitary fixtures installed shall be as per the requirement of the of the GRIHA and shall adhere to the minimum LPM and LPF mentioned.
- i) The contractor shall employ 100% zero ODP (ozone depletion potential) insulation; HCFC hydro-chlorofluorocarbon)/ and CFC (chlorofluorocarbon) free HVAC and refrigeration equipment's and/halon-free fire suppression and fire extinguishing systems.
- j) The contractor shall ensure that all composite wood products/agro-fibre products used for cabinet work, etc do not contain any added urea formaldehyde resin.

## **2.28 CONSTRUCTION WASTE**

- a) Contractor shall ensure that wastage of construction material is kept to a maximum of 3%.
- b) All construction debris generated during construction shall be carefully segregated and stored in a demarcated waste yard. Clear, identifiable areas shall be provided for each waste type. Employ measures to segregate the waste on site into inert, chemical, or hazardous wastes.
- c) All construction debris shall be used for road preparation, back filling, etc, as per the instructions of the Engineer-in-charge, with necessary activities of sorting, crushing, etc.
- d) No construction debris shall be taken away from the site, without the prior approval of the Engineer-in-charge.
- e) The contractor shall recycle the unused chemical/hazardous wastes such as oil, paint, batteries, and asbestos
- f) If and when construction debris is taken out of the site, after prior permissions from the Project Manager, then the contractor shall ensure the safe disposal of all wastes and will only dispose of any such construction waste in approved dumping sites.
- g) Inert waste to be disposed off by Municipal Corporation/ local bodies at landfill sites.

## **2.29 Documentation**

- a) The contractor shall, during the entire tenure of the construction phase, submit the following records to the Engineer-in-charge on a monthly basis:
  - i) Water consumption in liters
  - ii) Electricity consumption in 'kwh' units
  - iii) Diesel consumption in liters
  - iv) Quantum of waste generated at site and the segregated waste types divided into inert, chemical and hazardous wastes.
  - v) Digital photo documentation to demonstrate compliance of safety guidelines as specified here.
- b) The contractor shall, during the entire tenure of the construction phase, submit the following records to the Engineer-in-charge on a weekly basis:
  - i) Quantities of material brought into the site, including the material issued to the contractor by the client.
  - ii) Quantities of construction debris (if at all) taken out of the site
  - iii) Digital photographs of the works at site, the workers facilities, the waste and other material storage yards, pre-fabrication and block making works, etc as guided by the Engineer-in-charge.
- c) The contractor shall submit one document after construction of the buildings, a brief description along with photographic records to show that other areas have not been disrupted during construction. The document should also include brief explanation and photographic records to show erosion and sedimentation control measures adopted. (Document CAD drawing showing

- site plan details of existing vegetation, existing buildings, existing slopes and site drainage pattern, staging and spill prevention measures, erosion and sedimentation control measures and measures adopted for top soil preservation during construction
- d) The contractor shall submit to the Engineer-in-charge after construction of the buildings, a detailed as built quantification of the following:
- i) Total materials used,
  - ii) Total top soil stacked and total reused
  - iii) Total earth excavated,
  - iv) Total waste generated,
  - v) Total waste reused,
  - vi) Total water used,
  - vii) Total electricity, and
  - viii) Total diesel consumed.
- e) The contractor shall submit to the Engineer-in-charge, before the start of construction, a site plan along with a narrative to demarcate areas on site from which top soil has to be gathered, designate area where it will be stored, measures adopted for top soil preservation and indicate areas where it will be reapplied after construction is complete.
- f) The contractor shall submit to the Engineer-in-charge, a detailed narrative (not more than 250 words) on provision for safe drinking water and sanitation facility for construction workers and site personnel.
- g) Provide supporting document from the manufacturer of the cement specifying the fly-ash content in PPC used in reinforced concrete.
- h) Provide supporting document from the manufacturer of the pre-cast building blocks specifying the fly ash content of the blocks used in an infill wall system.
- i) The contractor shall, at the end of construction of the buildings, submit to the Engineer-in-charge, submit following information, for all material brought to site for construction purposes, including manufacturer’s certifications, verifying information, and test data, where Specifications sections require data relating to environmental issues including but not limited to:
- i) Source of products: Supplier details and location of the supplier and brand name.
  - ii) Project Recyclability: Submit information to assist Owner and Contractor in recycling materials involved in shipping, handling, and delivery, and for temporary materials necessary for installation of products.
  - iii) Recycled Content: Submit information regarding product postindustrial recycled and post-consumer recycled content. Use the “Recycled Content Certification Form”, to be provided by the Commissioning Authority appointed for the Project.
  - iv) Product Recyclability: Submit information regarding product and product’s component’s recyclability including potential sources accepting recyclable materials.
  - v) Clean tech: Provide pollution clearance certificates from all manufacturers of materials
  - vi) Indoor Air quality and Environmental Issues: Submit following certificates:
    - a) Certifications from manufacturers of Low VOC paints, adhesives, sealant and polishes used at this particular project site.
    - b) Certification from manufacturers of composite wood products/agro fibre products on the absence of added urea formaldehyde resin in the products supplied to them to this particular site.
    - c) Submit environmental and pollution clearance certificates for all diesel generators installed as part of this project.
- j) Provide total support to the Engineer-in-charge appointed by the owner in completing all Green Building Rating related formalities, including signing of forms, providing signed letters in the contractor’s letterhead.

## **2.30 EQUIPMENT**

- a) To ensure energy efficiency during and post construction all pumps, motors and engines used during construction or installed, shall be subject to approval and as per the specifications of the architects.

- b) All lighting installed by the contractor around the site and at the labour quarters during construction shall be CFL/LED bulbs of the appropriate illumination levels. This condition is a must, unless specifically prescribed.

The contractor is expected to go through all other conditions of the GRIHA rating stipulations, which can be provided to him by the architects.

Failure to adhere to any of the above mentioned items, without necessary clearances from the architects and the Engineer-in-charge, shall be deemed as a violation of contract and the contractor shall be held liable for penalty as determined by the architects.

## **CLAUSE 48: PAYMENT**

### **1. Payment Schedule**

The Payment Schedule includes a schedule setting out each Milestone Event to be achieved in a month for the Works.

### **2. Contractor's Application for Payment**

From the date of issue of the Notice to Proceed, on the 5th (fifth) Business Day of any month, the Contractor may submit a Request for Payment, to WAPCOS Limited Representative in respect of the preceding month.

Within each Request for Payment the Contractor shall show separately:

- (i) the amounts which the Contractor claims to be payable as the cost of the Works completed during that month; and
- (ii) the cumulative amount of all prior payments made by WAPCOS Limited; and
- (iii) Any amounts to which the Contractor considers are due and payable to it in accordance with the provisions of the Contract.

#### **The Contractor's Request for Payment shall:**

- (i) be prepared on forms in the form and in a number advised by WAPCOS Limited Representative; and
- (ii) contain confirmation of the relevant Milestone Events which, in the opinion of the Contractor have been achieved in that month which applies to each such Milestone Event; and
- (iii) be accompanied by:
  - (a) Copy of relevant records of measurement of works, jointly taken and signed by both the parties;
  - (b) A status report describing in such detail as may reasonably request, the percentage of any uncompleted Milestone Event for the month in question and the work to be undertaken by the Contractor prior to the next Request for Payment;
  - (c) Certification by WAPCOS Limited Representative confirming that the Milestone Events referred to in the Request for Payment have been achieved.
  - (d) Confirmation by the Contractor of any amounts due and owing from the Contractor to WAPCOS Limited pursuant to the Contract;
  - (e) The Contractor's certification that the quality of all completed Works accords with the requirements of the Contract;
  - (f) The Contractor's certification that each obligation, item of cost or expense mentioned in that Request for Payment has not been the basis of any previous payment.
  - (g) The Contractor's certification that it has reviewed all financial and budget data contained in the Request for Payment;
  - (h) The Contractor's certification that the quality of all completed Works accords with the requirements of the Contract;
  - (i) The Contractor's certification that each obligation, item of cost or expense mentioned in that Request for Payment has not been the basis of any previous payment; and

- (j) The Contractor's certification that each Subcontractor who performed part of the Works which was included in the immediately preceding Certificates of Payment was paid all amounts then due to it for such Works
- (k) The Contractor providing evidence of the validity of the Contractor's Insurances.

### **3. Certificates of Payment**

Within [14 (fourteen)] Business Days of receipt of the Contractor's Request for Payment under Clause 48(2) [Contractor's Application for Payment], WAPCOS Limited and WAPCOS Limited Representative shall review such request and, shall issue to the Contractor, a Certificate of Payment certifying what amounts WAPCOS Limited shall pay. Each Certificate of Payment shall be for an amount which in the opinion of WAPCOS Limited, is the basis of the Request for Payment and pursuant to the Contract, is properly due to the Contractor (the “Gross Certifiable Amount”) less (i) the cumulative amounts of payments previously certified as due to the Contractor, (ii) any deduction on account of recovery of Advance Payment, and (iii) Retention Amount.

In the event that the Contractor fails to achieve any Milestone Event specified in the Payment Schedule, the Contractor shall not be entitled to the payment value attributable to that Milestone Event until the relevant Milestone Event has been achieved. When the relevant Milestone Event is achieved, the Contractor may include the payment value attributable to the Milestone Event in the next Request for Payment.

No sum shall be included in the Certificate of Payment in respect of Materials yet to be incorporated into the Permanent Works unless the WAPCOS Limited Representative is satisfied that:

- (i) such Materials have been properly acquired and properly and not prematurely delivered to the Project Site;
- (ii) such Materials have been properly stored on the Project Site and fully protected against loss, damage or deterioration;
- (iii) the Contractor's records of the requisitions, orders, receipts and use of any Materials are kept in a form approved by the WAPCOS Limited Representative, and such records are available for inspection by the WAPCOS Limited Representative; and
- (iv) The Contractor has submitted a proper statement of the cost of acquiring the Materials together with such documents as may be required for evidencing such cost.

Without prejudice to any other rights of WAPCOS Limited to withhold payment to the Contractor, WAPCOS Limited may withhold from any payment due to the Contractor such amount as WAPCOS Limited deems reasonably necessary or appropriate:

- (i) if in the opinion of the WAPCOS Limited Representative the progress of the Works at the time of the Request for Payment is behind the progress of the Works as set out in the Programme; and/or
- (ii) to protect it from any losses, expenses, costs or liability because of any one or more of the following reasons:
  - (a) defects and deficiencies in any Works, whether or not payment has been made;
  - (b) unsatisfactory performance of the Contract;
  - (c) the filing of third party claims relating to the Works or any of its commitment parts for which the Contractor is liable;
  - (d) the Contractor's failure to make payments to Subcontractors;
  - (e) failure by the Contractor to provide or procure replacement Performance Security in accordance with the Contract;
  - (f) failure by the Contractor to provide evidence of insurance coverage in accordance with the Contract;
  - (g) reasonable evidence that Completion will not occur by the Time for Completion;
  - (h) any overpayments made by WAPCOS Limited with respect to a previous payment;
  - (i) failure by the Contractor to submit a properly updated monthly Programme; and
  - (j) failure by the Contractor to provide satisfactory evidence that the costs of all labour and Materials and other obligations arising out of the Contract have been fully

satisfied and discharged by the Contractor and/or to otherwise fail to submit adequate supporting documentation for any Request for Payment.

Any Provisional Sum Works shall only be executed in whole or part upon the WAPCOS Limited Representative's instruction. If the WAPCOS Limited Representative issues no such instruction, the Provisional Sum Works shall not form part of the Works and the Contractor shall not be entitled to payment for it. The Contractor shall be deemed to have allowed the necessary time and resources to enable design and Execution of the Provisional Sum Works in so far as the scope and nature of the Provisional Sum Works was reasonably foreseeable.

The Contractor shall be entitled only to such amount in respect of the Provisional Sum Works as the WAPCOS Limited Representative determines in accordance with this Clause 48(3). The WAPCOS Limited Representative shall notify the Contractor of any such determination. The WAPCOS Limited Representative shall have the authority to issue instructions to the Contractor for every Provisional Sum Works for which the Contractor shall be entitled to a part of the Provisional Sum as determined by the WAPCOS Limited Representative.

The Contractor shall produce to the WAPCOS Limited Representative all quotations, vouchers, invoices, accounts or receipts in connection with the expenditure in respect of the Provisional Sum Works, except where the Provisional Sum Works is valued in accordance with the item wise rates quoted by the Contractor in its bid submitted to the Employer.

In respect of every Provisional Sum the WAPCOS Limited Representative shall have authority to issue instructions for the execution of work or for the supply of goods, materials, Plant Sums or services by the Contractor, in which case the Contractor shall be entitled to an amount equal to the value thereof determined in accordance with Clause 48(3).

#### **4. Payment**

WAPCOS Limited shall pay the amount certified in a Certificate of Payment less the amount paid earlier in accordance with Clause 48(3) [Certificate of Payment], no later than [15 (fifteen)] Business Days from the date of such Certificate of Payment. The payment schedule shall be applicable only upon verification of measurement and execution of work to the satisfaction of Engineer In-Charge and Directorate of Fisheries.

#### **5. Back to Back Payment**

The Associate/Sub-consultant/sub-contractor unconditionally acknowledges that under the present contract/agreement/work order/arrangement, WAPCOS is only working as intermediary between NIFTEM-K, Sonipat being Principal Employer/Client and Associate/ sub-consultant /sub-contractor. Thus the Associate/ sub-consultant /sub-contractor also unconditionally acknowledges that the payment under the present contract/ agreement/ Work Order /Arrangement shall be made proportionately by WAPCOS only on back to back basis i.e. after 21 days subject to receipt of payment from NIFTEM-K, Sonipat being Principal Employer/Client. The Associate/ sub-consultant /sub-contractor also unconditionally agree that in the event the payment or part thereof, under the present Contract/Agreement/Work Order/Arrangement is not received from NIFTEM-K, Sonipat (Principal Employer/Client), then WAPCOS &/or any of its Employer/Officer shall not be responsible to pay any amount to Associate/ sub-consultant /sub-contractor. The said condition shall supersede any and all other conditions of Contract/Agreement/Work Order/Arrangement between the parties.

#### **CLAUSE 49: Arbitration Clause**

Any dispute, controversy or claims arising out of or relating to this Agreement or the breach, termination or invalidity thereof, shall be settled through following mechanism:

- a) Firstly, the aggrieved party shall write a letter to the other party detailing its grievances and calling upon the other party to amicably resolve the dispute by convening a joint meeting. Accordingly, the parties as per their convenience shall jointly convince the said meeting(s), wherein minutes of

the said meeting(s) shall be prepared and countersigned by all the parties. It is mandatory to prepare minutes of meeting(s) and to be countersigned by all the parties, irrespective of the outcome of the said meeting(s)

- b) In the event the parties are unable to reach to any settlement in the said meeting(s), then the aggrieved party shall mandatory resort to pre-litigation mediation mechanism with Delhi High Court Mediation Cell, New Delhi.
- c) It is only upon failure of the pre-litigation mediation mechanism with Delhi High Court Mediation Cell, then the aggrieved party shall resort to resolution of disputes through arbitration of a Sole Arbitrator. The appointing authority of Sole Arbitrator is CMD, WAPCOS Limited, to which either of the parties have any objection nor they shall ever object.
- d) Subject to the parties agreeing otherwise, the Arbitration proceedings shall be conducted in accordance with the provisions of the Indian Arbitration and Conciliation Act, 1996 (amended as o date).
- e) It is also acknowledged and accepted that WAPCOS is only working as intermediary between the Associate/Sub-Consultant/Sub-Contractor and the Principal Employer/Client, thus in the event, any dispute arises under the present agreement and referred to Arbitration for adjudication, then subject to corresponding clause in the Contract/Agreement/Work Order/Arrangement between Principal Employer/Client & WAPCOS, Principal Employer/Client shall also be made party to the said Arbitration proceedings. Also the award including costs if any passed against WAPCOS and cost incurred in the proceedings shall be the sole responsibility of Principal Employer/Client. The said clause if found inapplicable, even then the other terms of the Arbitration Clause shall survive and shall be acted upon.
- f) The place/seat of arbitration shall be Delhi and any award whether interim or final, shall be made, and shall be deemed for all purpose between the parties to be made, in Delhi. The arbitral procedure shall be conducted in English language and any award or awards shall be rendered in English. The procedural law of the arbitration shall be Indian Law. The award of the arbitrator shall be final and conclusive and binding upon the Parties.
- g) The contract and any dispute or claim arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims) shall be governed by and construed in accordance with the law of India and the Parties submit to sole & exclusive jurisdiction of courts at Delhi”

## **CLAUSE 50: Make in India**

### **Public Procurement (Preference to Make in India)**

The bidder must comply with Order Nos. P-45021/112/2020-PP(BE-II)(E-43780) dated 24.08.2020, 28.08.2020, and 31.08.2020 and also Make in India Order No. P-45021/2/2017-PP (BE-II) dated 16th September 2020 of Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry, Government of India and any amendments thereon. The details available on ministry website.

Self-certification that the item offered meets the minimum local content of 50% giving details of the location(s) at which the local value addition is made in case the bidder wishes to avail the benefits under the make in India policy, if applicable.

In cases of procurement for a value in excess of ₹10crores, the local supplier shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a

practicing cost account or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content to avail the benefits under the make in India policy, if applicable.

Government has issued Public Procurement (Preference to Make in India) [PPP-MII] Order 2017 vide the Department for Promotion of Industry and Internal Trade (DPIIT) Order No.P45021/2/2017-B.E.-II dated 15.06.2017 and subsequent revisions vide Order No.45021/2/2017PP(BE-II) dated 28.05.2018, 29.05.2019, 04.06.2020 and 16.09.2020 to encourage ‘Make in India’ and to promote manufacturing and production of goods, services and works in India with a view to enhancing income and employment. This Order is issued pursuant to Rule 153 (iii) of the General Financial Rules 2017. The salient features of the aforesaid Order are as under:

The Order is applicable for procurement by Ministry / Department / attached / subordinate office of, or autonomous body controlled by, the Government of India and includes Government companies as defined in the Companies Act.

In procurement of all goods, services or works in respect of which the Nodal Ministry/Department has communicated that there is sufficient local capacity and local competition, only 'Class-I local supplier', as defined under the Order, shall be eligible to bid irrespective of purchase value.

The margin of purchase preference shall be 20%. ‘margin of purchase preference’ means the maximum extent to which the price quoted by a local supplier may be above the L1 for the purpose of purchase preference. Ministry of Electronics and Information Technology is the Nodal Ministry for implementation of the Electronic Product Notifications issued in furtherance of PPPMII Order 2017.

Classes of Local Suppliers based on local content as per the revised PPP-MII Order dated 04.06.2020 issued by the Department for Promotion of Industry and Internal Trade (DPIIT) are as under:

- Class-I Local supplier - a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%.
- Class-II Local supplier - a supplier or service provider, whose goods, services or works Offered for procurement, has local content more than 20% but less than 50%.
- Non-Local supplier - a supplier or service provider, whose goods, services or works offered for procurement, has local content less than or equal to 20%.
- Only 'Class-I local supplier' and 'Class-II local supplier' shall be eligible to bid in procurement of all goods, services or works, and with estimated value of purchases less than Rs. 200 crore.

#### **CLAUSE 51: Provision as per Rule 144(xi) of GFR**

F.NO.6/18/2019-PPD Ministry of Finance Department of Expenditure Public Procurement Division 161, North Block, New Delhi 23rd July, 2020 Office Memorandum Subject: Insertion of Rule 144 (xi) in the General Financial Rules (GFRs), 2017 Rule 144 of the General Financial Rules 2017 entitled 'Fundamental principles of public buying', has been amended by inserting sub-rule (xi) as under:

**Notwithstanding anything contained in these Rules, Department of Expenditure may, by order in writing, impose restrictions, including prior registration and/or screening, on procurement from bidders from a country or countries, or a class of countries, on grounds of defence of India, or matters directly or indirectly related thereto including national security; no procurement shall be made in violation of such restrictions.**

The order available on the Ministry of Finance Department of Expenditure Public Procurement Division website.

## **SECTION– IV**

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### **SPECIAL CONDITIONS OF CONTRACT**

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**SECTION-IV****SPECIAL CONDITIONS OF CONTRACT****1.0 SPECIAL CONDITIONS OF CONTRACT**

The Special Condition of Contract (SCC) shall be followed by the Contractor in addition to the General Condition of Contract (GCC) of tender document. The following General Condition of Contract of this tender are modified/added as detailed below. In case of any discrepancy between GCC and SCC, the SCC will succeed over GCC.

Clause No.	Description	Applicability/Modified/ Added
<b>GENERAL RULES AND DIRECTIONS</b>		
<b>5</b>	<b>Office Inviting Tender</b> Chief Engineer-II (INFS-1) WAPCOS Limited 76-C, Institutional Area, Sector - 18 Gurugram-122015, Haryana Email: <a href="mailto:iwrm@wapcos.co.in">iwrm@wapcos.co.in</a>	
<b>8</b>	Schedule of Materials to be issued to the Contractor	Not Applicable
<b>DEFINITIONS</b>		
<b>Added</b>	‘Owner’ means The Registrar, NIFTEM-K, Sonipat, Haryana ‘Client/ Employer’: WAPCOS Limited	
<b>2(iii)</b>	Work / Project Means: <b>As Mentioned in NIT</b>	
<b>2(iv)</b>	Site / Location Means The Campus of National Institute of Food Technology Entrepreneurship and Management (NIFTEM), Kundli, Sonipat, Haryana. The contractor along with WAPCOS & NIFTEM officials shall finalise the site within the NIFTEM-K campus. The Contractor shall obtain necessary permissions/ NoC from the relevant authorities before executing the works.	
<b>2 (vi)</b>	<b>Engineer-In-Charge</b> Will be intimated to the successful Bidder at the time of issue of Notice to Proceed the works.	
<b>2 (vii)</b>	<b>Accepting Authority</b> Shall mean WAPCOS LIMITED/ NIFTEM-K	
<b>2 (x)</b>	<b>Market Rate</b> Percentage on cost of materials and labour to cover all overheads and profits	15% (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.)
<b>2(xi)</b>	Standard Schedule of Rates Schedule of Rates (Civil) Schedule of Rates (Electrical/Mechanical)	DSR 2023 DSR 2023
<b>2(xvi)</b>	Date of Commencement of work	Within 10 days after date of Award of Work
<b>CLAUSES OF CONTRACT</b>		
Clause 1	<b>Performance Guarantee</b> i. Performance Guarantee.  ii. Performance guarantee if contractor quotes abnormally low iii. Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance.	<b>Applicable</b> 3% of Tendered Value  Not Applicable  15 days

Clause No.	Description	Applicability/Modified/ Added
	iv. Validity of Performance Guarantee	The Performance Guarantee shall be initially valid 60 days beyond the stipulated date of completion plus 1 year defects Liability Period beyond that.
	v. Return of Performance Guarantee	Soon after the completion of works and issuance of the completion certificate.
Clause 1A	<b>Security Deposit</b>	<b>Applicable</b> 5% of Tendered Value
	Release of Security Deposit	Successful Completion of Defect Liability period of 1 year.
Clause 2	<b>Compensation for Delay</b>	<b><u>Applicable and Modified:</u></b> <b>Timely completion of the work is very much/strictly essential due to time constraints</b> 0.50% of the total project cost per week. (Maximum up to 10% of the Project Cost)
Clause 2A	Incentive for Early Completion	Not Applicable
Clause 5	Time and Extension for Delay	<b>Applicable</b>
	Number of days from the date of issue of letter of acceptance for reckoning date of start	15 days
	Stipulated time of completion of project	<b>As Mentioned in NIT</b>
Clause 7	Payment on Intermediate Certificate to be Regarded as advance	Not Applicable
New Clause 7A (Added)	Payment	It is clearly agreed and understood by the Contractor that notwithstanding anything to the contrary that may be stated in the agreement between WAPCOS and the Contractor; the contractor shall become entitled to payment only after WAPCOS has received the corresponding payment(s) from the client/Owner/Funding Agency for the work done by the contractor. Any delay in the release of payment by the client/ Owner/ Funding Agency to WAPCOS leading to a delay in the release the corresponding payment by WAPCOS to the contractor shall not entitle the contractor to any compensation/ interest from WAPCOS.  All payments shall be released by way of e-transfer through RTGS in India directly at their Bank account by WAPCOS.
Clause 10	Materials Supplied by WAPCOS	Not Applicable
Clause 10A	Materials to be Provided by Contractor	<b>Applicable</b> In addition, The contractor shall get the Design mix report and testing of materials from NABL accredited Laboratory and carry out the tests in presence of WAPCOS Officials during the normal working hours.
Clause 10 B(i)	Secured Advance on non-perishable materials	Not Applicable
Clause 10 B(ii)	Mobilization Advance	Not Applicable

Clause No.	Description	Applicability/Modified/ Added
Clause 10 B(iii)	Plant Machinery & Shuttering Material Advance	Not Applicable
Clause 10 B(iv)	Interest & Recovery	Not Applicable
Clause 10 C	Payment on Account of Increase in Price / Wages due to Statutory Order	Not Applicable
Clause 10 CA	Payment due to Variation in Prices of Materials after Receipt of Tender	Not Applicable
Clause 10 CC	Payment due to Increase / Decrease in Prices / Wages (Excluding Materials covered under Clause 10 CA) after Receipt of Tender for Works	Not Applicable
Clause 11	Works to be Executed in Accordance with Specifications, Drawings, Orders etc. Specifications to be followed for execution of work	<p style="text-align: center;"><b>Applicable</b></p> <p>The following is added: All works are to be executed in accordance with the specifications, drawings. Details of items &amp; specifications mentioned elsewhere etc. given with this tender document.</p> <p>In case specification of any item is not clear, CPWD Specifications 2019 Vol. I to II with up to date correction slips issued on the last date of submission of tender for Civil work is applicable.</p>
Clause 12	<b>Deviations / Variations Extent</b> and Pricing	<p>Only first paragraph “The Engineer in charge----- work except as hereafter provided” <b>will be applicable.</b></p> <p>Second paragraph “the completion cost---- of tendered amount” will be omitted.</p>
	Clause 12.1	Not applicable
	Clause 12.2(a)	Modified as “In the case of extra item(s) (items that are completely new and not in the scope of works as per tender condition), the rates for extra items shall be determined on basis of latest DSR (Delhi Schedule of rates). In case extra items, which are not available in DSR, the market rates shall prevail with proper justification of rates and the contractor shall be paid in accordance with rate approved by WAPCOS.
	Clause 12.2(b)	<p>Modified as “The specification mentioned in Tender may be substituted as per the requirement of Owner/ WAPCOS.</p> <ul style="list-style-type: none"> <li>• In this case of substituted item(s) being DSR item, the rates for substituted items shall be determined on basis of latest DSR (Delhi Schedule of rates) as approved by WAPCOS.</li> <li>• In this case of substituted item(s) being Non DSR item, market rates shall prevail with proper justification of rates and the contractor shall be paid in accordance with rate approved by WAPCOS.</li> <li>• The rate of tendered item to be substituted will also be assessed by same above manner.</li> </ul>

Clause No.	Description	Applicability/Modified/ Added
		The plus/minus difference of rates of mutually substituted items will be submitted by Contractor and approved by WAPCOS. Accordingly the plus/minus difference of payment will be made to the Contractor for the substituted quantities.
	<p><b>Clause 12.2(c)</b> Deviation Limit beyond which clauses 12.2 &amp; 12.3 shall apply for all items other than foundation work (except earthwork) as mentioned in clause 12.5</p> <p><b>Clause 12.5</b> Deviation limit beyond which clause 12.2 &amp; 12.3 shall apply for foundation work (except earth work)</p> <p>Deviation limit for items in 100% earth work sub head of DSR or related items</p>	<p>Project &amp; Original Works</p> <p>100%</p> <p>100%</p> <p>100%</p> <p>Modified as “In case of deviated item(s) beyond the %age mentioned above (Non Scheduled item within DSR 2023) the contractor may within fifteen days of receipt of the order or occurrence of the item(s) claim rates, supported by the proper analysis on basis of market rates. Contractor shall be paid in accordance with rates approved by WAPCOS.</p> <p>In case of deviated item, beyond the % mentioned above, being the scheduled item (Delhi Schedule of Rates 2023), these shall be paid 89.29% of the scheduled rates plus the applicable cost index.</p>
Clause 15A	Compensation in case delay supply of material	Not Applicable
Clause 17	Contractor liable for Damages, Defects during Defect Liability Period Defect Liability Period	<p><b>Applicable</b></p> <p>Added/Modified: One year from the date of successful completion of each component of the project in all respect along with submission of all required documents i.e. As Built Drawings, Inventory List, Guarantee/Warranty Bonds, Certificates &amp; Invoices of Equipment's, Lock &amp; Key of each room and NOCs from various Departments.</p>
Clause 18	Contractor Supply Tools & Plants Etc.	Applicable
Clause 25	Settlement of Disputes & Arbitration	Not Applicable
Clause 27	Lump sum Provisions in Tender	Not Applicable
Clause 30	Employment of coal mining or controlled area labour not permissible	Not Applicable
Clause 33	Return of surplus material	Not Applicable
Clause 34	Hire of plant and Machinery	Not Applicable
Clause 36(i)	Requirement of Technical Representative(s)	

Clause No.	Description	Applicability/Modified/ Added			
	<b>S. No.</b>	<b>Requirement of Technical Staff</b>		<b>Minimum Experience (Yrs)</b>	<b>Designation of Technical Staff</b>
		<b>Minimum Qualification</b>	<b>Numbers</b>		
	1.	Graduate in Civil Engineering	1	07	Site In charge
	2	Diploma/ Degree (Civil)	1	03	Supervisor (Civil)
	3	Diploma/ ITI	1	03	Surveyor
*Curriculum vitae shall be submitted by the successful bidder after award of work					
Clause 42	Return of Material & Recovery for Material Issued		Not Applicable		
Clause 43	Compensation During War Like Situation		Not Applicable		
Clause 46	Insurance		Applicable		
Clause 47	Conditions Specific to Green Buildings Practices		Not Applicable		
Clause 49	Arbitration Clause		Yes, Applicable		

## **ADDITIONAL CONDITIONS**

1. The Contractor shall be responsible for consequential effects arising out during the inspection done by the Chief Technical Examiner Cell, Central Vigilance Commission or by the Building Works Committee or third party authorized by WAPCOS or any statutory committee or by any duly authorized representative of WAPCOS, during the progress or any time after the construction and development of project up to the defects liability period, and will take appropriate action for rectification of defective work and modification as suggested by the above teams/ group/ individual. Rectification of defective works or replacement of sub-standard materials or articles, as pointed out by the Chief Technical Cell, Central Vigilance Commission, Building Works Committee or authorized representative of WAPCOS or third party authorized by WAPCOS or any statutory committee, will be carried out or replaced by the Contractor at his own risk and cost. WAPCOS will not pay any extra amount for such rectification or replacement or modification.
2. The Construction/Execution Work may be subject to deletion from scope of work as per the desire/requirement from Client “NIFTEM-K, Sonipat”. In such cases before/during the construction, the contractor is not liable for any financial claim or damage charges or any claim whatsoever. The time extension will be granted to the contractor in such circumstances.
3. Unless otherwise provided in the Schedule of quantities, the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the building and nothing shall be payable to him on this account.
4. The construction work will only be commenced by the Contractor only after the approval/vetting of drawings from the concerned local authorities/ NIFTEM-K, Sonipat or any other department as per statutory requirement.
5. The contractor shall deploy the resources at site to start/resume the construction activities as per the availability of the clear & after the clearance from the Owner of the project, land/land clear from hindrance and subsequent written approval from WAPCOS. **No claim shall be entertained for idle labour, idle machinery, idle technical / non-technical staff, idle T&P if any, due to delay in start of the works.**
6. **Handing Over of the Project:** Contractor will hand over the project to Owner /Client after successful completion of each component of the project in all respect and complete satisfaction of Engineer-In-charge. **The partial handing over of works components shall not be considered.** Contractor shall also provide necessary Completion Certificates/NOCs from all local Government/ Statuary Authorities including Fire, Forest, Electrical, Environment, Lift, DG Set, required before handing over the project to the client. **The defects liability period will be one year after such handing over.**
7. If any dispute/ hindrance may arise during construction due to any reason whatsoever, the contractor is not liable for any financial claim for damages due to such circumstances.
8. The contractor shall provide one laptop of latest version/configuration along with printers (for A4 & A3 both b/w & colored printing) for Engineer- in-charge/ client along with one inspection vehicle, office furniture – tables, chairs, almirah for storage of documents etc., and any other miscellaneous requirement as directed by Engineer-in-charge for finalizing immediate technical solutions/decisions on the site, so that the work progress may not be hampered. An amount equal to 1% of the gross amount of running account bills and final bill will be deducted, if above facilities are not provided at site.
9. The Contractor shall render all help and assistance in documenting the total sequence of this project by way of photography, slides, audio-video recording etc. nothing extra shall be payable to the agency on this account.
10. Contractor should provide drinking water facility sufficient for workers employed at site, his technical staff and site staff.
11. The Contractor shall be solely responsible to follow the general clauses of the contract including labour regulations, registration of contractor, obtaining labour license from labour department, safety precautions, etc. and all other statutory provisions related to labor/works as per the prevailing General

Clauses of Contract amended from time to time. The Contractor shall stick to the schedule of all activities and carry out it with mutually agreed time frame.

12. Quoted amount by contractor shall be firm and fixed for entire contract period as well as extended period for completion of the works. **No escalation shall be applicable on this contract.** Quoted amount by the contractor shall be all inclusive and shall apply to all heights lifts, leads and depths of the building and nothing extra shall be payable on this account. The Contractor is advised to visit the sites before quoting the rates.
13. The contractor shall make his own arrangements for obtaining electric connection and water Connection/arrangement (if required). The water charges and electricity charges as charged by the NIFTEM-K, Sonipat and Local Authorities will be paid by the Contractor. No dispute in this regard shall be entertained.
14. The Contractor shall dispose off all the dismantled materials, debris, garbage, waste outside of the campus of the works at his own cost and provide clear and clean site at the time of handing over the works
15. The payment of final bill will be made after successful completion and handing over of the works with complete satisfaction of Engineer In-Charge as well as NIFTEM-K, Sonipat.
16. Some restrictions may be imposed by the security staff etc. on the working and for movement for labour materials etc. The contractor shall be bound to follow all such restrictions / instructions and nothing extra shall be payable on this account.
17. The contractor shall be entirely and exclusively responsible for the horizontal, vertical and other alignment, the level and correctness of every part of the work and shall rectify effectively any errors or imperfections therein. Such rectifications shall be carried out by the contractor at his own cost to the instructions and satisfaction of the Engineer-in-Charge.
18. No excavation or usage shall be permitted within NIFTEM-K premises for use of any materials.
19. Before installing/executing any materials list of items to be approved by Engineer In charge.
20. Proper documentation such as drawings, Invoices, test reports, QAP etc. shall be maintained by agency at site office. The contractor shall be furnished, free of charge, two certified copy of contract documents.
21. **COMPACTION:** Base and all fillings material must be compacted properly by using road roller/ Vibrating roller.
22. All auxiliary/ preparatory works associated to the main tendered works like temporary road for transport of material, construction of go down, cleaning of drains etc. are in the scope of bidder only. Employer/ NIFTEM-K will not provide any resources or support to complete the auxiliary/ preparatory works. No separate payment will be paid to the contractor for this auxiliary/ preparatory works by Employer/ NIFTEM-K.
23. Any equipment, material or services which are not mentioned in the tender document but required for completion of the work in safe and efficient manner shall be deemed to be included
24. The cost/rates quoted by the contractor are deemed to be inclusive of site clearance, setting out work, profile, establishment of reference bench mark, spot levels, construction of all safety and protection devices, barriers, earth embankments, preparatory works, all testing of materials working during monsoon, working at all depths, height and locations etc. unless specified in the schedule of quantities.
25. Royalty at the prevailing rates wherever payable shall have to be paid by the contractor on the boulders, metal, shingle, sand and bajri etc. or any other material collected by him for the work direct to revenue authorities and nothing extra shall be paid by the department/WAPCOS for the same.
26. The contractor shall provide at his own cost suitable weighing, surveying and leveling and measuring arrangements as may be necessary at site for checking. All such equipment shall be got calibrated in advance from laboratory, approved by the Engineer-in-Charge. Nothing extra shall be payable on this account.

27. (a) The work will be carried out in the manner complying in all respects with the requirements of relevant bye laws of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer in charge and nothing extra will be paid on this account.  
 (b) The contractor shall comply with proper and legal orders and directions of the local or public authority or municipality and abide by their rule and regulations and pay all fees and charges which he may be liable.
28. The contractor shall give a performance test of the entire installation(s) as per standing specification before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test.
29. Any cement slurry added over base surface (or) for continuation of concreting for better bond is deemed to have been in-built in the items and nothing extra shall be payable nor extra cement shall be considered in consumption on this account.
30. Samples of various materials required for testing shall be provided free of charges by the contractor. Testing charges, if any, unless otherwise provided shall be borne by the Contractor. All other expenditure required to be incurred for taking the samples, conveyance, packing etc. shall be borne by the contractor himself. **The testing of various construction materials shall be carried out as per the testing frequency mentioned in the CPWD Specifications/Manual/IS Code.** An amount equal to 0.5% of the gross amount of running account bills and final bill will be deducted, if the tests are not conducted as per the testing frequency. **The testing carried out from outside laboratory, shall be done through NABL Accredited labs only.**
31. The work shall be carried out in accordance with the Architectural drawings and structural drawings, to be issued from time to time, by the Engineer-in-Charge. Before commencement of any item of work the contractor shall correlate all the relevant architectural and structural drawings, nomenclature of items and specifications etc. issued for the work and satisfy himself that the information available there from is complete and unambiguous. The figure and written dimension of the drawings shall be superseding the measurement by scale. The discrepancy, if any, shall be brought to the notice of the Engineer-in-charge before execution of the work. The contractor alone shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and/ or incomplete information and no claim whatsoever shall be entertained on this account.
32. The contractor shall bear all incidental charges for cartage, storage and safe custody of materials issued by WAPCOS.
33. In the case of items of which abbreviated nomenclature is not available in the above cited publication and also in case of extra and substituted items of works for which abbreviated nomenclature is not provided in the agreement, the full nomenclature of items shall be reproduced in the measurements books and bill forms for running account bill. The full nomenclature of the items shall be adopted in preparing abstract of final bill in the measurement book and also in the bill form for final bill.
34. The contractor shall have to make approaches road to the site, if so required and keep them in good condition for transportation of labour and materials as well as inspection of works by the Engineer-in-charge. Nothing extra shall be paid on this account.
35. No payment shall be made for any damage caused by rain, snowfall, flood or any other natural calamity, whatsoever during the execution of the work. The contractor shall be fully responsible for any damage to the govt. property and work for which the payment has been advanced to him under the contract and he shall make good the same at his risk and cost. The contractor shall be fully responsible for safety and security of his material, T&P, Machinery brought to the site by him.
- ~~36. All mass Reinforced Cement Concrete work shall be design mix concrete of specified grade. Initial Design Mix shall be carried out from the Govt. approved Laboratory/NABL Accredited Lab/NIT/ITT, The contractor shall install on site automatic batching plant of sufficient capacity for production of design mix concrete which shall be used in the work.~~
37. Various factory made materials shall be procured from reputed and approved manufacturers or their authorized dealers. List of such approved manufacturers is provided in the tender document.
- ~~38. Contractor shall have to execute a Guarantee Bond in respect of Water Proofing works as per Performa~~

~~attached in this Tender Document. He shall also have to execute guarantee bonds for water supply and sanitary installations work as per Performa attached in this Tender Document.~~

39. The terms machine batched, machine mixed and machine vibrated concrete used elsewhere in agreement shall mean the concrete produced in concrete batching and mixing plant and if necessary transported by transit concrete mixers, placed in position by the concrete pumps, tower crane and vibrated by surface vibrator / needle vibrator / plate vibrator, as the case may be to achieve required strength and durability.
40. Wherever work is specified to be done or material procured through specialized agencies, their names shall be got approved well in advance from Engineer in charge. Failure to do so shall not justify delay in execution of work. It is suggested that immediately after award of work, contractor should negotiate with concerned specialist agencies and send their names for approval to Engineer in charge. Any material procured without prior approval of Engineer in charge in writing is liable to be rejected. Engineer in charge reserves right to get the materials tested in laboratories of his choice before final acceptance. Non-standard materials shall not be accepted.
41. Contractor will fully indemnify the corporation against all responsibility, any costs or expenses (including legal costs on an indemnity basis) and Claims of contractor's workmen in respect of personal injury or death or loss of, or damage to or interference with, any other property (whether real or personal), third party or to corporations' personnel and properties. Contractor shall abide by all the necessary provisions of various other Labour Laws/Acts viz. ESI/Bonus, Workmen's Compensation, EPF and any other laws and rules applicable, in this regard. If on account of noncompliance with the provisions of any laws, Employer is called upon to make any payment to or in respect of his employees, the service provider shall fully reimburse to Employer for all such payment and Employer shall be free to make deductions on this account from the amount of Performance Security and Security Deposit.
42. Doors and frames shall be procured from specialist firms and name of such agencies shall be got approved from the Engineer in charge well in advance.
43. The construction joints shall be provided in predetermined locations only as decided by Engineer in charge. The cost of shuttering for these construction joints shall be included in item of Concrete work / RCC work and nothing extra shall be payable on this account to the contractor.
44. The gradation of fine sand to be used in plaster work shall be strictly as per Table 3.1 (clause 3.1.3) of CPWD Specification 2009 Vol.-I conforming to IS 1542-1977. The plastered surface shall be fairly smooth without any undulation of any kind for applying paint/white wash.
45. No chase cutting/dismantling of plaster/RCC/CC shall be allowed, so contractor has to execute the electrical work accordingly.
46. The contractor shall invariably prepare the samples of finishing items i.e. flooring of different types, external & internal finishing i/c colour scheme of paint, tiles in dado, flooring in platforms & staircase, water supply & sanitary fittings and any other item as per direction of Engineer-in-charge. The contractor shall proceed with further finishing items only after getting the samples of these items approved in writing from Engineer-in-charge.
47. One sample quarter/room complete in all shape for each category, shall be prepared by the contractor and got approved from Engineer-in-charge in writing. The contractor shall be allowed to proceed with further quarters only after getting the sample quarters approved in writing from Engineer-in-charge. No extra claim whatsoever beyond the payments due at agreement rates will be entertained from the contractor on this account.
48. The contractor shall take instruction from the Engineer in charge for stacking of materials at any place. No excavated earth or building material shall be stacked on areas where other buildings, roads, services or compound walls are to be constructed.
49. If as per municipal rules, the huts for labour are not be created at the site of work by the contractors, the contractor are required to provide such accommodation as is acceptable to local bodies and nothing extra shall be paid on this account.
50. Royalty at the prevalent rates shall be payable by the contractor on all the boulders, metals, shingle,

sand and bajri etc. collected by him for the execution of the work, direct to the Revenue authority or authorized agent of the state Government concerned or Central Government. No such claim of Contractor on royalty shall be entertained by the WAPCOS.

~~51. The contractor shall establish a fully equipped site laboratory and shall provide electrically operated cube crushing and testing machine appliance at site, such as weighing, scale, graduated cylinder, standard sieves, thermometer, slump cones, testing machines for testing of bitumen content, CBR Value, aggregate impact value, ductility & softening point of bitumen, VG of bitumen, MDD & compaction value, Sand replacement, elongation & flakiness of aggregates etc. all relevant tests for BMC / RMC as per prescribed IS codes in order to enable the Engineer in charge to conduct field tests to ensure that the quality is consistent with the prescribed specifications and nothing extra shall be paid on this account.~~

**52. Special Condition for BITUMINOUS WORK**

- A. The work shall be done in accordance with CPWD Specifications - 2019 Vol. I & Vol. II with upto date correction slips.
- B. The contractor shall procure bitumen of required grade as specified confirming to IS:73- 1992 with upto date amendments and other relevant codes from approved manufactures of Repute.
- C. The contractor shall have to obtain and furnish test certificate issued by manufacturer to the Engineer-un-Charge in respect of bitumen procured by him.
- D. The samples shall be collected at discretion of Engineer-in-Charge and got tested as per provisions of IS:73/CPWD specification from the approved laboratories.

53. The contractor or his authorized representative shall associate in collection, preparation, forwarding and testing of such samples. In case, he or his authorized representative is not present or does not associate himself, the results of such tests and consequences thereon shall be binding on the contractor.

54. The contractor shall get the water tested with regard to its suitability of use in the works and get written approval from the Engineer in charge before he proceeds with the use of same of execution of works. The suitable water for construction shall be arranged by Contractor at his own cost and nothing extra shall be paid to the contractor on this account.

55. The material shall conform to the quality and make as per attached list attached in the tender document. However for the items not appearing in the list preference shall be given to those articles which bear ISI certification marks. In case articles bearing ISI certification marks are not available, the quality of sample brought by the Contractor shall be judged by the standard laid down in the relevant ISI specification/CPWD specification. All materials and articles brought by the contractor to the site for use shall conform to the samples approved, which shall be preserved till the completion of the work. However, such articles which bear ISI mark but stand banned by CPWD will not be used. Notwithstanding the case of materials of "Preferred Make" as given provisions of Clause 10A of the General Conditions of Contract for Central PWD works shall be applicable on the materials of "Preferred Make" also.

56. It must be ensure that all materials to be used in work bear BIS certification mark. In cases where BIS certification system is available for a particular material/product but not even a single producer has so far approached BIS for certification the material can be used subject to the condition that it should confirm to CPWD specification and relevant BIS codes. In such case written approval of the Engineer-In-Charge may be obtained before use of such material in the work.

57. The final approval of the brand to be used shall be as per the direction of Engineer-in-Charge. The brand used shall be one of the brands in case specified in the list of preferred make / materials.

58. In case of non-availability of material of the brands specified in the list of approved materials, an equivalent brand may be used after getting written approval of WAPCOS giving details to indicate that the brand proposed to be used is equivalent to the brands mentioned in the agreement.

**59. Special conditions for Cement**

The contractor shall procure 43 grade Ordinary Portland Cement (conforming to IS : 8112), Portland Pozzolona Cement (confirming to IS : 1489 : Part –I) as required in the work, from reputed manufacturers of cement as per the list of approved makes mentioned in the tender

document or from any other reputed cement manufacturer, having a production capacity not less than one million tons per annum as approved by WAPCOS. The tenderers may also submit a list of names of cement manufacturers which they propose to use in the work. The tender accepting authority reserves right to accept or reject name(s) of cement manufacture(s) which the tenderer proposes to use in the work. No change in the tendered rates will be accepted if the tender accepting authority does not accept the list of cement manufactures, given by the tenderer, fully or partially. The cement brought to the site for execution of work shall be in bags bearing manufacturer's name & ISI marking. Weight of cement in each bag shall be 50 kg. Samples of cement arranged by the contractor shall be taken by the Engineer- in-Charge and got tested in accordance with provisions of relevant BIS codes. In case the test results indicate that the cement arranged by the contractor does not conform to the relevant BIS codes, the same shall stand rejected and it shall be removed from the site by the contractor at his own cost within 7 days of written order from the Engineer-in-Charge to do so.

60. **Special condition for steel reinforcement bars**

The CPWD / Contractor shall / procure IS marked TMT bars of various grades from

**(1) The steel Manufacturers such as SAIL, TATA Steel Ltd., RINL, Jindal Steel & Power Ltd, JSW Steel Ltd., Shyam Steel or their authorized dealers having valid BIS license for IS: 1786-2008 (Amendment-1 November 2012)**

**(2) (a) The steel manufactures or their authorized dealers (as per following selection criteria) having valid BIS license for IS: 1786-2008 (Amendment-1 November 2012).**

The procured steel should have following qualities:-

- i. Excellent ductility, bend ability and elongation of finished product due to possible refining technology.
- ii. Consumption of steel should be accurate as per design.
- iii. Steel should have no brittleness problem in finished product.
- iv. Steel should carry the quality of corrosion and earthquake resistance.
- v. Quality steel with achievement of proper level of sulphur and phosphorus as per IS: 1786-2008.

**b) Selection Criteria of steel manufacturers**

**(I)** The supply of reinforcement steel for all CPWD works should have following selection criteria of steel manufacturers:-

Steel producers of any capacity using iron ore / processed iron ore as the basic raw material adopting advanced refining technologies as given under,

- (i) DRI-EAF = Direct Reduced iron – Electric Arc furnace
- (ii) BF-BOF – Blast furnace – Basic Oxygen Furnace
- (iii) COREX-BOF = COREX – Basic Oxygen Furnace

For production of liquid steel to finish product at single / multiple locations with NABL or any other similarly placed accrediting Government body which operates in accordance with ISO/IEC 17011 and accredits labs as per ISO/IEC 17025 conforming to IS: 1786-2008 (Amendment -1 November 2012).

The check list for incorporation of any quality steel producer is enclosed for technical assessment is given in Annexure – 1.

Chief Engineer CSQ (Civil) unit, Directorate of CPWD shall approve the steel manufacturers.

(II) The contractor shall have to obtain the furnish test certificates to the Engineer-in-charge in respect of all supplies of steel brought by him to the site of work.

(III) Samples shall also be taken and got tested by the Engineer-in-charge as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications, the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week time or written orders from the Engineer-in-charge to do so.

(IV) The steel reinforcement bars shall be stored be brought to the site in bulk supply of 10 tonnes or more, or as decided by the Engineer-in-charge.

(V) The steel reinforcement bars shall be stored by the contractor at site of work in such a way as to prevent their distortion and corrosion, and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.

(VI) For checking nominal mass, tensile strength, bend test, re-bend test etc. specimens of sufficient length shall be cut from each size of the bar at random, and a frequency not less than specified below:

Size of bar	For consignment below 100 tonnes	For consignment above 100 tonnes
Under 10 mm dia bars	One sample for each 25 tonnes or part thereof	One sample for each 40 tonnes or part thereof
Under 10 mm to 16 mm dia bars	One sample for each 35 tonnes or part thereof	One sample for each 45 tonnes or part thereof
Under 10 mm to 16 mm dia bars	One sample for each 45 tonnes or part thereof	One sample for each 50 tonnes or part thereof

(VII) The contractor shall supply free of charge the steel required for testing including its transportation to testing laboratories. The cost of tests shall be borne by the contractor.

(VIII) The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumptions of steel shall be worked out as per procedure prescribed in clause 42 of the contract and shall be governed by conditions laid therein. In case the consumption is less than theoretical consumption including permissible variations recovery at the rate so prescribed shall be made. In case of excess consumption no adjustment need to be made.

(IX) The steel brought to site and the steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge.

**61. Removal of rejected/sub-standard materials.**

The following procedure shall be followed for the removal of rejected/sub-standard materials from the site of work:

- (i) Whenever any material brought by the contractor to the site of work is rejected, entry thereof should invariably be made in the Site Order Book under the signature of the Engineer-In-Charge, giving the approximate quantity of such materials.

- (ii) As soon as the material is removed, a certificate to that effect shall be recorded by the Engineer-In-Charge against the original entry, giving, the date of removal and mode of removal, i.e., whether by truck, carts, or by manual labour. If the removal is by truck, the registration number of the truck should be recorded.
  - (iii) When it is not possible for the Engineer-In-Charge to be present at the site of work at the time of actual removal of the rejected/sub-standard materials from the site, the required certificate should be recorded by the Authorized Representative of WAPCOS, and the Engineer-In-Charge should countersign the certificate recorded by the Authorized Representative.
62. In case of works where a ready mix concrete (RMC) is stipulated to be used from an approved source/manufacturer, cement register need not be maintained. However, the computerized dispatch slips that are sent with each dispatch of RMC shall be kept as record.
63. If the work is carried out in more than one shift or during night, no claim on this account shall be entertained. The contractor has to take permission from the police & local authorities etc. if required for work during night hours. No claim / hindrance on this account shall be considered if work is not allowed during night time. The requisite supervision shall be made available by the WAPCOS along with necessary issue of material under joint custody.
64. After the Project is completed, the contractor shall be responsible to attend & rectify the defects pointed out by WAPCOS and then hand over to the client. Nothing extra shall be paid on this account.
65. Contractor shall not divert any advance payments or part thereof for any work other than that needed for completion of the contracted work. All advance payments received as per terms of the contract (i.e. mobilization advance, secured advance against materials brought at site, secured advance against plant & machinery and/or for work done during interim stages, etc.) are required to be re-invested in the contracted work to ensure advance availability of resources in terms of materials, labour, plant & machinery needed for required pace of progress for timely completion of work.
66. All running account bills preferred by the contractor for advance payments shall be processed only if Engineer-in-charge is satisfied that up to date investments (excluding security deposit & performance guarantee, which are not considered as investments) made by the contractor against contracted work are more than the payments received. Accordingly, all running account bills shall be supported with an account of up-to-date payments received vis-a-vis upto date investments made on the work to enable engineer-in-charge to check to his satisfaction that the payments made by engineer-in-charge are properly utilized only on the work and nowhere else.

**For & on behalf of Tenderer**

## **SECTION – V**

## **ANNEXURES**

**Annexure – I**  
**FORM OF PERFORMANCE GUARANTEE**

To,  
WAPCOS Limited,  
76-C, Sector 18, Institutional Area  
Gurgaon, Haryana-122015.

In consideration of \_\_\_\_\_ (Employer’s name) (hereinafter referred to as “the Employer”) which expression shall, unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to \_\_\_\_\_ (Contractor’s name & address) (hereinafter referred to as “the Contractor” which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) a contract, by issue of Employer’s Notification of Award No. \_\_\_\_\_ dt. \_\_\_\_\_ and the same having been unequivocally accepted by the Contractor, resulting into a contract valued at Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) for \_\_\_\_\_ (name of work) (hereinafter called “the contract”) and the Contractor having agreed to provide a Contract Performance Guarantee for the faithful performance of the entire contract equivalent to Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) (3 % of the said value of the Contract to the Employer).

We, \_\_\_\_\_ (name & address of bank) (hereinafter referred to as "the Bank" which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Employer, on demand any or, all monies payable by the Contractor to the extent of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) as aforesaid at any time upto \_\_\_\_\_ without any demur, reservation, contest, recourse or protest and/or without any reference to the Contractor or court. Any such demand made by the Employer on the bank shall be conclusive and binding notwithstanding any difference between the Employer and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the Employer and further agrees that the guarantee herein contained shall continue to be enforceable till the Employer discharges this guarantee.

We the said Bank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said contract have been fully paid and its claims satisfied or discharged or till the Employer certifies that the terms and conditions of the said Contract have been fully and properly carried out by the said Contractor and accordingly discharges the guarantee.

The Employer shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee, from, time to time to extend the time for performance of the Contract by the Contractor. The Employer shall have the fullest liberty without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor and to exercise the same at any time in any manner and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the Employer and the Contractor or any other course or remedy or security available to the Employer. The bank shall not be released of its obligations under these presents by any exercise by the Employer of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Employer or any other indulgence shown by the Employer or by any other matter or thing whatsoever which under law would but for this provision, have the effect of relieving the Bank. The guarantee shall not be affected by a change in the constitution of the bank or of the employer.

The bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance, without proceeding against the Contractor and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's liabilities.

We the said Bank do hereby declare that we have absolute and unconditional power to issue this guarantee in your favour under the Memorandum and Articles of Association or such other constitutional documents

of the Bank and the undersigned have full power to execute this guarantee under the Power of Attorney / Post Approval Authorization dated \_\_\_\_\_ of the bank granted to him / us by the Bank. We the said bank do hereby declare and undertake that your claim under the guarantee shall not be affected by any deficiency or other defect in the powers of the bank or its officials and the guarantee shall be deemed to have been issued as if the bank and its officials have all the powers and authorization to give this guarantee on behalf of the bank.

We the said bank do hereby certify the genuineness and appropriateness of the Stamp paper and stamp value used for issuing the guarantee. We the said bank do hereby declare and undertake that your claim under the guarantee shall not be affected by any deficiency or other defect in the stamp paper or its stamp value.

We the said bank do hereby declare that our payments hereunder shall be made to you , free and clear of and without and deduction, reduction on account of any reasons including any and all present and future taxes, levies, charges of withholding whatsoever imposed or collected with respect thereto.

Notwithstanding anything contained hereinabove our liability under this guarantee is restricted to Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) and it shall remain in force upto and including \_\_\_\_\_ and shall be extended from time to time for such period as may be desired by M/s WAPCOS Limited to whom this bank guarantee has been given.

Notwithstanding anything contained herein

- i) Our liability under this guarantee shall not exceed Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only);
- ii) This bank guarantee shall be valid upto \_\_\_\_\_; and
- iii) our liability to make payment shall arise and we are liable to pay the guaranteed amount or any part thereof under this guarantee, only and only if you serve upon us a written claim or demand in terms of the guarantee on or before \_\_\_\_\_ (**indicate a date twelve month after validity of Guarantee**)

Dated this \_\_\_\_\_ day of \_\_\_\_\_ at New Delhi.

**Annexure – II**  
**FORMAT FOR AFFIDAVIT**

I / We have submitted a bank guarantee for the work (Name of work) Agreement No. \_\_\_\_\_ Dated \_\_\_\_\_ from \_\_\_\_\_ (Name of the Bank with full address) to the WAPCOS Limited, New Delhi with a view to seek exemption from payment of performance guarantee in cash. This Bank guarantee expires on \_\_\_\_\_. I / We undertake to keep the validity of the bank guarantee intact by getting it extended from time to time at my / our own initiative upto a period of \_\_\_\_\_ months after the recorded date of completion of the work or as directed by the WAPCOS.

I / We also indemnify the WAPCOS against any losses arising out of non-encasement of the bank guarantee if any.

(Deponent)  
Signature of Contractor

Note: The affidavit is to be given by the Executants before a first class Magistrate.

## **SECTION – VI**

### **FORMS**

**“FORM-1”**

**LETTER OF TRANSMITTAL FOR TECHNICAL BID**

(On Bidder **Original** Letter Head)

To

Chief Engineer-II  
INFS-I Division  
WAPCOS Limited  
76-C, Institutional Area, Sector - 18  
Gurugram-122015, Haryana  
Email: iwrm@wapcos.co.in

**Subject:** Resurfacing of Bitumen Roads at NIFTEM Kundli, Sonipat, Haryana

Sir,

Having examined the details given in tender document for the above work, I/we hereby submit the relevant information.

1. I/we hereby certify that all the statement made and information supplied in the enclosed Forms A to H and accompanying statement are true and correct.
2. I/we have furnished all information and details necessary for eligibility and have no further pertinent information to supply.
3. I/we submit the requisite certified solvency certificate and authorize the WAPCOS Ltd. to approach the Bank issuing the solvency certificate to confirm the correctness thereof. I/we also authorize WAPCOS Ltd. to approach individuals, employers, firms and corporation to verify our competence and general reputation.
4. I/we submit the following certificates in support of our suitability, technical knowledge and capability for having successfully completed the following eligible similar works:

Name of work	Certificate from

**Certificate:**

It is certified that the information given in the enclosed eligibility bid are correct. It is also certified that I/we shall be liable to be debarred, disqualified / cancellation of enlistment in case any information furnished by me/us found to be incorrect.

Enclosures:

Seal of bidder

Date of submission: Signature(s) of Bidder(s).

**FORM-A**  
**FINANCIAL INFORMATION**

[To be submitted on Original Letter Head of Bidder OR Original Letter Head of CA]

**Financial Analysis:** Details to be furnished duly supported by figures in balance sheet/ profit & loss account for the last three years duly certified by the Chartered Accountant, as submitted by the applicant to the Income Tax Department (Copies to be attached).

Years	Gross Annual Turnover from Construction works	Profit/Loss (After Tax)
2019-2020		
2020-2021		
2021-2022		
2022-2023		
2023-2024		

Financial arrangements for carrying out the proposed work: It is hereby declared that -----  
(Name of firm with address) has enough financial resources to execute the proposed work.

**Signature of Chartered Accountant**  
**(with Seal)**  
**UDIN No.**

**Note:**

- a) Signature with Stamp of CA is Mandatory.
- b) UDIN No has to be mentioned in the Certificate.
- c) Balance sheets shall be required to submit along with the Form-A

**FORM- B****STRUCTURE & ORGANISATION***(On Bidder **Original** Letter Head)*

S.No.	Particulars	Details Submitted by Bidder
1.	Name & address of the bidder	
2.	<b>Contact Details</b> a) Mobile No. b) Email id c) Website:	
3.	Legal status of the bidder (attach copies of original document defining the legal status) (a) An Individual (b) A proprietary firm (c) A firm in partnership (d) A limited company or Corporation	
4.	Particulars of registration with Government Body (attach attested photocopy)	
5.	Names and titles of Directors & Officers with designation to be concerned with this work.	
6.	Designation of individuals authorized to act for the organization	
7.	Has the bidder or any constituent partner in case of partnership firm Limited Company/ Joint Venture, ever been convicted by the court of law? If so, give details.	
8.	Any other information considered necessary but not included above.	

**Signature of Bidder(s)**

**FORM-C**

**FORMAT FOR NO-CONVICTION CERTIFICATE**

[To be submitted on Bidder’s **Original** Letter Head]

**Subject: No-Conviction Certificate for --- (Name of the work / project)**

This is to certify that \_\_\_\_\_ (Name of the organization), having registered office at \_\_\_\_\_ (Address of the registered office) has never been blacklisted or restricted to apply for any such activities by any Central / State Government Department or Court of law anywhere in the country.

This is also to certify that M/s \_\_\_\_\_ (Name of the organization), is not involved in any form of Corrupt and Fraudulent Practices in past and will never be involved in future.

Yours faithfully,

Date:

(Signature, name and designation  
of the Authorized signatory)

Place:

**Name and seal of Bidder**

**FORM-D**

**FORMAT FOR UNDERSTANDING THE PROJECT SITE**

[To be submitted on Bidder’s **Original** Letter Head]

To

Chief Engineer-II  
INFS-I Division  
WAPCOS Limited  
76-C, Institutional Area, Sector - 18  
Gurugram-122015, Haryana  
Email: iwrm@wapcos.co.in

**Subject: Undertaking of the Site Visit for “Resurfacing of Bitumen Roads at NIFTEM Kundli, Sonipat, Haryana”**

Sir,

I/we hereby certify that I/we have examined & inspected the site & its surrounding satisfactorily, where the project is to be executed as per the scope of works. I/ We are well aware about the following

- Location on tendered works at NIFTEM-K, Sonipat in Haryana
- Site clearance and no cutting off the matured trees.
- Topography and contouring of the land where the project is to be executed to understand the cutting & filling during the construction.
- Nature of the ground & sub-soil of the site and Accessibility to the site and present conditions of the sites where the resurfacing of Road works to be taken up.
- Existing surrounding, road level was understood.
- Location of Existing Sewer line , Water pipe line network, Firefighting pipeline network, and Water body pipeline network have been understood
- Position of existing underground & overhead HT/ LT electric lines etc have been understood.
- Safety of Surrounding structures during excavation and during execution of work
- Hindrances, if any, which may arise during the execution of work

I / We hereby submit our BID considering above all facts gathered during site visit and each & every aspect have been considered in the Quoted cost of the project. I / We hereby confirm that no extra/additional cost shall be claimed on above aspects

Yours faithfully,

Date:

(Signature, name and designation  
of the Authorized signatory)

Place:

**Name and seal of Bidder z**

**FORM-E**

**FORMAT FOR NO DEVIATION CERTIFICATE**

[To be submitted on Bidder’s **Original** Letter Head]

**To,**

INFS-I Division  
WAPCOS Limited  
76-C, Institutional Area, Sector - 18  
Gurugram-122015, Haryana  
Email: wapcosgoa@yahoo.com

**Subject: No Deviation Certificate for “Resurfacing of Bitumen Roads at NIFTEM Kundli, Sonipat, Haryana”**

Dear Sir,

With reference to above this is to confirm that as per Tender conditions we have visited site before submission of our Offer and noted the job content and site condition etc. We also confirm that we have not changed/modified the above tender document and in case of observance of the same at any stage it shall be treated as null and void.

We hereby also confirm that we have not taken any deviation from Tender Clause together with other reference as enumerated in the above referred Notice Inviting Tender and we hereby convey our unconditional acceptance to all terms & conditions as stipulated in the Tender Document.

In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null and void.

Yours faithfully,

Date:

(Signature, name and designation  
of the Authorized signatory)

Place:

**Name and seal of Bidder**

**FORM-F**

**FORMAT FOR INTEGRITY PACT**

[To be submitted on Bidder's **Original** Letter Head]

**To,**

WAPCOS Limited,  
76-C, Sector 18,  
Institutional Area  
Gurgaon-122015, Haryana

**Sub: Integrity Pact for ----- (Name of Work / Project)**

Dear Sir,

I/We acknowledge that WAPCOS is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document at **Enclosure-I**.

I/We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I/We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process. I/We acknowledge that THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by WAPCOS. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 of the enclosed Integrity Agreement.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, WAPCOS shall have unqualified, absolute and unfettered right to disqualify the tenderer/bidder and reject the tender/bid in accordance with terms and conditions of the tender/bid.

Yours faithfully,

Date:

(Signature, name and designation  
of the Authorized signatory)

Place:

**Name and seal of Bidder**

**Enclosure-I**  
**INTEGRITY AGREEMENT**

[To be submitted on Bidder’s **Original** Letter Head or Stamp Paper]

This Integrity Agreement is made at ..... on this..... day of ..... 20.....

**BETWEEN**

WAPCOS Limited, New Delhi (Hereinafter referred as the **‘Principal/Owner’**, which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

**AND**

.....  
(Name and Address of the Individual/firm/Company)

through..... (Hereinafter referred to as the

(Details of duly authorized signatory)

**“Bidder/Contractor”** and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

**Preamble**

WHEREAS the Principal / Owner has floated the Tender (NIT No. ....) (hereinafter referred to as “Tender/Bid”) and intends to award, under laid down organizational procedure, contract for..... (Name of work) hereinafter referred to as the “Contract”.

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s).

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as “Integrity Pact” or “Pact”), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under:-

**Article 1: Commitment of the Principal/Owner**

- (1) The Principal/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:
  - (a) No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
  - (b) The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.
  - (c) The Principal/Owner shall endeavour to exclude from the Tender process any person, whose conduct in the past has been of biased nature.
- (2) If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this

regard, the Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

## **Article 2: Commitment of the Bidder(s)/Contractor(s)**

- (1) It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the WAPCOS all suspected acts of fraud or corruption or Coercion or Collusion of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
- (2) The Bidder(s)/Contractor(s) commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:
  - (a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.
  - (b) The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.
  - (c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/Contractor(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
  - (d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/ representatives in India, if any. Similarly Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participate in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.
  - (e) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.
- (3) The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- (4) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the WAPCOS interests.
- (5) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/her reputation or property to influence their participation in the tendering process).

## **Article 3: Consequences of Breach**

Without prejudice to any rights that may be available to the Principal/Owner under law or the Contract or its established policies and laid down procedures, the Principal/Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder/ Contractor accepts and undertakes to respect and uphold the Principal/Owner's absolute right:

- (2) If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days’ notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. Such exclusion may be forever or for a limited period as decided by the Principal/Owner.
- (3) Forfeiture of EMD/Performance Guarantee/Security Deposit: If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder/Contractor.
- (4) Criminal Liability: If the Principal/Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

#### **Article 4: Previous Transgression**

- (1) The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.
- (2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holiday listing of the Bidder/Contractor as deemed fit by the Principal/ Owner.
- (3) If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

#### **Article 5: Equal Treatment of all Bidders/Contractors/Subcontractors**

- (1) The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Subcontractors/sub-vendors.
- (2) The Principal/Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.
- (3) The Principal/Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

#### **Article 6: Duration of the Pact**

- (1) This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 12 months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded.
- (2) If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority, WAPCOS

#### **Article 7: Other Provisions**

- (1) This Pact is subject to Indian Law, place of performance and jurisdiction is the Headquarters of the Principal/Owner, who has floated the Tender.
- (2) Changes and supplements need to be made in writing. Side agreements have not been made.
- (3) If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.
- (4) Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- (5) It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action taken by the Owner/Principal in accordance with this Integrity Agreement/ Pact or interpretation thereof shall not be subject to arbitration.

#### **Article 8: LEGAL AND PRIOR RIGHTS**

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contact documents with regard any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses:

.....  
(For and on behalf of Principal/Owner)

.....  
(For and on behalf of Bidder/Contractor)

WITNESSES:

1.....  
(signature, name and address)

2.....  
(signature, name and address)

Place:

Dated:

**FORM-G**[To be submitted on Bidder's **Original** Letter Head]**LITIGATION HISTORY, LIQUIDATED DAMAGES, DISQUALIFICATION**

**Subject:** The Bidders should provide information as per this Performa for the firm/company on any history of litigation or arbitration resulting from contracts executed in the last 5 years ending 31.12.2024 or currently in execution.

**1. ARBITRATION CASES**

Year	Name of work	Name and address of Client	Cause of litigation and matter in dispute	Disputed amount in Rs.	Actual Award amount in Rs.

**2. COURT CASES**

Year	Name of work	Name and address of Client	Cause of litigation and matter in dispute	Name of court	If judgment given whether for or against the Tenderer

**3. Information Regarding Current Litigation, Debarring / Expelling of Tenderer or Abandonment of Work by Tenderer.**

- a) i) Has the Bidder consistent history of Litigation.....Yes/No  
ii) If yes, give details:
- b) i) Has the Bidder been debarred/ expelled by any Agency in India, during the last 5 years on the date of application except on account of reasons other than non- performance, ..... Yes/No  
ii) If yes, give details:
- c) i) Has the Bidder abandoned any contract work during the last 5 years...Yes/No  
ii) If yes, give details:
- d) i) Has the Bidder been declared bankrupt during the last 5 years...Yes/No  
ii) (If yes, give details, including present status:
- e) i) Has the Bidder been debarred by client or by any Department... Yes/No  
ii) If yes, give details:

Note: i) Separate sheet may be used for giving detailed information.

If any information in this schedule is found to be incorrect or concealed, pre- Qualification of bidder will be summarily rejected.

Yours faithfully,

Date:

(Signature, name and designation of the Authorized signatory)

Place:

**Name and seal of Bidder**

**FORM-H**

**DELETED**

**FORM-I**

**FORMAT FOR SOLVENCY CERTIFICATE**

**SOLVENCY CERTIFICATE**

To,  
The Chief Engineer-II  
INFS-1 Division, WAPCOS Limited,  
76-C, Sector 18, Gurugram-122015

Name of Work: **Resurfacing of Bitumen Roads at NIFTEM Kundli, Sonipat, Haryana**

This is to certify that to the best of our knowledge and information M/s \_\_\_\_\_ having marginally noted address, a customer of our bank are/is respectable and can be treated as good for any engagement \_\_\_\_\_ up \_\_\_\_\_ to \_\_\_\_\_ a \_\_\_\_\_ limit \_\_\_\_\_ of Rs. \_\_\_\_\_ (Rupees.....)

This certificate is issued without any guarantee or responsibility on the Bank or any of the officers for the work “*Resurfacing of Bitumen Roads at NIFTEM Kundli, Sonipat, Haryana*”

(Signature) For the Bank with seal  
Name:  
Designation:  
Power of Attorney No.:

**Note:**

- 1) Solvency Certificate should be in Original on letter head of the Bank.
- 2) The date of Solvency Certificate shall be after the publication of the tender.

## FORM-J

**DETAILS OF SIMILAR WORK COMPLETED DURING THE SEVEN YEARS**

Sl No.	Name of The work & location	Owner or sponsoring organization	Cost of Work (in Crores)	Date of Commencement as per Contract	Stipulated Date of Completion	Actual Date of Completion	Litigation/ Arbitration cases which are over and Litigation/ Arbitration cases pending/ in progress with details	Name & address/ telephone number of Executive Engineer/ Project Manager or equivalent to whom reference shall be made	Remark / Reasons for delay and compensation charged if any
1	2	3	4	6	7	8	9	10	11
<u>1.</u>									
<u>2.</u>									
<u>3.</u>									
<u>4.</u>									
<u>5.</u>									

(Signature of Bidders)

## **SECTION– VII**

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### **APPENDIX**

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**APPENDIX-I**

**BANK GUARANTEE FORMAT FOR EMD**

WHEREAS, M/s ..... having their Registered/Head Office at ..... (hereinafter called “the Bidder”) has submitted his Bid dated ..... for the ..... [hereinafter called “the Bid”] to M/s WAPCOS Limited (hereinafter called the Employer)

KNOW ALL PEOPLE by these presents that we ..... (Name of the Bank) having our head office at ..... (hereinafter called “the Bank”) are bound unto Employer in the sum of ..... for which payment well and truly to be made to the Employer, the Bank binds itself, its successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this ..... day of ..... month..... year.

THE CONDITIONS of this obligation are:

1. If after Bid opening the Bidder withdraws his bid during the period of Bid validity specified;
- OR
2. If the Bidder having been notified of the acceptance of his bid by ..... during the period of Bid Validity:

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

This Guarantee will remain in force up to and including the date ..... after the deadline for submission of Bids as is stated in the instructions to Bidders or as it may be extended by the ..... notice of which extension(s) to the Bank is hereby waived and notice to the bidder would constitute sufficient notice to the Bank. Any demand in respect of this guarantee should reach the Bank not later than the above date.

Notwithstanding anything contained herein

- i) Liability under this guarantee shall not exceed .....
- ii) This bank guarantee shall be valid upto ..... and;
- iii) Our liability to make payment shall arise and we are liable to pay the guaranteed amount or any part thereof under this guarantee only and only if you serve upon us a written claim or demand in terms of the guarantee on or before ..... (**Indicate a period twelve months after the date of issue of Bank Guarantee**).

DATE:  
(Signature of Witness)

**SIGNATURE:**  
**SEAL**

**APPENDIX-II**

**ACCEPTABLE MAKES OF MATERIALS**

**DELETED**

### **APPENDIX-III**

#### **SAFETY CODES**

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 (12ft.) 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. (3ft.) 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 (12ft.) above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (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. (3ft.).
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. (30ft.) 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. (4ft.) or more in depth, shall at all times be supplied with at least one ladder for each 30 m. (100ft.) in length or fraction thereof, Ladder shall extend from bottom of the trench to at least 90 cm. (3ft.) above the surface of the ground. The side of the trenches which are 1.5 m. (5ft.) 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. (5ft.) 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 50m all round the point of drilling to avoid entry of people;

- iv. After drilling the borewell, a cement platform (0.50m x 0.50m x 1.20m) 0.60m above ground level and 0.60m below ground level should be constructed around the well casing;
  - v. After the completion of the borewell, the contractor should cap the bore well properly by welding steel plate, cover the bore well with the drilled wet soil and fix thorny shrubs over the soil. This should be done even while repairing the pump;
  - vi. After the borewell 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 eyeshields.
  - (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 atleast 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 JE 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 may decide the time up to 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 metres away from the opening and on the leeward side protected from wind so that they will not be a source of friction on any inflammable gas that might be present.
  - (l) The workers engaged for cleaning the manholes/sewers should be properly trained before allowing to work in the manhole.
  - (m) The workers shall be provided with Gumboots or non sparking shoes bump helmet and gloves non sparking tools safety lights and 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 extent to which these precautions are to be taken depend on individual situation but the decision of the Engineer-in-Charge regarding the steps to be taken in this regard in an individual case will be final.
  - (vi) The 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, the following precaution 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.
9. 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 these 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 a 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.
  - (viii) WAPCOS 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 the 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 the 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 and 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 the operations of any other Act or Rule in force in the Republic of India.

#### **APPENDIX-IV**

### **MODEL RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS EMPLOYED BY CONTRACTORS**

#### **1. APPLICATION**

These rules shall apply to all buildings and construction works in which twenty or more workers are ordinarily employed or are proposed to be employed in any day during the period during which 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 during which 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 back ground and shall contain the following equipment:-
  - (a) For work places in which the number of contract labour employed does not exceed 50- Each first-aid box shall contain the following equipments :-
    - 1) 6 small sterilized dressings.
    - 2) 3 medium size sterilized dressings.
    - 3) 3 large size sterilized dressings.
    - 4) 3 large sterilized 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 gms.) 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, Government of India.
    - 11) 1 bottle containing 100 tablet (each of 5 gms.) of aspirin.
    - 12) Ointment for burns.
    - 13) A bottle of suitable surgical antiseptic solution
  - (b) For work places in which the number of contract labour exceed 50. Each first-aid box shall contain the following equipment.
    - 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 gms.) packet sterilised cotton wool.
    - 6) 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 gms.) 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 tablet (each of 5 gms.) 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 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 50 feet 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 and waterproof.
- (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 female 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 nonabsorbent 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 fifty 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 meters (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 the number of women workers does not exceed 50 and two when the number of women workers exceeds 50.
- (v) The use of the rooms earmarked as creches 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) The 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) The 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 meter (10 sft) 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, chair 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 and impervious material.  
3. Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipment.
- (xiv) The 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) The rent of land and building.
  - (b) The depreciation and maintenance charges for the building and equipment provided for the canteen.

- (c) The cost of purchase, repairs and replacement of equipment including furniture, crockery, cutlery and utensils.
- (d) The water charges and other charges incurred for lighting and ventilation
- (e) The interest and amounts spent on the provision and maintenance of equipment provided for the canteen.
- (xvii) The 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 an 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.

## **SECTION – VIII**

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### **SCOPE OF WORK**

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## SECTION-VIII SCOPE OF WORK

### 1.0 Site

The works shall be carried out at National institute of Food Technology Entrepreneurship and Management. **The contractor is advised to make the site visit for understanding of work and site conditions before submission of bid.**

### 2.0 Scope of Works

- a) Resurfacing of existing bitumen road at NIFTEM-K, Sonipat, Haryana. The layout drawing is attached at Section 10. The approximate length of the road is 3.0 KM.
- b) The following Scope is required to be executed under the scope of work:

S. No.	Item Description
1	Laying, spreading and compacting stone aggregate of specified sizes to WBM specifications in uniform thickness, hand picking, rolling with 3 wheeled road/vibratory roller 8-10 tonne capacity in stages to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density.
2	Scarifying metalled (water-bound) road surface including disposal of rubbish, lead upto 50 m and consolidation of the aggregate received from scarifying with power road roller of 8 to 10 tonne capacity.
3	Carriage of Scarifying Metalled rubbish for Disposal by Mechanical Transport upto 1Km additional distance
4	"TACK COAT": Providing and applying tack coat using bitumen emulsion conforming to IS: 8887, using emulsion pressure distributor including preparing the surface & cleaning with mechanical broom. With rapid setting bitumen emulsion On bituminous surface @ 0.25kg/sqm"
5	"PREMIX CARPET: 2.5 cm premix carpet surfacing with 3 cum of stone chippings 10 mm nominal size per 100 sqm and bitumen emulsion (medium setting min. 65% bitumen contents) complying with IS : 8887, using 96 kg per cum of chippings of road surface, including consolidation with road roller etc. complete "
6	"SEAL COAT: Providing and laying seal coat of premixed fine aggregate (passing 2.36 mm and retained on 180 micron sieve) with bitumen using 128 kg of bitumen of grade VG - 10 bitumen per cum of fine aggregate and 0.60 cum of fine aggregate per 100 sqm of road surface, including rolling and finishing with road roller all complete. "
7	Road Marking with Hot Applied Thermoplastic Compound with Reflectorising Glass Beads on Bituminous Surface: Providing and applying 2.5 mm thick road marking strips (retro- reflective) of specified shade/ colour using hot thermoplastic material by fully/ semi automatic thermoplastic paint applicator machine fitted with profile shoe, glass beads dispenser, propane tank heater and profile shoe heater, driven by experienced operator on road surface including cost of material, labour, T&P, cleaning the road surface of all dirt, seals, oil, grease and foreign material etc. complete as per direction of Engineer-in-charge and accordance with applicable specifications"

- c) The Contractor shall be requiring to arrange following equipment's for carrying out the works (either owned or lease). Any Additional Requirement shall be arranged by the Contractor as per the Scope of work.

<b>Sl. No</b>	<b>Equipment Type and Characteristics</b>	<b>Minimum Nos Required</b>
i)	Batch type Hot Mix Plant 100–120 TPH within 100 km Distance	1 No
ii)	Hydro static paver finisher with sensor	1 No
iii)	Smooth wheeled roller	1 No
iv)	Vibratory Road Rollers	1 No
v)	Front end loader	1 No

- d) The Contractor shall strictly carry out the work in accordance to the Technical Specifications, Terms and Conditions of the contract.

## **SECTION – IX**

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### **Technical Specification**

**Section-IX**  
**TECHNICAL SPECIFICATION**  
**Road Works (CPWD Works Specifications Vol-2 2019)**

**LIST OF MANDATORY TESTS**

Material/ work	Clause / Para No.	Test	Field/ Laboratory	Test Procedure	Frequency of Testing
1) Coarse Aggregate	16.1.1 Table 16.2	Los Angeles Abrasion Value or Aggregate Impact Value	Laboratory	IS 2386 (Part 4)	Per 200 m <sup>3</sup>
		Specific gravity, Water absorption & Density	Laboratory	IS 2386 (Part 3)	
		Combined Flakiness and Elongation Indices	Field	IS 2386 (Part 1)	Per 100 m <sup>3</sup>
		Size and grading of aggregate	Field	IS 2386 (Part 1)	Per 100 m <sup>3</sup>
2) Fine Aggregate	16.1.2	Deleterious materials	Field	IS 2386 (Part 2)	As required by the Engineer-in-Charge.
		Specific gravity, Water absorption & Density	Laboratory	IS 2386 (Part 3)	
		Size and grading of aggregate	Field	IS 2386 (Part 1)	
3) Bitumen	16.1.5	As prescribed in IS 73 or IRC:SP:53, IS:15462	Laboratory	As prescribed in IS 73	As required by the Engineer-in-Charge.
4) Embankment under (O.M.C. conditions)	16.3.1	(a) Moisture content	Laboratory	IS 2720 (Part 2)	250 m <sup>3</sup>
		(b) Density	Field	IS 2720 (Part 28)	250 m <sup>3</sup>
	16.3.4.4	c) Control test on borrow pits.			
		(i) Gradation	Laboratory	IS 2720 (Part 4)	One to two tests per 8000 m <sup>3</sup>
		(ii) Plasticity	Laboratory	IS 2720 (Part 5)	-do-
		(iii) Proctor Test	Laboratory	IS 2720 (Part 8)	-do-
		(iv) Deleterious content	Laboratory	IS 2386 (Part 2)	As required by the Engineer-in-Charge
		(v) Moisture contents	Laboratory	IS 2720 (Part 2)	250 m <sup>3</sup>
		(i) Quality of Binder	Laboratory	IS:73	Number of samples per lot and tests as per IS:73, IS:217 and IS:8887 as applicable
		(ii) Binder temperature for application	Field		At regular close intervals
		(iii) Rate of spread of Binder	Field		Three tests per day
6) Seal Coat / Surface Dressing		(i) Quality of binder	Laboratory	IS:73	Same as mentioned under Serial No. 5
		(ii) Aggregate Impact Value or Los Angeles Abrasion Value	Laboratory	IS:2386 (Part 4)	One test per 200 cu.m of each source and whenever there is change in the quality of aggregate
		(iii) Combined Flakiness Index and Elongation Indices	Field	IS:2386 (Part 1)	One test per 100 cu.m of aggregate for each source and whenever there is change in the quality of aggregate
		(iv) Stripping value of aggregates (Immersion Tray Test)	Laboratory	IS:6241	One test of each source and whenever there is change in the quality of aggregate

		(v) Water absorption of aggregates	Laboratory	IS:2386 (Part 3)	-- do --
		(vi) Grading of aggregates	Field	IS:2386 (Part 1)	Two tests per day
		(vii) Soundness test (Magnesium and Sodium Sulphate)	Laboratory	IS:2386 (Part 5)	One test for each source and whenever there is change in the quality of aggregate
		(viii) Temperature of binder in boiler, aggregate in dryer and mix at the time of laying and compaction	Field		At regular intervals
		(ix) Rate of spread of materials	Field		Same as mentioned under Serial No. 5
		(x) Percentage of fractured faces (When gravel is used)	Field		One test per 100 cu.m of aggregate
7) Bitumen Macadam	16.32 & 16.47	(i) Quality of binder	Field	IS 73	Same as mentioned under Serial No. 5
		(ii) Aggregate Impact Value/ Los Angeles Abrasion Value	Laboratory	IS 2386 (Part 4)	Same as mentioned under Serial No. 6
		(iii) Combined Flakiness Index and Elongation Indices	Laboratory	IS 2386 (Part 1)	One test per 350 cu.m for each source
		(iv) Stripping value of aggregates	Laboratory	IS 6241	Same as mentioned under Serial No. 6
		(v) Water absorption of aggregates	Field or Laboratory	IS 2386 (Part 3)	Same as mentioned under Serial No. 6
		(vi) Deleterious material	Field	IS:2386 (Part 2)	Once in the month
		(vii) Grading of aggregates	Field	IS 2386 (Part 1)	Same as mentioned under Serial No. 6
		(viii) Soundness test (Magnesium and Sodium Sulphate)	Laboratory	IS:2386 (Part 5)	Same as mentioned under Serial No. 6
		(ix) Binder content	Laboratory		Two test per day per plant
		(x) Control of temperature of binder and aggregate for mix and of the mix at the time of laying and rolling	Field		Same as mentioned under Serial No. 6
		(xi) Density of Comp layer	Laboratory	IS 2386 (Part 3)	One test per 700 sq.m area
		(xii) Rate of spread of Mixed materials	Field		At regular intervals.
8) Dense Bituminous Macadam / Bituminous Concrete		(i) Quality of binder	Laboratory	IS:73	Number of samples per lot and tests as per IS:73 or IRC:SP:53, IS:15462
		(ii) Aggregate Impact Value / Los Angeles Abrasion Value	Laboratory	IS:2386 (Part 4)	One test per 350 cu.m of aggregate for each sour and whenever there is change in the quality of aggregate
		(iii) Flakiness and Elongation Indices	Laboratory	IS:2386 (Part 1)	One test per 350 cu.m of aggregate for each source and whenever there is change in the quality of aggregate
		(iv) Soundness test (Sodium or Magnesium Sulphate test)	Laboratory	IS:2386 (Part 5)	One test for each source and whenever there is change in the quality of aggregate
		(v) Water absorption of aggregates	Laboratory	IS:2386 (Part 3)	One test for each source and whenever there is change in the quality of aggregate

		(vi) Plasticity Index	Laboratory	IS:2386 (Part 5)	One test for each source and whenever there is change in the quality of aggregate
		(vii) Mix grading	Laboratory		One set for individual constituent and mixed aggregate from dryer for each 400 tonnes of mix subject to minimum of two tests per day per plant
		(viii) Stability and voids analysis of mix including theoretical maximum specific of loose mix	Laboratory		Three tests for stability, flow value, density and void contents for each 400 tonnes of mix subject to minimum of two tests per day per plant.
		(ix) Moisture Susceptibility of mix (AASHTO T283)	Laboratory		One test for each mix type whenever there is change in the quality or source of coarse or fine aggregate
		(x) Temperature of binder in boiler, aggregate in dryer and mix at the time of laying and compaction	Field		At regular intervals
		(xii) Binder content	Laboratory		One set for each 400 tonnes of mix subject to minimum of two tests per day per plant
		(xii) Rate of spread of mix material	Field		After every 5 <sup>th</sup> truck load
		(xiii) Density of compacted layer	Laboratory		One test per 700 sq.m area
9) Slurry seal and Micro surfacing		(i) Quality of aggregate sand equivalent value water absorption soundness test (Sodium / Magnesium Sulphate Test)	Laboratory		One per source / site
		(ii) Quality of Emulsion	Laboratory		One per lot of 20 t as per IS:8887
		(iii) Aggregate Moisture	Laboratory		Two per day
		(iv) Aggregate Gradation	Field	IS:2386 (Part 1)	Two per day at site
		(v) Binder Content	Laboratory		Two per lane per Km
		(vi) Calibration of Machine	Laboratory		Once per Project
		(vii) Quantity of Slurry (By weight of aggregate)	Field		Daily (Travel time of Machine)
10) Mastic asphalt		(i) Quality of binder	Laboratory		Same as mentioned under serial No. 8
		(ii) Aggregate Impact Value or Los Angeles Abrasion Value	Laboratory	IS:2386 (Part 4)	Same as mentioned under serial No. 8
		(iii) Combined Flakiness and Elongation Indices	Field	IS:2386 (Part 1)	Same as mentioned under serial No. 8
		(iv) Stripping value	Laboratory	IS:6241	Same as mentioned under serial No. 6
		(v) Deleterious material	Field	IS:2386 (Part 2)	One in a month
		(vi) Grading of aggregates	Field	IS:2386 (Part 1)	Two tests per day per plant on the individual constituent and mixed aggregates from the dryer
		(vii) Water absorption of aggregates	Laboratory	IS:2386 (Part 3)	Same as mentioned under serial No. 8
		(viii) Soundness test (Magnesium Sulphate / Sodium Sulphate)	Laboratory	IS:2386 (Part 5)	Same as mentioned under serial No. 8

		(ix) Binder content	Laboratory		Two test per day per plant
		(x) Control of temperature of binder and aggregate for mixing and of the mix at the time of laying and rolling	Field		At regular close intervals
		(xi) Rate of Spread of Mixed Material	Field		Regular control through check of layer thickness
		(xii) Hardness number	Laboratory		Minimum two tests per day
11) Recycled Material		Grading of aggregate	Field	IS:2386 (Part 1)	Two tests per day
12) Cold Mixes			Laboratory		All tests as per S. No. 8
13) Quality of Modified Binder			Laboratory		Number of samples per lot and tests as per IS:15462
14) Geo textiles			Laboratory		The requirements of Section 700 of MORTH Specification shall apply
15) Granular Sub Base (GSB)		(i) Gradation	Field	IS:2386 (Part 1)	One test per 400 cu.m.
		(ii) Atterberg limits	Laboratory	IS:2720 (Part 5)	One test per 400 cu.m.
		(iii) Water absorption	Laboratory		One test per 400 cu.m.
		(iv) Density of compacted layer	Laboratory		One test per 1000 cu.m.
		(v) Deleterious constituents	Field	IS:2386 (Part 2)	As required
		(vi) Soundness test	Field	IS:2386 (Part 5)	Same as mentioned under serial No. 8
		(vii) CBR	Laboratory		As required
16) Lime / Cement Stabilised Soil Sub-base		(i) Quality of lime / Cement	Laboratory		One test for each consignment subject to a minimum of one test per 5 tonnes
		(ii) Lime / Cement content	Laboratory		Regularly, through procedural checks
		(iii) Degree of pulverization	Laboratory		Periodically as considered necessary
		(iv) CBR or Unconfined Compressive Strength Test on a set of 3 specimens	Laboratory		As required
		(v) Moisture content prior to compaction	Laboratory		One set of two tests per 500 sq.m.
		(vi) Density of compacted layer	Laboratory		One set of two tests per 500 sq.m.
		(vii) Deleterious constituents	Field		As required
17) Water Bound Macadam		(i) Aggregate Impact Value	Laboratory	IS:2386 (Part 4)	One tests per 1000 cu.m of aggregate
		(ii) Grading of aggregate	Field	IS:2386 (Part 1)	One test per 250 cu.m
		(iii) Combined Flakiness and Elongation Indices	Laboratory	IS:2386 (Part 1)	One tests per 500 cu.m of aggregate
		(iv) Atterberg limits of binding material	Laboratory	IS:2386 (Part 4)	One test per 50 cu.m of binding material
		(v) Atterberg limits of screenings	Laboratory	IS:2720 (Part 5)	One tests per 100 cu.m of aggregate
		(vi) Water absorption of aggregate	Laboratory	IS:2386 (Part 3)	Once in a month
		(vii) Deleterious material	Field	IS:2386 (Part 2)	As required, once in a month

**LIST OF BUREAU OF INDIAN STANDARDS CODES AND IRC STANDARDS**

<i>S. No.</i>	<i>BIS. No.</i>	<i>Subject</i>
1.	IS 73	Specification for paving bitumen
2.	IS 164	Ready mixed paint for road marking
3.	IS 217	Specification for cut back bitumen
4.	IS 8112	Specification for 43 grade ordinary Portland Cement
5.	IS 278	Specification for galvanized steel barbed wire for fencing
6.	IS 334	Glossary of terms relating to bitumen and tar
7.	IS 383	Specification for coarse and fine aggregate from natural sources for concrete
8.	IS 460	Specification for test sieves
9.	IS 516	Method of test for strength of concrete
10.	IS 702	Specification for industrial bitumen
11.	IS 712	Specification for building limes
12.	IS 1195	Specification for bitumen mastic for flooring
13.	IS 1199	Methods of sampling and analysis of concrete
14.	IS 1203	Method of testing tar and bituminous material, determination of penetration
15.	IS 1205	Method of testing tar and bituminous material determination of softening point
16.	IS 1208	Method of testing tar and bituminous material determination of ductility
17.	IS 1212	Method of testing tar and bituminous material determination of loss of heating
18.	IS 1216	Method of testing tar and bituminous material determination of solubility in carbon-di-sulphide, trichloroethylene
19.	IS 1834	Specification for hot applied sealing compound for joint in concrete
20.	IS 1838 (Pt. 1)	Specification for preformed fillers for expansion joint in concrete pavements and structures (non extruding and resilient type/ bitumen impregnated fibre)
21.	IS 2386 (Pt. 1)	Method of test for aggregate for concrete particle size and shape
22.	IS 2386 (Pt. 2) 1963	Method of test for aggregate for concrete estimation of deleterious materials and organic impurities
23.	IS 2386 (Pt. 3)	Method of test for aggregate for concrete specific gravity, density, voids, absorption and bulking
24.	IS 2386 (Pt. 4)	Method of test for aggregate for concrete mechanical properties

25.	IS 2720 (Pt.V)	Method of test for soil: Determination of liquid and plastic limit.
26.	IS 2720 (Pt. VII)	Methods of test for soils: part VII determination of water content dry density relation using light compaction
27.	IS 2720 (Pt. XXVIII)	Method of test for soil: determination of dry density of soils in place, by sand replacement method
28.	IS 3812	Specification for fly ash for use as pozzolana and admixture
29.	IS 5317	Specification for bitumen mastic for bridges decking and roads
30.	IS 5640	Method of test for determining aggregate impact value of soft coarse aggregates
31.	IS 6241	Method of test for determination of stripping value of road aggregates

**IRC STANDARDS:**

1.	IRC 10	Recommended practice for borrow pits for road embankments constructed by manual operation
2.	IRC 29	Specification for bituminous concrete for road pavements
3.	IRC 36	Recommended practice for construction of earth embankments for road works
4.	IRC 60	Tentative guidelines for the use of lime flyash concrete as pavement base of sub base
5.	IRC 88	Recommended practice for lime flyash stabilized soil base/ sub base in pavement construction
6.	IRC 107	Tentative specification for bitumen mastic wearing courses

## **16.0 TERMINOLOGY**

**Asphalt** : A natural or artificial mixture in which bitumen is associated with mineral matter. The word ‘Asphalt’ should always be qualified by indication of its origin or nature.

**Asphalt Mastic** : An intimate mixture of mineral fillers, well graded sand and/or stone chippings with a hard grade of bitumen, cooked and laid hot manually by means of wooden float. The mixture settles to a coherent, void less and impermeable solid or semi-solid mass under normal temperature condition.

**Binder**: The binder shall be an appropriate type of bituminous materials complying with the relevant Indian Standard (IS) as defined in the appropriate clauses of these specifications or as otherwise specified herein. The choice of binder shall be stipulated in the contract or by the Engineer-in-charge.

**Bitumen**: A black or dark brown non crystalline solid or viscous material, having adhesive properties derived from petroleum either by natural or refinery processes and substantially soluble in carbon disulphide.

Bitumen shall be paving bitumen of viscosity grade complying with Indian Standard Specifications for “Paving bitumen” IS:73:2006 of grade appropriate for the traffic and climatic conditions of the Project Highway. The heavily trafficked roads in hot areas may find harder grade bitumen more appropriate while pavements in mountainous regions subject to sub-zero temperatures during winter months carrying relatively lower traffic loads subject to the phenomenon of “Frost Heave” may find less viscous bitumen resistant to fatigue and cold cracking more appropriate.

**Bitumen-Cutback** : Bitumen, the viscosity of which has been reduced by a volatile diluent when blended with kerosene or naptha type diluent or fuel oil, is called, medium or rapid or slow curing cut backs respectively.

**Bitumen-Emulsion** : A liquid product in which a substantial amount of bitumen is suspended in a finely divided condition in an aqueous medium containing an emulsifier and stabiliser. The emulsion is termed ‘Anionic’ when the bitumen particles are negatively charged and the aqueous phase is alkaline. The emulsion is termed ‘cationic’ when the particles are positively charged and the aqueous phase is acidic.

**Bitumen Mastic Filler** : Inorganic mineral material all of which will pass through specified IS sieve used in admixture with solid or semi-solid bituminous material.

**Road tar** : A product obtained by treating at high temperature coal tar in such a manner that it conforms to a specification which defines its suitability for road construction.

**Tar** : A viscous material having adhesive properties and resulting from the distinctive distillation of certain type of organic material. The term Tar should be preceded by the name of the material from which it is produced e.g. coal, shale, peat, vegetable matter and its mode of production shall be indicated.

**Flash point** : The lowest temperature at which the vapour of a substance can be ignited in air by a flame under specified conditions of test. The substance itself does not continue to burn.

**Tack Coat** : It shall consist of application of a single coat of low viscosity liquid bituminous material to an existing road surface preparatory to further bituminous construction.

**Bitumen concrete (Asphaltic concrete)** : A well graded mixture of high quality aggregates with designated proportion of bitumen, hot mixed, hot laid and hot rolled into a uniform dense mass with specified design criteria.

**Ductility** : The property by which a material can be drawn out without breaking, for bitumen it is measured by the distance in centimetres to which it will elongate before breaking, when two ends of a briquette specimen of the material of the specified form and cross- section are pulled apart under water at a specified speed and temperature.

**Viscosity** : The property of a liquid by which it resists flow due to internal friction and is measured by the ratio of the shearing stress to the rate of shear.

## **16.1 MATERIALS**

### **16.1.1 Aggregate Coarse**

Coarse aggregate as specified in the item shall be either crushed/broken stone, crushed slag, over burnt (Jhama) brick aggregate or one of the naturally occurring aggregates such as kanker or laterite of suitable quality as stated hereinafter and approved by the Engineer-in-Charge.

The stone aggregate shall conform to the physical requirements set forth in Table 16.1. The type and size range of the aggregate shall be specified in the contract.

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If the water absorption value of the coarse aggregate is greater than 2 percent, the soundness test shall be carried out on the material delivered to site as per IS:2386 (Part-5).

**TABLE 16.1**  
**Physical Requirements of Coarse Aggregate for Water Bound Macadam for**  
**Sub-Base / Base Courses**

S. No	Test	Test method	Requirements
1.***	Los Angeles Abrasion value or Aggregate impact value	IS 2386 (Part-4) IS 2386 (Part-4) or IS 5640*	40% (Max.) 30% (Max.)
2.	Combined flakiness and Elongation Indices (Total)**	IS 2386 (Part-1)	35% (Max.)

\* Aggregates which get softened in presence of water shall be tested for impact value under wet conditions in accordance with IS:5640.

\*\* The requirements of flakiness index and elongation index shall be enforced only in case of crushed/broken stone and crushed slag.

\*\*\* In case water bound macadam is used for sub-base, the requirements in respect of Los Angeles Value and Aggregate Impact Value shall be relaxed to 50 percent and 40 percent maximum respectively.

The coarse aggregate shall conform to one of the gradings given in Table 16.2 as specified. For crushable type of aggregates such as brick metal, kankar and laterite, grading shall not be regarded as very important, but the material should generally be within the specified range.

**TABLE 16.2**  
**Grading Requirements of Coarse Aggregate for W.B.M.**

Grading No.	Size Range	IS Sieve Designation	Percent by weight passing the sieve
1	90 mm to 45 mm	125 mm	100
		90 mm	90 – 100
		63 mm	25 – 60
		45 mm	0 – 15
		22.4 mm	0 – 5
2	63 mm to 45 mm	90 mm	100
		63 mm	90 – 100
		53 mm	25 - 75
		45 mm	0 – 15
		22.4 mm	0 – 5
3	53 mm to 22.4 mm	63 mm	100
		53 mm	95 – 100
		45 mm	65 – 90
		22.4 mm	0 – 10
		11.2 mm	0 - 5

**Note:** The compact thickness for a layer with Grading 1 shall be 100 mm while for layer with other Gradings i.e. 2 & 3, it shall be 75 mm.

**16.1.1.1 Overburnt (Jhama) Brick Aggregates:** Brick aggregate shall be made from over-burnt bricks and dense brick bats. It shall be homogeneous in texture, roughly cubical in shape, clean and free from dust, dirt and other objectionable and deleterious materials.

**16.1.1.2 Crushed or Broken Stone :** When crushed or broken stone is specified as the coarse aggregate, it shall be hard, durable and free from excess of flat, elongated, soft, disintegrated particles, dirt and other objectionable matter. The total quantity of such deleterious material including clay lumps, soft fragment, foreign material etc. shall not exceed 5% of the weight of the aggregate.

**16.1.1.3 Crushed Slag :** Crushed slag shall be made from air-cooled blast furnace slag. It shall be of angular shape, reasonably uniform in quality and density and generally free from thin, elongated and soft pieces, dirt or other deleterious materials. The weight of the crushed slag shall not be less than 11.2 kN per cubic metre (1120 kg per cubic metre) and the percentage of glossy material shall not be more than 20. Water absorption of slag shall not exceed 10% (IS 2386 Pt.III).

**16.1.1.4 Kankar :** Kankar shall be tough, having a blue almost opalescent fracture. It shall not contain any clay in the cavities between nodules.

**16.1.1.5 Laterite :** Laterite shall be hard, compact, heavy and of dark colour. The light coloured sandy laterite as well as those containing much ochreous clay shall be rejected.

### 16.1.2 Aggregate-Fine

The fine aggregate shall be the fraction passing 2.8 mm sieve and retained on 90 micron sieve. It shall consist of crusher run screenings, natural sand or a mixture of both. These shall be clean, hard, durable, uncoated, dry and free from injurious, soft or flaky pieces and organic or deleterious substance.

The contents of organic and deleterious materials shall not exceed the limits specified in Table 16.3.

**TABLE 16.3**

	<i>Uncrushed</i>	<i>Crushed</i>
Coal and lignite	1%	1%
Clay lumps	1%	1%
Material passing through 75 microns (I.S.S.) Sieve	3%	3%
Shale	1%	1%

The sum of the percentages of all deleterious material shall not exceed 5%. Tests for estimation of deleterious materials and organic impurities shall be done as per IS 2386 (Pt. II).

### 16.1.3 G.I. Barbed Wire

The barbed wire shall be of galvanised steel as specified and it shall conform to IS 278. The sampling criteria is given in Table 16.4. The wire shall be manufactured from steel by any process and shall not contain sulphur and phosphorous exceeding 0.065 per cent. The galvanised steel barbed wires shall be of two types: Type A (Lowa Type) and Type B (Glidden Type).

**Type A (Lowa Type) :** The barbs shall have four points and shall be formed by twisting two point wires, each two turns, tightly around both line wires making altogether four complete turns.

**Type B (Glidden Type) :** The barbs shall have four points and shall be formed by twisting two point wires, each two turns, tightly around one line wire making altogether four complete turns.

#### *Details of G.I. Barbed wire*

The galvanised steel barbed wire shall be of the size designations given in Table 16.4.

**TABLE 16.4**

Size Designation	Nominal dia. of wire				Mass of completed Barbed Wire		Distance between two barbs	No. of lays between the two consecutive barbs
	Line Wire		Point Wire					
	Nom	Tol	Nom	Tol	Max	Min		
	(mm)	(mm)	(mm)	(mm)	(g/m)	(g/m)	(mm)	(mm)
1.	2.50	± 0.08	2.50 0	± 0.08	155	136	75 ± 12	2 to 7
2.	2.50	± 0.08	2.50 0	± 0.08	120	108	150 ± 12	2 to 7
3.	2.50	± 0.08	2.0 0	± 0.08	125	108	75 ± 12	2 to 7
4.	2.50	± 0.08	2.0 0	± 0.08	103	89	150 ± 12	2 to 7
5.	2.24	± 0.08	2.0 0	± 0.08	106	97	75 ± 12	2 to 7
6.	2.24	± 0.08	2.0 0	± 0.08	85	78	150 ± 12	2 to 7

**Note :** The mass in g/m shall be obtained by dividing the total mass of the reel by the linear length in metres.

The number of lays between the two consecutive barbs shall vary between 2 to 7.

The barbed wire shall be formed by twisting together two line wires, one or both containing the barbs. The size of the line and point wires and barb spacings shall be as specified. The permissible deviation from the nominal diameter of the line wire and the point wire shall not exceed  $\pm 0.08$  mm. The line and point wires shall be circular in section, free from scales and other defects and shall be uniformly galvanised. The line wire, shall be in continuous lengths, and shall not contain any welds other than those in the rod before it is drawn. The distance between two successive splices shall not be less than 15 metres. It shall have the tensile properties as specified in Table 16.5.

**TABLE 16.5**  
**Tensile Properties**

Size of Line Wire	Tensile Strength of line wire	Minimum Breaking Load of Completed Barbed Wire
mm	kgf/sq. mm	kgf
2.50	40 to 60	375
2.24	40 to 60	300

The number of reels to be selected at random for this purpose shall be in accordance with Table 16.6.

**TABLE 16.6**  
**Sampling Criteria**

No. of Reels in the Lot	No. of Reels to be selected
Up to 25	3
26 to 50	4
51 to 150	5
151 to 300	7
301 and above	10

#### 16.1.4 Binding Material

Binding materials to prevent ravelling of water bound macadam construction shall consist of a fine grained material possessing plasticity index value of 4 to 9 when the water bound macadam is to be used as a wearing course, and 4 to 6 when W.B.M. is being adopted as a sub-base/base course with bituminous surfacing on top of it. The plasticity index shall be determined in accordance with IS 2720 (Pt. V). The quantity of binding material used in each layer shall be as per direction of Engineer-in-Charge. Application of binding material may be dispensed with the approval of Engineer-in-Charge, where screenings consisting of crushable type material like moorum or gravel are used. Where earth cut for sub-grade formation is used as binder with the approval of Engineer-in-Charge, no separate payment shall be made for collection of this binder material.

#### 16.1.5 Bitumen Straight Run

A range of grades, from a very soft to a very hard consistency, can be produced by varying the temperature and the rate of flow during distilling process. It shall conform to IS 73. Grades of bitumen for different uses is given in Table 16.7.

**TABLE 16.7**  
**Bitumen Grades**

Grade		Temperature to which it shall be heated
I.	FOR PAINTING (Surface Dressing)	
	1. Paving bitumen of grade VG- 10	177 deg. C to 190 deg. C
	2. Paving bitumen of grade VG- 30	177 deg C to 190 deg. C
	3. Bitumen emulsion min. 50% bitumen content:- RS grade IS 8837	(Cold application)
	4. Cut backs RC-3 (rapid curing) IS 217	—do—
II.	FOR PREMIX CARPETING	
	1. Paving asphalt 30/40 S-35 or 80/100 S-90	149 deg. C to 177 deg. C
	2. Bitumen Emulsion min. 60% bitumen contents RS grade IS 8837	(Cold application)
	3. Cut back MC (medium curing) IS 4545	(Cold application)
III.	FOR ASPHALTIC CONCRETE STRAIGHT RUN BITUMEN 60/70 (S-65) CONFORMING TO IS 73	150 deg. C to 177 deg. C

**Note :** For premix carpeting with paving asphalt, extra shall be paid if solvent is used.

#### 16.1.6 Bricks

Bricks shall be of class designation 75 unless otherwise stated. The specifications of bricks shall be as sub head brick work as detailed in subhead 6.0 Vol – I, CPWD Specification – 2019.

#### 16.1.7 Filler

The filler, where specified, shall be an inert material, the whole of which passes through a 710 micron sieve, atleast 90 per cent passing through a 180 micron sieve and not less than 70 per cent passing through a 90 micron sieve. The filler shall be cement, stone dust, hydrated lime, lime stone dust, flyash or any other non-plastic mineral matter approved by the Engineer-in-Charge.

**TABLE 16.8**  
**Aggregate Gradation including Filler**

Sieve designation	Percent by weight passing the sieve	
	For 25 mm thickness	For 20 mm thickness
20.0 mm	100	-
12.5 mm	75-100	100
10.0 mm	60-85	75 – 100
4.75 mm	35-55	35 – 55
2.36 mm	20-35	20 – 35
600 micron	10-22	10 – 22
300 micron	6-16	6 – 16
150 micron	4-12	4 – 12
75 micron	2- 8	2 - 8

**16.1.8 Flyash**

Flyash shall conform to IS 3812

**16.1.9 Lime**

Lime shall be of specifications as directed by Engineer-in-Charge.

**16.1.10 Moorum**

It shall be obtained from pits of weathered disintegrated rocks. It should preferably contain silicious material and natural mixture of clay of calcarious origin. The size of moorum shall not be more than 20 mm.

**16.1.11 Posts, Rails and Pales**

These shall be of standard size and length of posts being 1.8 m, rails 2.25 m and pales 1.25 m unless otherwise specified. A tolerance of 12 mm in length and 3 mm in other dimensions shall be permissible. These shall be cast in cement concrete 1:1 ½ :3 (1 cement : 1 ½ coarse sand : 3 graded stone aggregate 12.5 mm nominal size) with slots and reinforced with tor steel bars of diameters 10 mm in the case of posts and pales and 8 mm in the case of rails or as directed and finished with cement mortar 1:2 (1 cement :2 fine sand). The specifications for R. C. C. work shall apply.

For the whole of their length below the top of the rail the paling shall have a projecting dovetail shape at the back which shall fit into dovetail grooves in each of the rails. That part of the palings projecting above the top rail shall be left square to prevent the dropping right through the rails. The posts, rails and pales shall be free from cracks, twists and such other defects.

**16.1.12 Posts and Struts—R.C.C.**

All posts and struts shall be of standard size, the length of posts being 1.8 m or as specified and that of struts being minimum of 2.0 m. These shall be cast in cement concrete 1:1 ½ :3 (1 cement : 1 ½ coarse sand : 3 graded stone aggregate 12.5 mm nominal size) reinforced with 10 mm diameter tor steel bars as directed and finished smooth with cement mortar 1:2 (1 cement: 2 fine sand). The specifications for R.C.C. work shall apply. The posts and struts shall be free from cracks, twists and such other defects. G.I. staples on wooden plugs or 6 mm bar nibs will be provided as directed by Engineer-in-Charge while casting the posts. Quantity of RCC post, struts, Rails and Pales to be measured in cubic content.

**16.1.13 Premoulded Joint Filler**

It shall conform to IS 1838, the thickness shall be 20 mm or 25 mm as specified and shall be of the maximum available standard length. During the casting of the slab the premoulded joint filler shall be placed accurately in position against the finished end of concrete slab. The filler shall remain 20 mm below the top surface of the pavement and shall extend upto the subgrade.

**16.1.14 Red Bajri**

This shall be disintegrated rock dark red in colour consisting of coarse grains, free from mica, dust and other foreign matter.

**16.1.15 Screenings**

Screening to fill voids in the coarse aggregate shall generally consists of the same material as the coarse aggregate. However, where permitted, predominantly non-plastic material such as moorum or gravel (other than river borne rounded material) may be used for this purpose provided liquid limit and plasticity index of such material is below 20 and 6 respectively and fraction passing 75 micron sieve does not exceed 10 percent.

As far as possible screenings shall conform to the gradings set-forth in Table 16.9. Screenings of type A shall be used with coarse aggregate of grade I of Table 16.2. Screenings of type A or B as specified shall be used with coarse aggregates of grading 2. Type B screenings shall be used with coarse aggregates of grading 3. The use of screenings may be omitted in the case of soft aggregates such as brick metal, kankar and laterite. For screenings like moorum or gravel the gradings given in Table 16.9 shall not be binding.

**TABLE 16.9**  
**Grading for Screenings**

<i>Grading Classification</i>	<i>Size of Screenings</i>	<i>IS Sieve Designation</i>	<i>Percent by Weight Passing Sieve</i>
A	13.2 mm	13.2 mm	100
		11.2 mm	95 - 100
		5.6 mm	15 - 35
		180 micron	0 – 10
B	11.2 mm	11.2 mm	100
		9.5 mm	80-100
		5.6 mm	50 - 70
		180 micron	05 - 25

**16.1.16 Sealing Compound**

After the curing period is over the joint portion above the filler board shall be cleaned thoroughly as directed by the Engineer-in-Charge. The joints shall be filled with hot applied sealing compound. Grade A (Normal) for concrete constructions other than those which are subjected to spillage of kerosene or other heavy petroleum oils and Grade B (Jet fuel resistant) for concrete constructions of runways for jet air crafts, conforming to IS 1834.

**16.1.17 Soil**

Soil having a plasticity index (PI) between 5 and 20 shall be suitable. Atleast one test for 200 cubic metre of soil for determining P.I. shall be conducted.

**16.1.18 Stones**

These shall be clean, hard, sound and durable stones, free from decay and weathering. They shall be in blocks and hammer dressed on all sides. The size of pitching stones shall be approximately 22.5 cm in depth and not less than 15 cm in any other direction.

**16.1.19 Stone Chippings For Surface Dressing/Painting**

The stone chipping shall consist of fairly cubical fragment of clean, hard, tough and durable rock of uniform quality throughout. These shall be obtained by crushing stone river gravel (shingle) or other approved materials. Rounded gravel shall be used only if specifically permitted by the Engineer-in-Charge. The chipping shall be free of elongated or falky pieces, soft or disintegrated stone, salt, alkali, vegetable matter, dust and adherant coatings. They shall conform to the quality requirements of Table 16.10.

However, the total quantity of such deleterious material including clay lumps, soft fragments, foreign material shall not exceed 5% of the weight of the aggregate.

The aggregate shall be got tested to ensure the requirements specified in Table 16.10.

**TABLE 16.10**  
**Physical Requirements of Aggregates for Surface Dressing**

<i>Sl. No.</i>	<i>Test</i>	<i>Test method</i>	<i>Requirements</i>
1.	Los Angles Abrasion Value	IS 2386 (Part-4)	40% (Max.)
2.	Aggregate Impact Value*	IS 2386 (Part-4)	30% (Max.)
3.	Flakiness Index	IS 2386 (Part-1)	25% (Max.)
4.	Stripping Value	IS 6241	25% (Max.)
5.	Water Absorption	IS 2386 (Part-3)	1% (Max.)

\* Aggregates may satisfy requirements of either of the two tests.

#### **16.1.20 Stones for Kerb and Channels (Fig. 16.12)**

Kerb and channel stones are provided on roads having raised berms for foot path etc. These shall be of selected hard stone, sound, durable free from laminations and other structural defects. The length of each kerb and channel stone shall be not less than 49.5 cm except that 29.5 cm long stones shall be permitted for closures and for curves. The other dimensions shall be 30 x 20 cm for kerb stones and 30 x 10 cm for channel stones, unless specified otherwise. Kerb and channel stones shall be chisel dressed on exposed surface and edges. The dimensions of the exposed faces of kerb and channel stones shall be of sizes as specified with a tolerance of 10 mm in width and depth. In the case of kerb stones a tolerance of 5 cm shall be allowed in the dimensions of unexposed back and bottom faces and in the case of channel stones a tolerance of 10 mm shall be allowed in thickness.

#### **16.1.21 Boundary Stone (Fig. 16.4 )**

The boundary stones shall be of either hard stone or sound and durable quality or precast R.C.C. These shall be in blocks of size 15 x 15 x 90 cm unless directed otherwise by the Engineer-in-Charge. A tolerance of 12.5 mm shall be permitted in the specified size. In the case of boundary stones of hard stone, the upper 30 cm shall be chisel dressed on all the four sides and on the top.

The R.C.C. boundary stones shall be cast in cement concrete 1 : 1 ½ : 3 (1 cement : 1 ½ coarse sand : 3 graded stone aggregate 20 mm nominal size), reinforced with 10 mm diameter tor steel bars or as directed and finished smooth with cement mortar 1 : 3 (1 cement : 3 fine sand ). The specifications for R.C.C. work shall apply.

#### **16.1.22 Kilometer stone (Fig.16.7)**

Standard design of kilometer stones are given in Fig. 16.7. Ordinary kilometer stone for National Highways, State highways and Major District shall be of the size 35 x 111 x 25 cm. One cm offset shall be provided around the stone slab in 10 cm height above the formation level to serve as the pedestal. The kilometer stones shall be fixed at right angle to the centre line of the carriage way. The kilometre stone shall indicate the name and distance of the next (intermediate) important town only. On the side of the kilometre stone facing the carriage way, the number of the kilometre stone shall be inscribed (without the name of any place) which shall be painted later on.

Kilometre stones for every fifth kilometre on National Highways, State highways and major district roads shall be of the size 50 x 152.5 x 25 cm. One cm offset shall be provided around the stone slab in 13 cm height above the formation level to serve as the pedestal. This kilometre stone shall be fixed at right angles to the centre line of carriage way. It shall show the name and distance of the terminal or the starting station also above those of intermediate towns. On the side facing the carriage way, the number of the kilometre stone in continuity of ordinary kilometre stone shall be inscribed (without the name of any place) which shall be painted later on.

Kilometre stone for other district roads and village roads shall be of the size 35 x 93.5 x 18 cm. One cm offset shall be provided around the stone slab in 10 cm. height above the formation level to serve as the pedestal. It shall be fixed at right angles to the centre line of carriage way and shall indicate the name and the distance of the next important station. On the side facing the carriage way, the number of the kilometre stone shall be inscribed (without the name of any place).

The kilometre stones shall be fixed at the edge of the road way outside the shoulder on especially erected platforms, if necessary. In cutting these shall be fixed clear of the shoulder and the side drain as per Fig. 16.7(A). On existing roads the stones shall be fixed on the side of the road other than that on which miles stones exist. On new roads, these shall be located on left hand side of the road as one proceeds from the station from which kilometre count starts.

Kilometre stones shall be of approved design of R.C.C. or stone slabs.

- (a) *Kilometre Stones in R.C.C.* : It shall be cast in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) with reinforcement as directed and finished smooth with cement mortar 1 : 3 (1 cement : 3 fine sand) on exposed surfaces above the ground. The specifications for R.C.C. work shall apply.
- (b) *Kilometre Stone Slabs* : The stone slabs shall be of red or white sand stone unless otherwise specified. The slab shall be hard, even, sound and durable. The stone slabs shall have been sawn or chiseled in a plane parallel to the natural bed of the stone. The slabs shall be chisel dressed on the exposed surfaces above ground facing road side, so that the dressed face shall not be more than 3 mm from a straight edge placed on it. The thickness of the slab shall be uniform and as specified in the item with a permissible tolerance of 1.5 mm. The thickness shall be measured correct to 3 mm.

## 16.7 WATER BOUND MACADAM WITH STONE AGGREGATE

### 16.7.1 Water Bound Macadam with Stone Aggregate

Stone aggregate of specified size is used. This is a standard sub base/base and is used where stone aggregate is available at reasonable rates. This consists of clean crushed coarse aggregate mechanically interlocked by rolling and voids thereof filled with screening and binding material with the assistance of water, laid on a prepared sub grade, sub-base, base or existing pavement as the case may be. Water bound macadam may be used as a sub base, base course or surfacing course.

### 16.7.2 Approximate Quantities of Materials

Quantities of coarse aggregate, screening and binding material required to be stacked for 100 mm approximate compacted thickness of W.B.M. for 10 sqm shall be as per table 16.12 for stone aggregate of the size 90 mm to 45 mm. For stone aggregate of other size, 63 mm to 45 mm and 53 mm to 22.4 mm quantity of coarse aggregate and stone screening for 75 mm approximate compacted thickness of WBM base for 10 sqm. shall be as per Table 16.13.

**TABLE 16.12**

Coarse Aggregate			Stone Screenings		Binding Material
Classification	Size Range	Loose Quantities	Grading/classification and size	Loose Quantity	Quantity
Grading 1	90 mm to 45 mm	1.21 cum to 1.28 cum	Type A 13.2 mm	0.27 cum to 0.30 cum	0.08 cum to 0.10 cum

**Note :** Net quantity = Loose quantity measured in stacks minus 7.5%.

**TABLE 16.13**

Coarse Aggregate				Stone Screenings		
Classification	Size Range	Compacted Thickness	Loose Quantity	Grading Classification & Size	For WBM Sub-base/Base Course (Loose Quantity)	For WBM surface course (Loose Quantity)
Grading 2	63-45 mm	75 mm	0.91 to 0.96 m3	Type A 13.2 mm	0.12 cum to 0.15 cum	0.10 cum to 0.12 cum
-Do-	-do-	-do-	-do-	Type B 11.2 mm	0.20 cum to 0.22 cum	0.16 cum to 0.18 cum
Grading 3	53-22.4 mm	75 mm	-do-	Type B 11.2 mm	0.18 cum to 0.21 cum	0.14 cum to 0.17 cum

- \* **Note :**
1. The quantity of material measured in stacks and reduced by 7.5% to calculate net quantity.
  2. The above mentioned quantities should be taken as a guide only for estimation of quantities for construction etc.

**16.7.3** The quantity of binding material required for 75 mm (approximate) compacted thickness will be 0.09 cum/10 sqm in the case of W.B.M. base course and 0.13 cum/10 sqm when the W.B.M. is to function as a surface course.

### 16.7.4 Preparation of Foundation

In the case of an existing unsurfaced road, where new materials is to be laid, the surface shall be scarified and reshaped to the required grade, camber and shape as necessary. Weak places shall be strengthened, corrugations removed and depressions and pot holes made good with suitable materials, before spreading the aggregate for W.B.M.

Where the existing surface over which the sub base of W.B.M. is to be laid is black topped, to ensure effective internal drainage, furrows 50 mm x 50 mm (depth of furrows increased to reach bottom of bituminous layer where necessary) at one metre intervals shall be cut in the existing bituminous surface at 45 degree C to the central line of the carriageway before the W.B.M. is laid.

#### **16.7.5 Provision of Lateral Confinement of Aggregates**

Before starting with W.B.M. construction, necessary arrangements shall be made for lateral confinement of aggregates. One method is to construct side shoulders in advance to a compacted layer of the W.B.M. coarse (Fig.16.1). Inside edges may be trimmed vertical and the included area cleaned off all spilled materials thereby setting the stage for spreading the coarse aggregate.

The practice of laying W.B.M. after excavating a trench section in the finished formation must be completely avoided.

#### **16.7.6 Spreading Aggregate**

The coarse aggregate shall be spread uniformly and evenly upon the prepared base in required quantities with a twisting motion to avoid segregation. In no case shall these be dumped in heaps directly on the area where these are to be laid nor shall their hauling over a partly completed base be permitted. The aggregates shall be spread uniformly to proper profile by using templates placed across the road six metres apart. Where specified, approved mechanical devices may be used to spread the aggregates uniformly. The levels along the longitudinal direction upto which the metal shall be laid, shall be first obtained at site to the satisfaction of Engineer-in-Charge, and these shall be adhered to.

The surface of the aggregate spread shall be carefully trued up and all high or low spots remedied by removing or adding aggregate as may be required.

The W.B.M. sub-base shall be normally constructed in layer of 100 mm compacted thickness and W.B.M. base shall be normally constructed in layers of 75 mm compacted thickness. No segregation of large or fine particles shall be allowed and the coarse aggregate as spread shall be of uniform gradation with no pockets of fine material.

The coarse aggregate shall normally not be spread in lengths exceeding three days average work ahead of the rolling and blending of the proceeding section.

#### **16.7.7 Rolling**

Immediately following at spreading of the coarse aggregate, it shall be compacted to the full width by rolling with either the three- wheel- power -roller of 8 to 10 tonnes capacity or an equivalent vibratory roller. Initially, light rolling is to be done, which shall be discontinued when the aggregate is partially compacted with sufficient void space in them to permit application of screenings.

The rolling shall begin from the edges with the roller running forward and backward and adding the screenings simultaneously until the edges have been firmly compacted. The roller shall then progress gradually from the edges to the centre, parallel to the centre line of the road and overlapping uniformly each preceding rear wheel track by one half width and shall continue until the entire area of the course has been rolled by the rear wheel. Rolling shall continue until the road metal is thoroughly keyed with no creeping of metal ahead of the roller. Only slight sprinkling of water may be done during rolling, if required. On superelevated curves, the rolling shall proceed from the lower edge and progress gradually continuing towards the upper edge of the pavement.

Rolling of sub base shall not be done when the sub-grade is soft or yielding or when the rolling causes a wave like motion in the sub-base or sub-grade. When rolling develops irregularities that exceed 12 mm when tested with a three metre straight edge, the irregular surface shall be loosened and then aggregate added to or removed from it as required and the area rolled until it gives a uniform surface conforming to the desired cross-section and grade. The surface shall also be checked transversely by template for camber and any irregularities corrected in the manner described above. In no case shall the use of screenings to make up depressions be permitted.

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**16.7.8 Application of Screenings**

After the coarse aggregate has been lightly rolled to the required true surface, screenings shall be applied gradually over the surface to completely fill the interstices. Dry rolling shall be continued while the screenings are being spread so that the jarring effect of the roller causes them to settle into the voids of the coarse aggregates. The screenings shall not be dumped in piles on the coarse aggregate but shall be spread uniformly in successive thin layers either by the spreading motion of the hand, shovels or a mechanical spreader.

The screenings shall be applied at a slow rate (in three or more applications) so as to ensure filling of all voids. Rolling and brooming shall continue with the spreading of the screenings. Either mechanical brooms or hand brooms or both may be used. In no case shall the screenings be applied, so fast and thick as to form cakes, ridges on the surface making the filling of voids difficult, or to prevent the direct bearing of the roller on the coarse aggregates. The spreading, rolling and brooming of screenings shall be performed on sections which can be completed within one day's operation and shall continue until no more screenings can be forced into the voids of the coarse aggregate. Damp and wet screenings shall not be used under any circumstances.

**16.7.9 Sprinkling and Grouting**

After spreading the screening and rolling the surface shall be copiously sprinkled with water, swept and rolled. Hand brooms shall be used to sweep the wet screening into the voids and to distribute them evenly. The sprinkling, sweeping and rolling operations shall be continued and additional screenings applied where necessary until the coarse aggregates are well bonded and firmly set for the entire depth and until a grout has been formed of screenings and water that will fill all voids and form a wave of grout ahead of the wheels of the roller. The quantity of water to be used during the construction shall not be excessive so as to cause damage to the sub-base or sub-grade.

**16.7.10 Application of Binding Material**

After the application of screenings and rolling, a suitable binding material shall be applied at a uniform and slow rate in two or more successive thin layers. After each application of binding material, the surface shall be copiously sprinkled with water and the resulting slurry swept in with hand brooms or mechanical brooms or both so as to fill the voids properly. The surface shall then be rolled by a 8-10 tonne roller, water being applied to the wheels in order to wash down the binding material that may get stuck to the wheels. The spreading of binding material, sprinkling of water, sweeping with brooms and rolling shall continue until the slurry that is formed will, after filling the voids form a wave ahead of wheels of the moving roller.

**16.7.11 Setting and Drying**

After final compaction of the course, the road shall be allowed to cure overnight. Next morning defective spots shall be filled with screenings or binding material, lightly sprinkled with water, if necessary and rolled. No traffic shall be allowed till the macadam sets.

**16.7.12 Surface Evenness**

The surface evenness of completed W.B.M. sub-base in the longitudinal and transverse directions shall be as specified in Table 16.14 for sub base with stone aggregate of size 90-45 mm and above.

**TABLE 16.14**

Size of Coarse aggregates	Longitudinal profile measured with a 3 metre straight edge			Cross profile
	Maximum permissible undulation	Max. No. of Undulations permitted in any 300 m length exceeding		Max. permissible undulation when measured with a camber template
		15 mm	10 mm	
90-45 mm & above	15 mm	-	30	12 mm

The longitudinal profile shall be checked using a 3 meter long straight edge and graduated wedge at the middle of each traffic lane along a line parallel to the Centre line of the road. The transverse profile shall be checked with adjustable template at intervals of 10 meters. For base with stone aggregate of size 63 to 45 mm and 53 to 22.4 mm surface evenness to be as per Table 16.15.

**TABLE 16.15**

Size of Coarse aggregates	Longitudinal profile measured with a 3 metre straight edge			Cross profile
	Maximum permissible undulation	Max. No. of Undulations permitted in any 300 m length exceeding		Max. permissible undulation when measured with a camber template
		15 mm	10 mm	
63-45 mm and 53-22.4 mm	12 mm	-	30	8 mm

The longitudinal profile shall be checked with a three metre long straight edge and graduated wedge at the middle of each traffic lane along a line parallel to the centre line of the road. The transverse profile shall be checked with adjustable templates at intervals of 10 metres.

#### **16.7.13 Rectification of Defective Construction**

Where the surface irregularity of the W.B.M. sub-base course exceeds the tolerances specified in Table 16.14 or where the course is otherwise defective due to sub grade soil mixing with the aggregates, the layer to its full thickness shall be scarified over the affected area, reshaped with added material or removal and replaced with fresh materials as applicable, and recompacted. The area treated in the aforesaid manner shall not be less than 10 sqm. In no case shall depressions be filled up with screenings and binding materials.

#### **16.7.14 Measurements**

The length and breadth shall be measured to the nearest centimetre. The depth of consolidated layer shall be computed to nearest half centimetre by taking average of depths at the centre and at 30 cm from the left and right edges at a cross section taken at 100 metre interval or less as decided by the Engineer-in-Charge by making small pits. The consolidated cubical contents shall be calculated in cubic metres correct to two places of decimal. The cubical contents shall be compared with net quantity of stone aggregates paid (that is stacked quantity – 7.5%). If the cubical contents are within ( $\pm$ ) 5% of the paid net stacked quantity of stone aggregates, the work shall be treated as acceptable. If the cubical contents is short of net stacked quantity by more than 5% then the payment shall be restricted to the quantities derived from cubical content.

#### **16.7.15 Rate**

The rate shall include the cost of all labour and materials involved in all the operations described above, except cost of stone aggregate, kankar moorum, screenings and bajri, for which separate payments shall be made. Where W.B.M. is to be laid over an existing road, scarifying and consolidation of the aggregate received from scarifying shall be paid for separately.

**16.28 TACK COAT OF HOT STRAIGHT RUN BITUMEN OF GRADE VG- 10**

**16.28.0** The rate of application of binder which shall be as specified and which shall conform to 16.1.5 shall depend on the surface on which the premix carpet is to be laid.

(a) 0.75 kg/sqm on W.B.M./ W.M.M. Surface

(b) 0.50 kg/sqm on bitumen surface.

**16.28.1 Materials**

**Bitumen** : This shall be straight-run bitumen of grade VG- 10 conforming to IS 73 specifications.

**16.28.2 Preparation of Surface**

**16.28.3 Cleaning**

Prior to the application of bitumen, all vegetation, loose sealing compound, caked mud, animal dung, dust, dirt and foreign material shall be removed from the entire surface of the pavement and from existing dummy, construction and expansion joints (wherever existing) by means of mechanical sweepers and blowers, otherwise with steel wire brushes, small picks, brooms or other implements as approved by the Engineer-in-Charge. The material so removed shall be disposed off as directed by the Engineer-in-Charge.

**16.28.4 Weather and Seasonal Limitations**

The tack coat shall not be applied nor any bitumen work done during rainy weather or when the surface is damp or wet or when the atmospheric temperature in the shade is not more than 16° C.

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#### **16.28.5 Application of Tack Coat**

**16.28.5.1 Heating :** Bitumen shall be heated in a boiler to a temperature of 165 deg. C to 175 deg. C and maintained at that temperature. Temperature shall be checked at regular intervals with the help of a thermometer.

**16.28.5.2 Application of Bitumen :** Hot bitumen shall be applied evenly to the clean, dry surface by means of a pressure sprayer at specified rate. Even and uniform distribution of bitumen shall be ensured. Bitumen shall be applied longitudinally along the length of the pavement and never across it. Excessive deposits of bitumen caused by stopping or starting of the sprayer or through leakage or any other reason shall be suitably rectified.

#### **16.28.6 Measurements**

Length and breadth shall be measured correct to a cm, along the surface of pavement. Area shall be worked out in sqm correct to two places of decimal.

#### **16.28.7 Rate**

Rate shall include the cost of all materials and labour involved in all the operations described above.

### **16.29 TACK COAT WITH BITUMEN - EMULSION/ HOT BITUMEN OF GRADE VG– 10**

#### **16.29.1 Scope**

The work shall consist of the application of single coat of low viscosity liquid bituminous material to existing bituminous, cement concrete or primed granular surface preparatory to the superimposition of a bituminous mix, as specified in the contract or as instructed by the Engineer-in-Charge and applied as specified in the nomenclature of item.

#### **16.29.2 Materials**

The binder used for tack coat shall be either cationic bitumen emulsion (RS1) complying with IS:8887 or suitable low viscosity paving bitumen of VG 10 grade conforming to IS:73. The use of cutback bitumen RC:70 as per IS:217 shall be restricted only for sites at sub-zero temperatures or for emergency applications as directed by the Engineer-in-Charge. The type and grade of binder for tack coat shall be as specified in the contract or as directed by the Engineer-in-Charge.

#### **16.29.3 Construction**

##### **16.29.3.1 Equipment**

The tack shall be applied by a self propelled or towed bitumen pressure sprayer, equipped for spraying the material uniformly at specified rate. Hand spraying shall not be permitted except in small areas, inaccessible to the distributor, or narrow strips, shall be sprayed with a pressure hand sprayer, or as directed by the Engineer-in-Charge.

##### **16.29.3.2 Preparation of Base**

The surface on which the tack coat is to be applied shall be clean and free from dust, dirt and any extraneous material, and be otherwise prepared in accordance with the requirements. The granular or stabilized surfaces shall be primed as per **Para 16.65** clause (priming coat) immediately before the application of the tack coat, the surface shall be swept clean with a mechanical broom, and high pressure air jet, or by other means as directed by the Engineer-in-Charge.

##### **16.29.3.3 Application of Tack Coat**

The application of tack coat shall be at the rate specified in **Table 16.17A** and it shall be applied uniformly. If rate of application of tack coat is not specified in the contract, then it shall be the rate specified in **Table 16.17A**. No dilution or heating at site RS1 bitumen emulsion shall be permitted. Paving bitumen if use for tack coat shall be heated to appropriate temperature in bitumen boilers to achieve viscosity less than 2 poise. The normal range of spraying temperature for a bituminous emulsion shall be 20 C to 70 C and for cutback, 50 C to 80 C. The method of application of tack coat will depend on the type of equipment to be used, size of nozzles, pressure at the spray bar and speed or forward movement. The contractor shall demonstrate at a spraying trial, that the equipment and method to be used is capable of producing a uniform spray, within the tolerances specified.

**Table 16.17A**  
**Rate of application of tack coat**

<b>Type of Surface</b>	<b>Rate of Spray of Binder in Kg per sq.m</b>
Bituminous surfaces	0.20-0.30
Granular surfaces treated with primer	0.25-0.30
Cement concrete pavement	0.30-0.35

#### **16.29.3.4 Curing of Tack Coat**

The tack coat shall be left to cure until all the volatiles have evaporated before any subsequent construction is started. No plant or vehicles shall be allowed on the tack coat other than those essential for the construction.

#### **16.29.4 Measurement of Payment**

Tack coat shall be measured in terms of surface area of application in square metres.

#### **16.29.5 Rate**

The contract unit rate for tack coat shall be payment in full for carrying out the required operations including for all components i.e. labour, equipments and machinery as described above.

#### **16.31 PREMIX CARPET WITH BITUMEN EMULSION**

**16.31.0** This type of work is not ordinarily recommended but may be done in case of urgent repairs under damp conditions.

##### **16.31.1 Materials**

Binder shall be as specified and shall conform to RS grade as per IS 8837 grading of 11.2 mm stone chipping shall be as per Table 16.17. Quantities of bitumen emulsion and stone chippings shall be as specified in Table 16.20. A proper record shall be kept to ensure that the daily out turn of work is correlated with the quantity of bitumen used as per proforma given in Appendix 'A'.

**TABLE 16.20**  
**Bitumen Emulsion**

Consolidated thickness of premix Carpet	Bitumen Emulsion (medium setting minimum 65% bitumen content)	Stone Chippings
	For Carpet in kg/cum of chippings	cum per 100 sqm
2 cm	96	2.4 (11.2 mm nominal size)
2.5 cm	96	3.0 (11.2 mm nominal size)

**16.31.2** Preparation of surface and binder application shall be as specified under 16.26 except that the rate of application of bitumen for tack coat shall be 0.75 kg per sqm on water bound macadam surface and 0.5 kg per sqm on black topped surface.

**16.31.3** Preparation, spreading, consolidating mix, surface finishing, measurements and rate shall be as specified under 16.30 except that the bitumen emulsion shall not be heated but it shall be poured over the aggregate at atmospheric temperature at the correct rate before spreading on the road surface. The rolling with road roller of 6 to 9 tone capacity shall commence 24 hours after spreading the mixture. The surface shall be protected by a suitable device such as barricading and posting of watchmen for closing the traffic.

### 16.51 ROAD MARKINGS STRIPS

The colour width and layout of road markings shall be in accordance with the Code of Practice for Road Markings with paints, IRC : 35, and as specified in the drawings or as directed by the Engineer-in-Charge.

#### 16.51.1 Materials

Road markings shall be of ordinary road marking paint (retro-reflective), hot applied thermoplastic compound as specified in the item.

#### 16.51.2 Hot Applied Thermoplastic Road Marking

##### **General**

- (i) The thermoplastic material shall be homogenously composed of aggregate, pigment, resins and glass reflectorizing beads.
  - (ii) The thermoplastic compound shall be screeded/extruded on to the pavement surface in a molten state by suitable machine capable of controlled preparation and laying with surface application of glass beads at a specific rate. Upon cooling to ambient pavement temperature, it shall produce an adherent pavement marking of specified thickness and width and capable of resisting deformation by traffic.
  - (iii) The thermoplastic material shall conform to ASTM D36/BS-3262-(Part I).
  - (iv) The material shall meet the requirements of these specifications for a period of one year. The thermoplastic material must also melt uniformly with no evidence of skins or unmelted particles for the one year storage period. Any material not meeting the above requirements shall be replaced by the manufacturer/supplier/Contractor.
  - (v) **Marking** : Each container of the thermoplastic material shall be clearly and indelibly marked with the following information:
    - 1. The name, trade mark or other means of identification of manufacturer.
    - 2. Batch number
    - 3. Date of manufacture
    - 4. Colour (White or yellow)
    - 5. Maximum application temperature and maximum safe heating temperature.
  - (vi) **Sampling and Testing** : The thermoplastic material shall be sampled and tested in accordance with the appropriate ASTM/BS method. The Contractor shall furnish to the Engineer-in-Charge a copy of certified test reports from the manufacturers of the thermoplastic material showing results of all tests specified herein and shall certify that the material meets all requirements of this Specification.
-

### **16.51.3 Preparation**

- (i) The material shall be melted in accordance with the manufacturer's instructions in a heater fitted with a mechanical stirrer to give a smooth consistency to the thermoplastic material to avoid local overheating. The temperature of the mass shall be within the range specified by the manufacturer, and shall on no account be allowed to exceed the maximum temperature stated by the manufacturer. The molten material should be used as expeditiously as possible and for thermoplastic material which has natural binders or is otherwise sensitive to prolonged heating, the material shall not be maintained in a molten condition for more than 4 hours.
- (ii) After transfer to the laying equipment, the material shall be maintained within the temperature range specified by the manufacturer for achieving the desired consistency for laying.

### **6.51.4 Properties of Finished Road Marking**

- (a) The stripe shall not be slippery when wet.
- (b) The marking shall not lift from the pavement in freezing weather.
- (c) After application and proper drying, the stripe shall show no appreciable deformation or discolouration under traffic and under road temperatures upto 60°C.
- (e) The marking shall not deteriorate by contact with sodium chloride, calcium chloride or oil drippings from traffic. The stripe or marking shall maintain its original dimensions and position. Cold ductility of the material shall be such as to permit normal movement with the road surface without chopping or cracking.
- (f) The colour of yellow marking shall conform to IS Colour No. 356 as given in IS 164.

### **16.51.5 Application**

Marking shall be done by fully /semi automatic paint applicator machine fitted with profile shoe, glass beads dispenser, propane tank heater and profile shoe heater, driven by experienced operator as specified in item. For locations where painting cannot be done by machine, approved manual methods shall be used with prior approval of the Engineer-in-charge. The Contractor shall maintain control over traffic while painting operations are in progress so as to cause minimum inconvenience to traffic compatible with protecting the workmen.

The thermoplastic material shall be applied hot either by screeding or extrusion process. After transfer to the laying apparatus, the material shall be laid at a temperature within the range specified by the manufacturer or otherwise directed by the Engineer-in-Charge for the particular method of laying being used. The paint shall be applied using a screed or extrusion machine.

The pavement temperature shall not be less than 10°C during application. All surfaces to be marked shall be thoroughly cleaned of all dust, dirt, grease, oil and all other foreign matter before application of the paint.

Thermoplastic paint shall be applied in intermittent or continuous lines of uniform thickness of at least 2.5 mm unless specified otherwise. Where arrows or letters are to be provided, thermoplastic compound may be hand-sprayed.

The minimum thickness specified is exclusive of surface applied glass beads.

The finished lines shall be free from ruggedness on sides and ends and be parallel to the general alignment of the carriageway. The upper surface of the lines shall be level, uniform and free from streaks.

### **16.51.6 Measurements for Payment**

The painted markings shall be measured in sq. metres of actual area marked (excluding the gaps, if any) correct upto the two places of decimal.

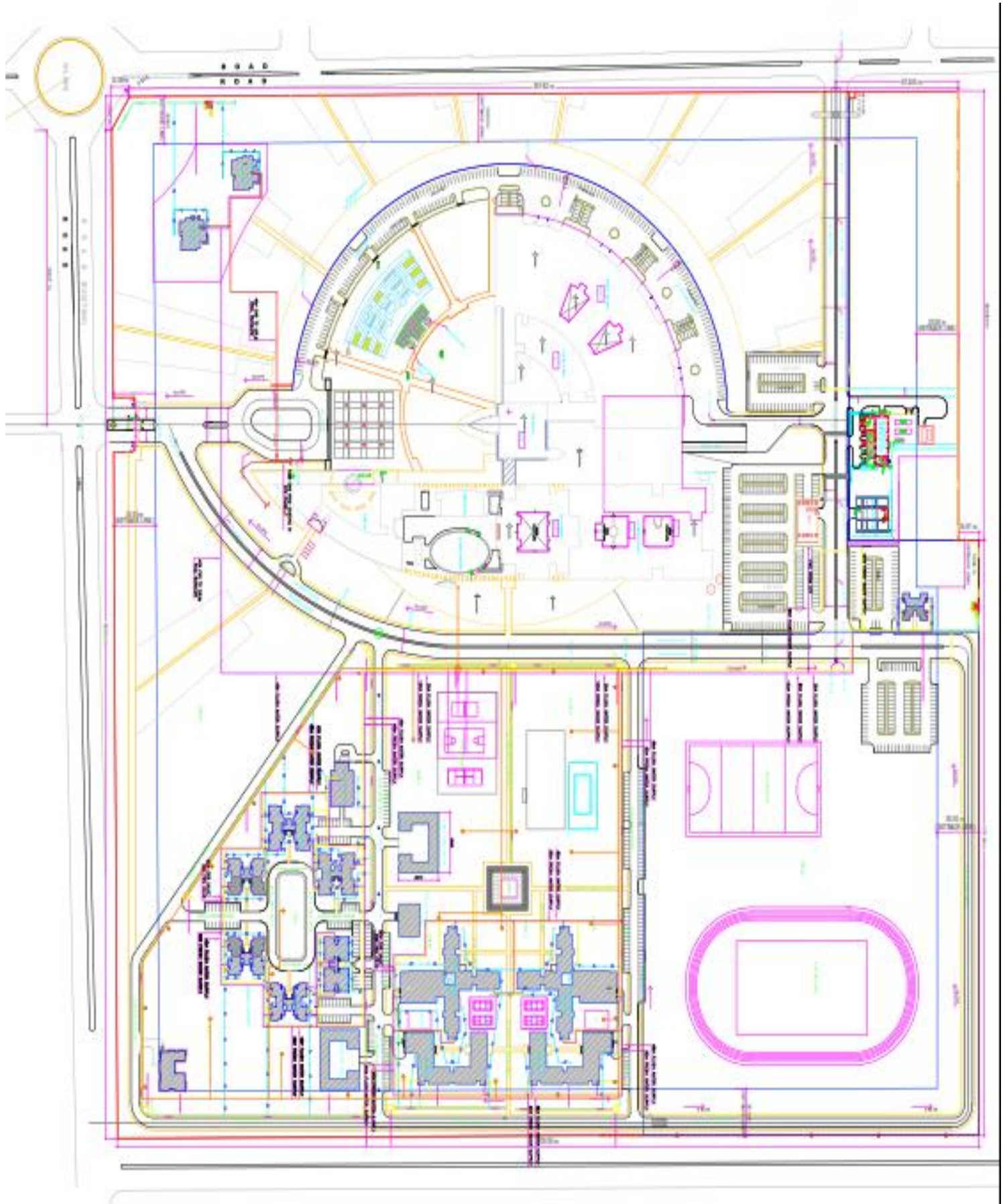
**16.51.7** The rate include the cost of all materials, labour and equipments required in all the above operations.

## **SECTION – X**

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### **DRAWINGS**

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# **Volume-III**

## **FINANCIAL BID**

**Letter of Transmittal for Financial Bid  
(On Original Letter Head of Bidder)**

Dated:

To,

Addl. Chief Engineer  
INFS-I Division  
WAPCOS Limited  
76-C, Institutional Area, Sector - 18  
Gurugram-122015, Haryana  
Email: [ivrm@wapcos.co.in](mailto:ivrm@wapcos.co.in)

**Sub: Financial Bid for the work ----- (Name of Work /Project)**

Dear Sir,

With reference to your NIT document dated ..... I/we, having examined the Bidding Documents and understood their contents, hereby submit my/our Bid for the aforesaid Project. The Bid is unconditional and unqualified.

1. I / We acknowledge that the WAPCOS will be relying on the information provided in the BID and the documents accompanying the BID for selection of the Contractor for the aforesaid Project, and we certify that all information provided in the Bid are true and correct; nothing has been omitted which renders such information misleading; and all documents accompanying the BID are true copies of their respective originals.
2. The BID Price has been quoted by me / us after taking into consideration all the terms and conditions stated in the NIT, draft Agreement, our own estimates of costs and after a careful assessment of the site and all own the conditions that may affect the project cost and implementation of the project.
3. I/ We acknowledge the right of the Authority to reject our BID without assigning any reason or otherwise and hereby waive, to the fullest extent permitted by applicable law, our right to challenge the same on any account whatsoever.
4. In the event of my/ our being declared as the Selected Bidder, I/we agree to enter into an Agreement in accordance with the draft that has been provided to me/us prior to the BID Due Date. We agree not to seek any changes in the aforesaid draft and agree to abide by the same.
5. I / We shall keep this offer valid as period specified in the NIT.
6. I / We hereby submit our financial BID and offer BID Price excluding GST as filled in excel format file for undertaking the aforesaid Work in accordance with the Bidding Documents and the Agreement.

Yours faithfully,

Date:

(Signature, name and designation  
of the Authorized signatory)

Place:

**Name and seal of Bidder**

## Financial Bid for Selection of Contractor for “Resurfacing of Bitumen Roads at NIFTEM Kundli, Sonipat, Haryana”

Validate		Print		Help		<u>Item Rate BoQ</u>	
Tender Inviting Authority: Chief Engineer-II (NFS-1) WAPCOS Limited							
Name of Work: Resurfacing of Bitumen Roads at NIFTEM Kundli, Sonipat, Haryana							
Contract No: WAP/NFS-1/NIFTEM/SR/2025/01							
Name of the Bidder/ Bidding Firm / Company :							
<b>PRICE SCHEDULE</b> (This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)							
NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	DSR Item Code / Make	Quantity	Units	BASIC RATE In Figures To be entered by the Bidder Rs. P	TOTAL AMOUNT Without Taxes	TOTAL AMOUNT In Words
1	2	3	4	5	13	53	55
1.01	<b>WBM</b> Laying, spreading and compacting stone aggregate of specified sizes to WBM specifications in uniform thickness, hand picking, rolling with 3 wheeled road/vibratory roller 8-10 tonne capacity in stages to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density	16.5	1509.000	cum		0.00	INR Zero Only
1.02	<b>Scarifying</b> metalled (water-bound) road surface including disposal of rubbish, lead upto 50 m and consolidation of the aggregate received from scarifying with power road roller of 8 to 10 tonne capacity.	16.9	18178.820	Nos		0.00	INR Zero Only
1.03	Carrriage of Scarifying Metalled rubbish for Disposal by Mechanical Transport upto 1Km additional distance	1.1.5	908.940	cum		0.00	INR Zero Only
1.04	<b>TACK COAT</b> Providing and applying tack coat using bitumen emulsion conforming to IS: 8887, using emulsion pressure distributor including preparing the surface & cleaning with mechanical broom. With rapid setting bitumen emulsion On bituminous surface @ 0.25kg/sqm	16.31.1.2	31268.820	Sqm		0.00	INR Zero Only
1.05	<b>PREMIX CARPET</b> 2.5 cm premix carpet surfacing with 3 cum of stone chippings 10 mm nominal size per 100 sqm and bitumen emulsion (medium setting min. 65% bitumen contents) complying with IS : 8887, using 96 kg per cum of chippings of road surface, including consolidation with road roller etc. complete	16.35	31268.820	Sqm		0.00	INR Zero Only
1.06	<b>SEAL COAT</b> Providing and laying seal coat of premixed fine aggregate ( passing 2.36 mm and retained on 180 micron sieve) with bitumen using 128 kg of bitumen of grade VG - 10 bitumen per cum of fine aggregate and 0.60 cum of fine aggregate per 100 sqm of road surface, including rolling and finishing with road roller all complete.	16.4	31268.820	Sqm		0.00	INR Zero Only
1.07	<b>Road Marking with Hot Applied Thermoplastic Compound with Reflectorising Glass Beads on Bituminous Surface:</b> Providing and applying 2.5 mm thick road marking strips (retro-reflective) of specified shade/ colour using hot thermoplastic material by fully/ semi automatic thermoplastic paint applicator machine fitted with profile shoe, glass beads dispenser, propane tank heater and profile shoe heater, driven by experienced operator on road surface including cost of material, labour, T&P, cleaning the road surface of all dirt, seals, oil, grease and foreign material etc. complete as per direction of Engineer-in-charge and accordance with applicable specifications	16.62	150.000	Sqm		0.00	INR Zero Only
Total in Figures						0.00	INR Zero Only
Quoted Rate in Words						INR Zero Only	

**Note:**

- The quoted rate filled in Summary of Cost/Financial Bid (as per the format of CPPP portal in excel), should include all associated costs with the project including any out of pocket / mobilization expenses, taxes (excluding GST) if any applicable as per Govt. terms, shall be paid by the Contractor.
- It is mandatory to bidders to deposit GST within time limit framed by Govt. of India, if applicable. The Goods and Services Tax (GST) shall be reimbursed to the Agency on submission of proof of Deposition of GST.
- The company shall be performing all its duties of deduction TDS and other deduction on payment made to the contractor as per applicable legislation in force on the date of submission of bid or to be newly / amended introduced during the execution of the Contract.
- The tenderer shall quote rates up to zero decimal and as well as in words. In case of any discrepancy rate quoted in words shall prevail.

**Important Note for submission of online tender:**

- DO NOT FILL ABOVE TABLE OF SUMMARY OF COST AT THE TIME OF SUBMISSION OF TECHNICAL BID.
- THE ABOVE FINANCIAL PROPOSAL IS TO BE FILLED BY BIDDER IN THE BOQ FILE ATTACHED IN E-PORTAL and shall be submitted under Financial Bid Only