

# WAPCOS LIMITED

(भारत सरकार का उपक्रम)

जल शक्ति मंत्रालय

(A Government of India Undertaking)

Ministry of Jal Shakti

## TENDER DOCUMENT FOR

Supply, Installation, Testing and Commissioning of Flood Light in  
Upper Ground at IIT (ISM) Dhanbad

Tender No.: WAP/CMU-II/2024-25/IIT(ISM)/Flood Light/06

Date: 16-10-2024

## PROJECT MANAGEMENT CONSULTANT



76-C, Institutional Area, Sector-18, Gurugram,  
Haryana-122015

October, 2024

**TABLE OF CONTENT**

<b>TECHNICAL BID</b>	
<b>NOTICE INVITING TENDER (NIT)</b>	
<b>SECTION: I</b>	<b>INSTRUCTIONS TO BIDDER</b>
<b>SECTION: II</b>	<b>SELECTION AND QUALIFYING CRITERIA</b>
<b>SECTION: III</b>	<b>FORMS</b>
	Letter of Transmittal for Technical Bid and Financial bid along with Declaration by the Bidder
FORM - A	Financial Information
FORM-B	Solvency Certificate
FORM - C	Details of Similar Works
FORM - D	Bid Capacity
FORM - E	Structure & Organization
FORM - F	Undertaking regarding Blacklisting / Non Debarment
FORM - G	Undertaking for Restriction under Rule 144(XI) of GFRs
FORM - H	Preference to Make in India
FORM - I	List of Equipment/Machinery Owned by the Bidder
FORM-J	Understanding the Project Site
FORM -K	Letter for Integrity And Integrity Agreement
<b>SECTION: IV</b>	<b>GENERAL CONDITIONS OF CONTRACT</b>
<b>SECTION: V</b>	<b>SPECIAL CONDITIONS OF CONTRACT</b>
<b>SECTION: VI</b>	<b>ADDITIONAL CONDITIONS OF CONTRACT</b>
<b>SECTION: VII</b>	<b>GENERAL INFORMATION</b>
<b>SECTION: VIII</b>	<b>ANNEXURES</b>
ANNEXURE - I	Format for Contract Agreement
ANNEXURE - II	Format for Performance Bank Guarantee
ANNEXURE - III	Format for Mobilization Advance Payment Bank Guarantee
ANNEXURE - IV	Format for Indenture for Secured Advances
ANNEXURE - V	Format of Bank Guarantee for EMD
ANNEXURE - VI	Format for Seeking Extension of Time
ANNEXURE - VII	Format of Guarantee Bond /Affidavit for Works
ANNEXURE - VIII	Contract For Removal of Defects after Completion in Respect of Water Proofing Works
ANNEXURE - IX	Format for Guarantee Bonds for Anti-Termite Treatment
ANNEXURE - X	Safety Codes
ANNEXURE - XI	Model Rules for The Protection of Health and Sanitary Arrangements for Workers Employed by Contractors
ANNEXURE - XII	Contractor's Labour Regulations
ANNEXURE - XIII	No Claim Certificate
<b>SECTION IX</b>	<b>SCOPE OF WORK &amp; TECHNICAL SPECIFICATIONS</b>
<b>SECTION X</b>	<b>PROFORMA OF SCHEDULES A, B, C, D, E AND F</b>
<b>SECTION XI</b>	<b>TENDER DRAWINGS</b>

<b>FINANCIAL BID</b>	
<b>SECTION XII</b>	<b>FINANCIAL PROPOSAL</b>
	SUMMARY OF COST
	DETAILED BILL OF QUANTITY

## **DISCLAIMER**

WAPCOS Limited has prepared this document as Project Management Consultant to give information on the Project to the interested Bidder. The information is provided to Bidders on the terms and conditions set out in this document and any other terms and conditions subject to which such information is provided.

The purpose of this document is to provide Bidders with information to assist the formulation of their Bid. The information is not intended to be exhaustive. Bidders are required to make their own inquiries and respondents will be required to confirm in writing that they have done so and they do not rely solely on the information in the document.

The information is provided on the basis that it is non-binding on WAPCOS Limited, any of its authorities or agencies or subsidiaries or any of their respective officers, employees, agents or advisors.

WAPCOS reserves the right not to proceed with the Project or to change the configuration of the Project, to alter the timetable reflected in this document or to change the process or procedure to be applied. It also reserves the right to decline to discuss the Project further with any party submitting the Bid.

While WAPCOS Limited have taken due care in the preparation of the information contained herein and believe it to be accurate WAPCOS Limited, any of its authorities or agencies nor any of their respective officers, employees, agents or advisors gives any warranty or make any representations, express 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.



---

## **NOTICE INVITING TENDER (NIT)**

---

**NOTICE INVITING TENDER (NIT)****NIT No. WAP/CMU-II/2024-25/IIT(ISM)/Flood Light/06****Dated 16-10-2024**

WAPCOS Limited (A Govt. of India Undertaking), as a Project Management Consultant for and behalf of Indian Institute of Technology (Indian School of Mines), Dhanbad, invites **“Open Online Electronic Tenders”** on **“Percentage Rate”** from experienced, competent and eligible bidders in a two-envelope system as per below:

1.	<b>Work/ Project</b>	Supply, Installation, Testing and Commissioning of Flood Light in Upper Ground at IIT (ISM) Dhanbad.
2.	Site / Location	Indian Institute of Technology (Indian School of Mines), Dhanbad Main Campus.
3.	Website for viewing tender, Corrigendum/ Addendum, if any.	<a href="http://www.wapcos.co.in">www.wapcos.co.in</a> & <a href="http://www.etenders.gov.in/e procure">www.etenders.gov.in/e procure</a>
4.	Website for Registration/ uploading of Tender	<a href="http://www.etenders.gov.in/e procure">www.etenders.gov.in/e procure</a>
5.	Estimated Cost of Work / NIT Cost	Rs. 1,94,86,825/- including GST (Rupees One Crore Ninety Four Lakhs Eighty Six Thousand Eight Hundred and Twenty Five Only)
6.	Cost of Tender Document	NIL
7.	Earnest Money Deposit (EMD) / Bid Security	<p>Rs. 3,89,736/- (Rupees Three Lakhs Eighty Nine Thousand Seven Hundred and Thirty Six Only) (Refundable) in the form of Insurance Surety Bonds/ Account Payee Demand Draft/ Fixed Deposit Receipt/ Banker's Cheque or Payment through RTGS/ NEFT in favor of 'WAPCOS Limited' payable at Gurugram, Haryana.</p> <p>OR</p> <p>A part of EMD is acceptable in the form of Bank Guarantee including e- Bank Guarantee also. In this cases Rs. 1,94,868/- (Rupees One Lakh Ninety Four Thousand Eight Hundred and Sixty Eight Only) EMD to be deposited in shape prescribed above and balance Rs. 1,94,868/- (Rupees One Lakh Ninety Four Thousand Eight Hundred and Sixty Eight Only) will be accepted in form of Bank Guarantee issued by Nationalized/ Scheduled Commercial Bank approved by Reserve Bank of India (RBI).</p> <p>The bank account as per details:  Name of Bank: Indian Overseas Bank  Bank Account Number: 193502000000405  IFSC Code: IOBA0001935  Branch Name: National Horticulture Board (NHB)  Building, G-85, Industrial Area, Sector-18, Gurugram-122015, Haryana</p> <p><b>Note: Bid Security shall remain valid for a period of 45 days beyond final bid validity period.</b></p>

8.	Solvency Certificate - <b>specific to this Bid submission only and mentioning the name of the work/project</b>	Rs. 77,94,730/- (Rupees Seventy Seven Lakhs Ninety Four Thousand Seven Hundred and Thirty Only) in original from a Nationalized/ Scheduled Commercial Bank approved by Reserve Bank of India (RBI). The Certificate should be issued between the publishing of NIT & last date of submission of Bids, including extensions if any and shall be addressed to WAPCOS Limited, 76-C, Institutional Area, Sector-18, Gurugram, Haryana quoting the name of the work. The certificate should carry name, designation of the bank official, who has the authority to issue Solvency Certificate.  <b>Note:</b> This Certificates will be verified from the issuing authority by WAPCOS.
9.	Project Completion Period	03 Months from the Date of Award
10.	Bid Validity Period	60 days from the date of opening of Technical bid
11.	Site Visit	Bidders are advised/encouraged to visit the site for actual assessment of the project site location and its consequences during execution of work
12.	Pre Bid Meeting	22/10/2024 at 15:00 hours to be held in the office of Addl. Chief Engineer, WAPCOS Limited Office at IIT (ISM) Dhanbad Campus, Near Main Gate, Dhanbad, Jharkhand - 826004
13.	Last date & time for online submission of Technical & Financial Bid	01/11/2024 up to 17:00 hours
14.	Offline Submission of EMD and Solvency etc. as detail in Tender for bidders.	01/11/2024 up to 17:00 hours in the office of Addl. Chief Engineer, WAPCOS Limited Office at IIT (ISM) Dhanbad Campus, Near Main Gate, Dhanbad, Jharkhand - 826004
15.	Online opening of Technical Bid	04/11/2024 at 16:00 hours
16.	Online opening of Financial Bid	Intimated to Technical Qualified Bidders.
17.	Tender Inviting Authority & Communication address during Tendering and Execution of Works	Addl. Chief Engineer WAPCOS Limited Office, IIT (ISM) Dhanbad Campus, Near Main Gate, Dhanbad, Jharkhand-826004 <b>Email:</b> <a href="mailto:rd@wapcos.co.in">rd@wapcos.co.in</a> ; <a href="mailto:ssm@wapcos.co.in">ssm@wapcos.co.in</a> <b>Contact No.</b> +91-124-2399830
18.	The Bid Security/ EMD / Solvency Certificate / BG against Performance Security/ BG against Mobilization Advance/ shall be addressed to WAPCOS Corporate Office	WAPCOS Limited 76-C, Institution Area Sector-18, Gurugram, Haryana-122015

- The tender document has to be viewed/ downloaded from above specified websites. Bidders are advised to visit above specified websites regularly for updates /Amendments/ Corrigendum, if any and not be published elsewhere. The Updates/Corrigendum/Addendum shall be followed up to submission of tender and it will be the part of tender.
- 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. The Bidders must read all the terms and conditions of bidding document carefully and only submit the bid, if eligible and in possession of all the documents required. Corrigendum while all efforts have been made to avoid errors in the drafting of the tender documents, the Bidder is advised to check the same carefully. No claim on account of any errors detected in the tender documents shall be entertained.

- 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.
- If the office of WAPCOS Limited 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.
- 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.
- No reimbursement of cost of any type or on any account will be paid to persons or entities submitting their Bid.
- 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.
- 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.

**For and on behalf of WAPCOS LIMITED**  
**Additional Chief Engineer**

# **SECTION– I**

---

## **INSTRUCTIONS TO BIDDER**

---

## SECTION- I INSTRUCTIONS TO BIDDER

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

#### 1.1 GENERAL

Submission of Online Bids is mandatory for this Tender. E-Tendering is a methodology for conducting Public Procurement in a transparent and secured manner. For conducting electronic tendering, bidders shall use the portal [www.etenders.gov.in/eprocure](http://www.etenders.gov.in/eprocure). Tender is invited in Single Stage -Two Envelope system, one Technical Bid and second as financial bid. Accordingly, bidder is directed to make all formalities and registration on [www.etenders.gov.in/eprocure](http://www.etenders.gov.in/eprocure) website and submit the Technical Bid and Financial bid.

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 from website: <https://etenders.gov.in/eprocure/app>.

#### 1.2 REGISTRATION

- a) 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.
- b) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- c) 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.
- d) 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.
- e) 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.
- f) 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.

#### 1.3 SEARCHING FOR TENDER DOCUMENTS

- a) 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.
- b) 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.
- c) 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.

#### 1.4 PREPARATION OF BIDS

- a) Bidder should take into account any corrigendum, Addendum published on the web portal along with tender document before submitting their bids.

- b) Bidder should read the tender document, corrigendum, Addendum and any other related correspondence, carefully to understand the documents required to be submitted as part of the bid.
- c) 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.

### 1.5 SUBMISSION OF BIDS

- a) Please uninstall any Java version if installed already. Then go to this link <https://eprocure.gov.in/cppp/jre-windows-i586.exe> and download this prescribed version of java for this portal.
- b) 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.
- c) 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.
- d) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- e) Bidder has to select the payment option as “offline” to pay the tender fee / EMD as applicable and enter details of the instrument.
- f) 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.
- g) Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.
- h) 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.
- i) 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.
- j) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- k) 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.

- l) 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.

## 1.6 ASSISTANCE TO BIDDERS

- a) 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.
- b) 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.
- c) In case of any discrepancy, the online version of the bids uploaded on CPP Portal shall be considered as final. The clarifications, if sought from the bidder, and submitted by bidder through email / hard copy through courier shall be considered.
- d) The financial bid is not to be submitted in sealed cover physically. However, the same is to be uploaded online only.
- e) The contents of the Technical Bid and Financial Bid shall be as detailed under relevant clauses of ITB herein.

## 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) Submission of a tender by a tenderer implies that the bidder has read Each Section of Tender Document, Corrigendum, Addendum and other related correspondence and has made himself aware about the complete scope of work under the tender document. Accordingly, Contract shall be governed by each Section of Tender Document and all other Conditions mentioned in the tender documents.
- b) 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.

- a) 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.
- b) The company reserves the right to waive minor deviations if they do not materially affect the capability of the Tenderer to perform the contract
- c) 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.
- d) 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 covered in the tender.

### **3.0 EARNEST MONEY DEPOSIT (EMD) / BID SECURITY**

The Earnest Money Deposit shall be as per the details mentioned in NIT. EMD shall not carry any interest. The Bid Security/ EMD of the unsuccessful bidder shall be returned at the earliest after expiry of final bid validity period and latest by 30<sup>th</sup> days after the award of the contract. Bid Security shall be refunded to the successful bidder on receipt of Performance Security.

Online Bid documents submitted by intending bidders shall be opened only of those bidders, whose EMD will be received within stipulated time.

The successful bidder shall accept the Letter of Award (LOA) within 15 (Fifteen) days from receipt of the same, failing which the EMD shall be forfeited and the award of work may be liable to be cancelled.

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

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

- 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 LOA/Contract. In case the LOA/Contract is silent in this regard then within 15 days after award of contract.

The Bid Security will be forfeited in the bidder

- i) withdraws or amends its/ his tender;
- ii) impairs or derogates from the tender in any respect within the period of validity of the tender;
- iii) If the bidder does not accept the correction of his bid price during evaluation; and
- iv) If the successful bidder fails to sign the contract or furnish the required performance security within the specified period.

#### **4.0 LANGUAGE OF BID**

The Bid and all related correspondence and documents relating to the Project shall be in English language. 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.

#### **5.0 BIDDERS RESPONSIBILITY**

The Bidder is solely responsible for the details of their Bid and the preparation of bids. In no case shall the WAPCOS be responsible for any part of the tender documents submitted by him. Any Site information given in this tender document is for guidance only. The Bidder is advised to visit and examine the Site of works and its surroundings at their cost and obtain for themselves on their own responsibility, all information that may be necessary for preparing the tender and entering into a Contract. Irrespective of whether or not the Bidders have attended the pre-bid meeting, they shall be deemed to have inspected the Site and its surroundings beforehand and taken into account all relevant factors pertaining to the Site and clarifications/ modifications/ additions given in Pre-Bid meeting or addendum issued in the preparation and submission of the Bid.

The Bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will in no case be responsible and liable for those costs. WAPCOS Limited shall in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

#### **6.0 PERIOD OF COMPLETION**

The completion period shall be as per NIT. The completion period is for the entire work of planning, execution, approvals, arrangement of materials, equipment, delivery at site including transportation, construction/ installation, testing, commissioning, NoCs & statutory approvals from local bodies and successfully handing over of the entire project to the satisfaction of the Principal Employer/ Employer.

#### **7.0 AMENDMENT OF BID DOCUMENTS**

At any time prior to the deadline for submission of bids, the Employer may, for any reason (s), whether at their own initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding Documents by the issuance of a corrigendum/ addendum. No modification of Bid shall be permissible after last date of submission, whatever may be the reason. The Employer may at their discretion may extend the deadline for submission of Tender/ Bid, if considered necessary.

Any corrigendum/ addendum thus issued shall be part of the bidding documents. Prospective Bidders shall download the same from the e-portal and submit along with the submission of Bid as token of acceptance.

#### **8.0 BID VALIDITY PERIOD**

Bids validity will be as per NIT. In exceptional circumstances, on expiry / prior to expiry of original bid validity period, the WAPCOS may request the successful bidder for a specified extension in the period of validity. A Bidder may accept OR refuse the request of extension of validity period. A Bidder agreeing Extension of validity period will not be required/nor permitted to modify his bid. In case of refusal of request of extension of validity period tender will be cancelled.

#### **9.0 CURRENCY OF BID**

Bid prices shall be quoted in Indian Rupees.

## **SECTION– II**

---

### **SELECTION AND QUALIFYING CRITERIA**

---

## SECTION-II

### SELECTION AND QUALIFYING CRITERIA

#### 1.0 SITE VISIT

- The Intending Bidder(s) are advised to inspect and examine the sites at their own cost and its surroundings and satisfy themselves before submitting their bids, the form and 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. A Bidder(s) shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed.
- 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.
- The bidder and any of its personnel or agents will be granted permission by the Employer/Owner to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the bidder, its personnel, and agents will release and Indemnify the Employer/Owner and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.

#### 2.0 PRE-BID MEETING

Prospective Bidder requiring any clarification of the bidding documents may notify the Employer via email mentioned in NIT, at least one working day prior to pre-bid meeting. The queries shall be discussed during the pre-bid meeting. Thereafter no further queries/clarifications shall be entertained. The Employer will reply to only those queries which are received before the scheduled time as mentioned above, which are essentially required for submission of bids. The Employer will not reply to the queries which are not considered fit like replies of which can be implied /found in the NIT/Tender Documents or which are not relevant or in contravention to NIT/Tender Documents.

The pre-bid meeting shall be held at the communication address mentioned in NIT. The Addendum/Corrigendum/Replies to pre bid queries as per Pre bid meeting, shall be uploaded on e-portal & WAPCOS website.

#### 3.0 QUALIFYING CRITERIA: ONLINE TECHNICAL BID SUBMISSION

The intending bidders should only submit bid if he considers himself eligible and possess all the required documents. The Technical Bid shall be uploaded **with coloured scanned copies of following documents. All the documents must be Serial wise as stated below along with check list and clearly marked page no. on each page**

Content of Check List				
Supply, Installation, Testing and Commissioning of Flood Light in Upper Ground at IIT (ISM) Dhanbad.				
Sl. No	Particular of Document	Yes	No	Page Nos. (from – to)
a)	Authority to Sign the Tender			

Content of Check List				
	<p>a) In case of proprietary firm, the Proprietor shall sign with full name, current address OR by the authorized person holding Notarized Power of Attorney issued by the Proprietor for signing of business proposal. The Power of Attorney shall <b><u>be submitted in original and shall be specific to this Bid submission only and mentioning the name of the work/project</u></b></p> <p>b) In case of a Limited Company or Corporation, the Application shall be signed by an authorized person holding the Power of Attorney for signing of business proposal. A certified copy of the Power of Attorney shall accompany the Application.</p> <p><b>Note:</b> Power of Attorney duly notarized and on a stamp paper of appropriate value, issued for signing the tender documents, make corrections/ modifications, to interact with the Employer and act as the contact person, shall be submitted along with Technical Bid.</p>			
	b) Scanned copy of EMD Documents.			
	c) Letter of Transmittal For Technical Bid and Financial bid along with Declaration by the Bidder on bidder's original letter Head as per given format			
	<p>d) Bidder shall submit "<b>Financial Information</b>" regarding Turnover, Profit/Loss and Net Worth certificate for Last 5 (five) years ending on the financial year 2022-23 in <b>Form-A</b> duly certified by Statutory Auditor of the firm/company which must carry <b>UDIN (Unique Document Identification Number)</b>.</p> <ul style="list-style-type: none"> <li>• <b>Profit / loss (after Tax):</b> The Bidder should not have incurred any loss (profit after tax should be positive) in more than two years during last five years ending 2022-23 duly audited and Attested by the Independent Chartered Accountant.</li> <li>• <b>Turnover:</b> Average annual financial turnover on works should be at least 50% of the estimated cost of work during the immediate last 3 consecutive financial years ending 2022-23. This should be duly audited by the Chartered Accountant doing Statutory Audit.</li> <li>• <b>Net Worth:</b> Net worth of the Bidder should be positive during the last financial year 2022-23. The requisite certificates must be certified by statutory auditor of the firm/company.</li> <li>• Bidder shall attach Balance Sheet and Profit &amp; loss Statement, duly audited by Statutory Auditor of the firm for last 5 (five) years ending on the financial year 2022-23 in support of <b>Form-A</b></li> </ul> <p><b>Note:</b> There is no need to upload entire voluminous balance sheet. However, summarized balance sheet</p>			

Content of Check List				
	<b>(Audited) and summarized Profit &amp; Loss Account (Audited) for last 05 years shall be uploaded.</b>			
e)	<p><b>Solvency Certificate</b></p> <p>The bidder should not be insolvent, in receivership, bankrupt or being wound up, not have had their business activities suspended. Bank Solvency Certificate issued from a Nationalized / Scheduled Commercial Bank approved by Reserve Bank of India (RBI) should be at least 40% of the estimated cost of the work. <b>The Certificate should be issued between the publishing of NIT &amp; last date of submission of Bids, including extensions if any and shall be addressed to WAPCOS Limited, 76-C, Institutional Area, Sector-18, Gurugram, Haryana <u>specific to this Bid submission only and mentioning the name of the work/project.</u> The certificate shall be submitted in original and the colour / b&amp;w copy / scanned copy shall not be accepted.</b> The certificate should carry name, designation of the bank official, who has the authority to issue Solvency Certificate. <b>(Form-B)</b></p> <p><b>Note:</b> This Certificate will be verified from the issuing authority by WAPCOS.</p>			
f)	<p><b>Completed Similar Work Criteria:</b></p> <p>The bidder should have satisfactorily completed the similar types of works as mentioned below during the last 7 (seven) years <b>(Form-C)</b> ending previous day of last date of submission of tender.</p> <p>i) One similar completed work costing not less than 80% of the estimated cost of work.</p> <p style="text-align: center;">Or</p> <p>ii) Two similar completed works of order value each not less than 50% of the estimated cost of work.</p> <p style="text-align: center;">Or</p> <p>iii) Three similar completed works of order value not less than 40% of the estimated cost of work.</p> <p>Note:  <b>Similar work shall mean “<u>Supply, Installation, Testing and Commissioning of Flood Light in Cricket Ground including Civil and Electro-Mechanical Work.</u>”</b></p> <p>The value of executed works shall be brought to the current level by enhancing the actual value of work done at a simple rate of 7% per annum, calculated from the actual date of completion mentioned in the completion certificate to the date of floating of this tender.</p> <p>The bidder's shall submit Completion Certificate(s) mentioning name, nature of work(s), value(s) of the job(s), date(s) of commencement, stipulated date(s) of completion and actual date(s) of completion along-with LOI(s)/W.O(s) from respective Owner(s)/Client(s).</p>			

Content of Check List				
	<p>The past experience in similar nature of work and also for additional experience should be supported by certificates issued by the Client's organization. In case, the works / certificates are not verified by the issuing authority, WAPCOS reserves the right to not consider for the award of works. For work experience of private sector, the completion certificates shall be supported with copies of corresponding TDS certificates. <u>In case of mismatch in value in TDS certificate &amp; completion certificate, then value mentioned in TDS certificate will be considered during evaluation.</u></p> <p>Note: The completion / experience certificates, along with the supporting documents, shall be got verified from the issuing authority / organizations prior to opening of Financial Bid</p>			
g)	<p><b>Bid Capacity</b> as prescribed in <b>Form-D</b>.</p> <p>The bidding capacity of the Contractor should be equal to or more than the estimated cost of the work put to tender. The bidder should possess the bidding capacity as calculated by the specified formula. The formula generally used is:</p> <p><b>Available bid capacity = A x 1.5 x N - B, where</b>  A = Maximum value of engineering (Civil/ Electrical/ Mechanical as relevant to work being procured) works executed in any one year during the last five years (updated at the current price level), taking into account the completed as well as works in progress.  N = Number of years prescribed for completion of the work in question.  B = Value (updated at the current price level) of the existing commitments and ongoing works to be completed in the next 'N' years.</p> <p><b>NOTE:</b>  The bidder shall furnish statements showing the value of existing commitments and on-going works as well as stipulated period of completion remaining for each of the works separately.</p> <p>The value of executed works shall be brought to the current level by enhancing the actual value of work done at a simple rate of 7% per annum, calculated from the actual date of completion mentioned in the completion certificate to the date of floating of this tender.</p>			
h)	<p><b>EPF &amp; ESIC Registration:</b>  The agency should have EPF &amp; ESIC registration.</p>			
i)	<p><b>GST Registration &amp; PAN:</b>  Bidder shall submit valid GST registration certificate for the state where work is to be executed and PAN Card. If not</p>			

Content of Check List				
	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 submitting of 1 <sup>st</sup> bill of executed works.			
j)	<b>Indian Registered Company:</b>  The bidder should be an Indian Registered Company under Companies Act 1956/ Proprietorship Firm/ Partnership Firm. <b>Joint ventures are not accepted.</b> Copy of Certificate of Incorporation/ Registration/ Partnership Deed Registration or any other relevant document, as applicable, should be submitted along with a copy of address proof.  <b>NOTE:</b> Proprietor firms shall submit registration details or shall submit the copy of relevant page of Pass book for the Current Account in the name of Proprietor Firm.			
k)	<b>Structure &amp; Organization:</b>  The bidder will submit Name, address, details of the organization, Name(s) of the Owner/partners/promoters and Directors of the firm/ company as prescribed in <b>Form-E.</b>			
l)	<b>Undertaking regarding Blacklisting / Non Debarment</b>  The bidder will submit the “Undertaking regarding Blacklisting / Non Debarment” as prescribed in <b>Form-F.</b>			
m)	<b>Undertaking regarding Restriction under Rule 144(XI) of the General Finance Rules (GFRs) 2017</b> The bidder will submit the “Undertaking regarding Restriction under Rule 144(XI) of the General Finance Rules (GFRs) 2017” as prescribed in <b>Form -G.</b>			
n)	<b>Preference to Make in India:</b>  The bidder shall submit undertaking indicating percentage of local content used during the execution of work as per the order of Public Procurement (Preference to Make in India) as prescribed in <b>Form-H</b> duly signed by Statutory Auditor and must carry <b>UDIN (Unique Document Identification Number)</b>			
o)	<b>List of Equipment/Machinery Owned by the Bidder</b> The bidder will submit the “List of Equipment/Machinery Owned by the Bidder” as prescribed in <b>Form -I.</b>			
p)	<b>Understanding The Project Site</b> The bidder will submit the “Understanding The Project Site” as prescribed in <b>Form -J.</b>			
q)	<b>Integrity Pact:</b> The bidder will submit ‘Consent Letter to execute the Integrity Pact’ as prescribed in <b>Form-K.</b>			



Content of Check List				
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. <b><i>(Do Not Submit with the document of Offline Submission)</i></b>			

#### 4.0 OFFLINE SUBMISSIONS OF DOCUMENTS

The Bidder shall submit following Document offline in separate envelope clearly labeled as “OFFLINE DOCUMENTS” for the Work (Write Name of Work/Project as mentioned in NIT) along with Details of Bidders Address, Phone, E-mail on Envelope.

- Original Earnest Money Deposit/ Bid Security
- Original Solvency Certificate

**NOTE:** - The above offline documents shall be submitted by bidder on WAPCOS address as per date & time mentioned in NIT, otherwise bids will be rejected.

However, certified Hard copy of all the scanned and uploaded documents as specified in tender documents shall have to be submitted in two different envelop each for Technical and Financial bid written clearly on each envelop with a covering envelop clearly mentioning the work details on it by the lowest tenderer only within a week of opening of financial bid physically in the office of tender inviting authority.

#### 5.0 CONTENTS OF FINANCIAL BID

The Financial Bid should be uploaded online before last date & time of submission of Tender Document.

Quoted amount by the Bidder with any condition shall not be accepted and same is liable to be rejected. Quoted amount by the Bidder shall include all Materials, Tools & Plant, labour, supervision, profit; other levies together with all general risks, liabilities and obligations set out or implied in the contract, applicable Labour Cess, cost of insurance to this contract, all applicable tax liabilities like Income Tax & Surcharges, etc. Any other taxes /cess as per Government directives shall be deducted from each bill paid to the Contractor, from time to time. Quoted amount by the Bidder shall be inclusive of GST.

The Contractor shall submit e-invoice / Tax Invoice (as applicable for the bidder's Firms) to WAPCOS showing (i) Basic amount (ii) GST amount separately in each bill. 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 WAPCOS 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.

#### 6.0 OPENING OF FINANCIAL BID

The financial bids of the technically qualified bidders shall be opened at the notified date & time. Final selection of the bidder will be made based on the least cost method.

**7.0 SIGNING OF THE CONTRACT**

The letter of Award will be issued to the successful bidder by WAPCOS which will be duly signed & stamped by the successful bidder as token of unequivocal acceptance and confirmation within specified time period. Subsequently, successful bidder shall submit the Performance Security of required value within the specified time period. Thereafter, on specified time period, the successful Bidder or his authorized representative shall attend the office for signing of the Contract Agreement.

Failure on the part of the successful Bidder to comply with the above requirements will constitute sufficient grounds for the annulment of the Award and forfeiture of the Bid Security.

## SECTION - III

### FORMS

	LETTER OF TRANSMITTAL FOR TECHNICAL BID AND FINANCIAL BID ALONG WITH DECLARATION
FORM-A	FINANCIAL INFORMATION
FORM-B	SOLVENCY CERTIFICATE
FORM - C	DETAILS OF SIMILAR WORKS (COMPLETED)
FORM - D	BID CAPACITY
FORM - E	STRUCTURE & ORGANIZATION
FORM - F	UNDERTAKING REGARDING BLACKLISTING / NON DEBARMENT
FORM - G	UNDERTAKING FOR RESTRICTION UNDER RULE 144(XI) OF GFRS
FORM - H	PREFERENCE TO MAKE IN INDIA
FORM - I	LIST OF EQUIPMENT/MACHINERY OWNED BY THE BIDDER
FORM-J	UNDERSTANDING THE PROJECT SITE
FORM -K	LETTER FOR INTEGRITY AND INTEGRITY AGREEMENT

**(TO BE SUBMITTED ON BIDDER ORIGINAL LETTER HEAD)****LETTER OF TRANSMITTAL FOR TECHNICAL BID**

To,  
 Addl. Chief Engineer  
 WAPCOS Limited Office,  
 IIT (ISM) Dhanbad Campus, Near Main Gate,  
 Dhanbad, Jharkhand-826004  
**Email:** [rd@wapcos.co.in](mailto:rd@wapcos.co.in); [ssm@wapcos.co.in](mailto:ssm@wapcos.co.in)  
**Contact No.** +91-124-2399830

**Subject: Submission of Bids for (Name of the Work/ Project)**

Sir,

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

- i. I / We acknowledge that the WAPCOS will be relying on the information provided in the Bid and the documents accompanying the Bid & detailed provided in the enclosed “Forms” 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.
- ii. I/we have furnished all information and details necessary for eligibility and have no further pertinent information to supply.
- iii. I/we submit the requisite Solvency Certificate, Completion Certificates, Financial Information's and authorize WAPCOS Ltd. to approach the Issuing Authority 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.
- iv. 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.
- v. 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.

**Date:**

**(Signature, Name, Designation  
of the Authorized signatory with Seal)**

**Place:**

**(TO BE SUBMITTED ON BIDDER ORIGINAL LETTER HEAD)**

**LETTER OF TRANSMITTAL FOR FINANCIAL BID**

Dated:

To,  
Addl. Chief Engineer  
WAPCOS Limited Office,  
IIT (ISM) Dhanbad Campus, Near Main Gate,  
Dhanbad, Jharkhand-826004  
**Email:** [rd@wapcos.co.in](mailto:rd@wapcos.co.in); [ssm@wapcos.co.in](mailto:ssm@wapcos.co.in)  
**Contact No.** +91-124-2399830

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

Dear Sir,

With reference to this Tender Document, 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. The Cost has been quoted by me/us for bid after taking into consideration all the terms and conditions stated in the Tender Document, 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.
2. I / We shall keep this offer valid as period specified in the NIT.
3. I / We hereby submit our FINANCIAL BID and Offer Cost as filled in format given on online portal for undertaking the aforesaid Project 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**

**(TO BE SUBMITTED ON BIDDER ORIGINAL LETTER HEAD)****DECLARATION BY THE BIDDER**

This is to certify that We, M/s ....., in submission of this offer confirm that:-

We have inspected the site of work and have made myself/ourselves fully acquainted with local conditions in and around the site of work. We have carefully gone through each & every section of the tender document for the work **(Name of the Work/ Project)**.

1. Our tender is offered taking due consideration of all factors mentioned in tender documents.
2. We promise to abide by all the stipulations of the Contract documents and carry out and complete the work to the satisfaction of the Employer/ Principal Employer.
3. We also agree to procure Plants and Machineries at our cost required for the work. We also submit that we have Organizational Structure comprising adequate Technical Personnel in the line of requirement. We also agree to accomplish the job entrusted to us in the stipulated time laid out in document except situations not under our control.
4. We have not made any misleading or false representation in the forms, statement and attachments in proof of the qualification requirements;
5. We do not have records of poor performance such as abandoning the work, not properly completing the Contract, inordinate delays in completion or financial failures etc.
6. We have submitted all the supporting documents and furnished the relevant details as per prescribed format.
7. We are financially sound and have not applied or be under corporate debt restructuring.
8. List of Similar Works satisfying Qualification Criterion as indicated hereinafter, does not include any work which has been carried out by us through a Subcontractor on a back-to-back basis.
9. The Cost has been quoted by me/us for bid after taking into consideration all the terms and conditions stated in the Tender Document, 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.
10. I / We shall keep this offer valid as period specified in the NIT.
11. I / We hereby submit our FINANCIAL BID and Offer Cost for undertaking the aforesaid Project in accordance with the Bidding Documents and the Agreement.
12. In the event of my/ our being declared as the Selected Bidder, I/we agree to enter into a Agreement in accordance with the format of Contract Agreement. We agree not to seek any changes in the aforesaid format of Contract Agreement and agree to abide by the same.

**Certificate:**

It is certified that the information given in the enclosed 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.

**Date:**

**(Signature, Name, Designation  
of the Authorized signatory with Seal)**

**Place:**

**[TO BE SUBMITTED ON ORIGINAL LETTER HEAD OF STATUTORY AUDITOR OF  
BIDDER]**

**FORM-A: FINANCIAL INFORMATION**

<b>Years</b>	<b>Gross Annual turnover on Works</b>	<b>Profit/Loss (After Tax)</b>	<b>Net worth</b>
2018-2019			
2019-2020			
2020-2021			
2021-2022			
2022-2023			

Above Details are being furnished as per the figures in balance sheet for the last five years in respect of M/s .....( Name & address of firm of bidder), as submitted by the firm to the Income Tax Department.

**Date:**

**(Signature of Statutory Auditor with Seal)  
UDIN No. :**

**Place:**

**[TO BE SUBMITTED ON ORIGINAL LETTER HEAD OF ISSUING BANK]**

**FORM- B: SOLVENCY CERTIFICATE**

To  
WAPCOS Limited,  
76-C, Institutional Area,  
Sector-18, Gurugram, Haryana

Name of Work: **(Name of the Work/ Project)**

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

This certificate is issued without any Guarantee or responsibility on the Bank or any of the officers.

**(Signature for The Bank with seal)**  
**Name:**  
**Designation:**  
**Power of Attorney No.:**

**NOTE:**  
E-mail ID of bank/authorized signatory of bank should be clearly mentioned on the certificate so that genuineness of the certificate can be established via email.



**(TO BE SUBMITTED ON BIDDER ORIGINAL LETTER HEAD)****FORM-C: DETAILS OF ELIGIBLE SIMILAR NATURE OF WORKS COMPLETED DURING THE LAST SEVEN YEARS ENDING PREVIOUS DAY OF LAST DATE OF SUBMISSION OF TENDERS**

Sl. No.	Name of work/ project and location	Owner or sponsoring organization	Cost of work in crores of rupees	Date of commencement as per contract	Stipulated date of completion	Actual date of completion	Litigation / arbitration cases pending/ in progress with details*	Name and address / telephone number of officer to whom reference may be made	Whether the work was done on back to back basis Yes/ No
1	2	3	4	5	6	7	8	9	10

\* Indicate gross amount claimed and amount awarded by the Arbitrator.

Date:

Place:

(Signature, Name, Designation  
of the Authorized signatory with Seal)

**(TO BE SUBMITTED ON BIDDER ORIGINAL LETTER HEAD)****FORM- D: BID CAPACITY****Name of Work: (Name of the Work/ Project)****Available bid capacity =  $A \times 1.5 \times N - B$** **Where,**

A = Maximum value of engineering (Civil/ Electrical/ Mechanical as relevant to work being procured) works executed in any one year during the last five years (updated at the current price level), taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of the work in question.

B = Value (updated at the current price level) of the existing commitments and ongoing works to be completed in the next 'N' years.

**Existing Commitments & on-going works details:**

Description of work	Location	Contract no.	Name of address of Client	Value of Contract (Rs. Cr.)	Stipulated period of completion	Value of remaining work (Rs. cr.)	Anticipated date of completion

**NOTE:**

The bidder shall furnish statements showing the value of existing commitments and on-going works as well as stipulated period of completion remaining for each of the works separately.

The value of executed works shall be brought to the current level by enhancing the actual value of work done at a simple rate of 7% per annum, calculated from the date of completion of last day of the month previous to the one in which applications are invited.

**Date:****(Signature, Name, Designation  
of the Authorized signatory with Seal)****Place:**

**(TO BE SUBMITTED ON BIDDER ORIGINAL LETTER HEAD)****FORM- E: STRUCTURE & ORGANISATION**

S. No.	Particulars	Details
1.	Name & Registered Address of the Bidder	
2.	Address and Email on which correspondence will be made during Tendering & after Award of Work	<b>Name of Person: ...<u>who will sign tender</u></b> <b>Mobile No. :</b> <b>Email:</b> <b>Address:</b>
3.	Telephone no./Mobile no./Fax no.	
4.	Legal status of the Bidder (attach copies of original document defining the legal status) (a) A Proprietary Firm (b) A Partnership Firm (c) A Limited Company or Corporation (d) A Company registered under company's Act 1956/2013	
5.	Particulars of Registration with various Government Bodies (Attach attested photocopy) <b>Organization/Place of Registration</b> 1. 2. 3.	<b>Registration No.</b> 1. 2. 3.
6.	Names and Titles of Directors with designation as per Legal Status of Company	
7.	Designation of Senior Level Officers authorized to act for this work	
8.	Any other information considered necessary but not included above.	

**Date:****(Signature, Name, Designation  
of the Authorized signatory with Seal)****Place:**

**(TO BE SUBMITTED ON BIDDER ORIGINAL LETTER HEAD)****FORM-F: UNDERTAKING REGARDING BLACKLISTING / NON DEBARMENT****Name of Work: (Name of the Work/ Project)**

This is to certify that we have taken the cognizance of Blacklisting Policy of WAPCOS Ltd. Further, we hereby Confirm and declare that we, M/s \_\_\_\_\_, is not blacklisted/De-registered/debarred by any Government Department/Public Sector Undertaking /Private Sector/ or any other agency for which we have Executed / Undertaken the works/ Services during the last 5 Years.

**Date:****(Signature, Name, Designation  
of the Authorized signatory with Seal)****Place:**

**(TO BE SUBMITTED ON BIDDER ORIGINAL LETTER HEAD)**

**FORM-G: UNDERTAKING FOR RULE 144 (XI) IN THE GENERAL FINANCIAL  
RULES-2017**

**Name of Work: (Name of the Work/ Project)**

I / we .....(Name of the Firm)  
well aware about the Restrictions under RULE 144 (XI) In General Financial Rules (GFR), 2017 on  
procurement from country which shares a land border with India.. I/ we hereby certify that we are eligible  
to participate in the tender as per Rule 144 (xi) In The General Financial Rules (GFR), 2017

**Date:**

**(Signature, Name, Designation  
of the Authorized signatory with Seal)**

**Place:**

[TO BE SUBMITTED ON ORIGINAL LETTER HEAD OF STATUTORY AUDITOR OF  
BIDDER]

FORM-H: UNDERTAKING REGARDING PERCENTAGE OF LOCAL CONTENT

Name of Work: (Name of the Work/ Project)

We, ..... , a Chartered Accountant firm having our registered office address..... hereby state that, we are Statutory Auditor of the Company M/s..... (CIN : .....).

The Bidder is bidding for the “..... (Name of work)

We have understood the provisions of Public Procurement (Preference to make in India) Local content Policy against WAPCOS Tender NIT No. .... Date -.....

We on the basis of the bidder’s representation received, hereby confirm that, offer is achieving the minimum local content target as per of above Policy shall be **50%**.

Date:

(Signature of Statutory Auditor with Seal)  
UDIN No. :

Place:

**[TO BE SUBMITTED BY BIDDER ON THEIR ORIGINAL LETTER HEAD]**

**FORM-I: LIST OF EQUIPMENT/MACHINERY OWNED BY THE BIDDER**

Name of Work: (Name of the Work/ Project)

Sl. No.	Name of Equipment / Machinery	Year of Manufacture	Quantity	Capacity of Equipment	Supporting Document enclosed (Yes/No)

Date:

(Signature, Name, Designation  
of the Authorized signatory with Seal)

**[TO BE SUBMITTED BY BIDDER ON THEIR ORIGINAL LETTER HEAD]****FORM-J: UNDERSTANDING THE PROJECT SITE****Name of Work: (Name of the Work/ Project)**

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

- Location of the land demarcated for the execution of work and approach/ accessibility to the site.
- Availability of all construction material required for the execution of work.
- Location of the proposed buildings and its allied works on demarcated land.
- Sources from where electric connection is to be taken by contractor at the time of mobilization or other arrangements for electricity is to be made.
- Sources from where suitable water for construction is to be arranged.
- Site clearance and location of matured trees.
- Awareness about the surrounding local conditions, villagers etc.
- Topography, contouring and any other relevant feature like Pond, nallah etc. of the land where the project is to be executed.
- Nature of the ground & sub-soil of the site and accessibility to the site.
- Location of local electrical supply line and other relevant services
- Hindrances / dispute, 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 percentage Rates / price.

**Date:**

**(Signature, Name, Designation  
of the Authorized signatory with Seal)**

**Place:**



**[TO BE SUBMITTED BY BIDDER ON THEIR ORIGINAL LETTER HEAD]****FORM-K: INTEGRITY PACT**

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

**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 Stamp paper of At least Rs.100]**

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/Contract 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 :

## **SECTION - IV**

---

### **GENERAL CONDITIONS OF CONTRACT**

---

## SECTION-IV

### GENERAL CONDITIONS OF CONTRACT

#### (1) Interpretation

- (a) In construing these conditions, the Specifications, the Schedule of Quantities, Tender, Special Conditions and Agreement, the following words shall have the meanings herein assigned to them except where the subject or context otherwise requires.
- (b) This contract shall comprise of the Articles of Agreement, General Conditions of Contract (GCC), Special Conditions of Contract (SCC), Additional Conditions Contract (ACC), the Schedule of Quantities, Specifications, Letter of Acceptance (LoA) of tender, work order and other documents mentioned in the contents sheet attached hereto and including those to which only reference is made herein.

**WORK OR WORKS:** shall mean all work or works defined in Schedule of Quantities, Specifications and such other work or works as the Contractor may be entrusted with for carrying out under this contract.

**Employer/Competent Authority** means WAPCOS Limited who proposes to get the works executed as mentioned in the Contract.

**WAPCOS Limited** shall mean a company registered under the Indian Company Act 1956, with its registered office at New Delhi or its Administrative officers or its Engineer or other employees authorized to deal with any matter with which these persons are concerned and authorized on its behalf.

**Owner/Client** means Indian Institute of Technology (Indian School of Mines) Dhanbad who has awarded the work/ project to WAPCOS and/ or appointed WAPCOS as Implementing / Executing Agency/ Project Management Consultant (PMC) and/ or for whom WAPCOS is acting as an agent/consultant and on whose behalf WAPCOS is entering into the contract and getting the work executed.

**CONTRACTOR:** shall mean the individual or Firm or Company, whether incorporated or not, undertaking the work and shall include the legal personal representative or 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 or Firm or Firms or Company.

**SITE:** shall mean the site of the contract works including any buildings and erections thereon and any other land adjoining thereto (inclusive) as aforesaid allotted by the Employer or the Engineer-In-Charge for the Contractor's use.

**COMPENSATION:** shall mean all sums payable by way of compensation under any of the conditions shall be considered as reasonable compensation without reference to the actual loss or damage sustained and whether or not any damage sustained, and whether or not any damage shall



have been sustained. Words imputing persons include firms and corporations, words imputing the singular only also include the plural and vice versa where the context so required.

**Engineer-in-Charge means** the Engineer as may be duly appointed and authorized in writing by WAPCOS Limited to act as “Engineer-in-Charge” on its behalf for the purpose of the Contract, to perform the duty set forth in this General Condition of Contracts and other Contract

**CONTRACT:** shall mean the Notice Inviting Tender and acceptance thereof and the formal Agreement, if any, executed between WAPCOS Limited and the Contractor together with the documents referred to therein including these Condition with Appendices and any Special Conditions, including subsequent Amendments thereof, the Specifications, Drawings, Schedule of Quantities with Rates and Amounts and Schedule of Rates. All these documents taken shall be deemed to form one contract and shall be complementary to one another.

**DAY:** shall mean a day of 24 hours from midnight to midnight irrespective of the number of hours worked in that day.

**MARKET RATE:** shall be the rate as decided by the Engineer-In-Charge on the basis of the cost of materials and labour at the site where the work is to be executed, plus the percentage mentioned in schedule to cover all overheads and profit.

**SCHEDULES(S):** referred to in these conditions shall mean the relevant schedule(s) annexed to the tender papers issued by the WAPCOS or the standard schedule or rates prescribed by the WAPCOS and the amendments there to issue from time to time.

**SITE:** shall mean the lands and or other places on under in or through which the work is to be executed under the contract including any other lands or places which may be notified/indicated by the or used for the purposes of the Contract.

**TEMPORARY WORKS:** shall mean all temporary works of every kind required in or about the execution, completion and maintenance of the works.

**URGENT WORKS:** shall mean any urgent measures which in the opinion of the Engineer-In-Charge-in-charge, become necessary during the progress of the works to obviate any risk of accident or failure.

**WEEK:** shall mean 07 (Seven) days without regard to the number of hours worked any day in that week.

**WORKS:** shall mean the works to be executed in accordance with the contract or part(s) thereof as the case maybe and shall include all extra or additional, altered or substituted works or temporary and urgent works as required for performance of the contract.

## **(2) Contract Documents**

The Contractor shall be handed over one set of contract document after signing the Contract Agreement with WAPCOS Limited. He will be required to submit minimum one original to WAPCOS Limited. He shall keep one copy of the documents at the site in good order and the same shall at all reasonable times be available for inspection and use by the Engineer-In- Charge, his representative or by other Inspecting Officer.

- (a) None of these documents shall be used by the Contractor for any purpose other than that of this contract.
- (b) The Contractor shall take necessary steps to ensure that all persons employed on any work in connection with contract are aware that the Indian Official Secret Act 1925 (XIX of 1923) applied to them and shall continue so to apply even after the execution of such works under the contract.

## **(3) Works to be Carried Out**

The Contractor acknowledges that this bid contained all of the information required, in the invitation to bid, specifically the Contractor's Percentage Price for the work to be performed. The Contractor agrees that prices as awarded include any and all cost components including profits, overhead charges and other costs, including but not limited to labour, materials, tools, equipment, insurance, transportation facilities and plant not specified to be furnished by the WAPCOS or others. The descriptions given in the schedule of quantities shall, unless otherwise stated, be held to include waste on materials, carriage and cartage, carrying in 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 as aforesaid in accordance with good practice and recognized principles, in a work like manner, to the full satisfaction of the Engineer-In-Charge.

## **(4) Inspection of site**

The Contractor shall inspect and examine the site and its surroundings and shall satisfy himself before submitting his tender as to the nature and location of the work, the general and local conditions, particularly those bearing upon transportation, disposal, handling and storage of materials, quantities and nature of work and availability of materials, equipment, labour, water and electric power, roads and uncertainties of whether or other physical conditions on the project, the sub-soil conditions, the character of equipment, plant and facilities needed. The Contractor must also acquaint himself with all necessary information as to risks, contingencies and other circumstances which may influence or affect his tender. No extra charges consequent on any misunderstanding or otherwise shall be allowed.

## **5) Drawings and Specifications**

The Contractor shall execute whole and every part of the work in the most substantial and workmanlike manner both as regards material and otherwise in every respect in accordance with the specifications. The Contractor shall also conform exactly and faithfully to the design, drawings and instructions given in the respect of the work by the Engineer-In-Charge. The Contractor shall be furnished free of charge one copy of such specifications and all such designs, drawings and instructions as are not included in the printed publications.

**6) Contractor to provide everything necessary**

- (a) The Contractor shall provide at his own cost, wherever applicable, all materials including Cement & Steel, plants, tools, appliances, implements, ladders, scaffolding, temporary works, etc. requisite or proper for the execution of the work whether original, altered or substituted and whether included in the specifications or other documents forming part of the contract or which may be necessary for the purpose of satisfying or complying to the requirements of Engineer-In-Charge, as to any manner as to which under these conditions he is entitled to be satisfied together with carriage therefore to and from the work. The Contractor shall also supply without charge the requisite number of persons with means and materials necessary for the purpose of setting out works and counting, weighing and assisting in the measurement or examination at any time and from time to time of the work or materials. Failing his/her 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 the contract and/or from his Security Deposit.
- (b) The Contractor shall provide himself, if applicable, with requisite quantity and quality of water for carrying out the works at his own cost. If, however, piped water is supplied by the Employer, the Contractor shall pay for the water at one percent of the total cost of the work done except on Electrical work, Air-conditioning work and Furniture work. The Contractor shall make his own arrangement for water connection and laying of further pipelines from the source of supply of the Employer. It should be clearly understood that the Employer does not guarantee to maintain un-interrupted supply of water and it will be incumbent on the part of the Contractor to make alternative arrangement of water at his own cost in the event of any temporary break-down in the water mains so that the progress of work is not held up for want of water. No claim as damages or refund of water charges will be entertained on account of such break-downs. However, if the Contractor is permitted to make his own arrangement to draw water from a well, hand-pump, or natural river or pond of the Employer, no charges will be made for the water drawn from the same, but the Contractor will make good any damage done to the installations and ensure that the quality of water used in the work is conforming to BIS codes and provide for any treatment at his own cost.
- (c) Subject to availability the Employer may supply power at only one point from where the Contractor shall make his own arrangement for distribution including provision of electric meters, switches, fuses etc. at his own cost. These shall be in the custody of the Employer. If there is any hindrance caused to other works, the Contractor shall reroute or remove such temporary lines without any extra cost. Such temporary lines shall be removed after the completion of work. The cost of power consumed by the Contractor shall be payable to the employer at rates fixed by the Employer, which would be deducted from the running account bills. However the Employer does not guarantee the supply of power and no compensation for any failure or short supply of power shall be entertained.

**(7) Rates to include all Taxes**

Rates quoted by the Contractor shall include Goods and Services Tax and all other taxes in respect of this contract. The Employer shall not entertain any claim whatsoever in this respect. Tendered rates are inclusive of all taxes and levies payable under the respective statutes. However pursuant to the Constitution (Forty Sixth Amendment) Act, 1982 if any further tax or levy is imposed by Statutes, after the date of receipt of tenders and the Contractor thereupon necessarily and properly pays such taxes/levies the Contractor shall be reimbursed the amount as per the rules on producing proof of payment so made provided such payments, if any, is not in the opinion of the Employer (whose decision shall be final and binding) attributable to delay in executing of work within the control of the Contractor.

**(8) Sufficiency of Tender**

The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of the tender for the works and the rates and the prices quoted in the schedule of items, which rates and the 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.

**(9) Discrepancies and Adjustment of Errors**

- (a) The several documents forming the contract are to be taken as complementary to and shall be read in conjunction with each other and mutually explanatory of one another. In case of any conflict of meaning between the Special Conditions of Contract and the General Conditions of Contract, the provisions of Special Conditions of Contract shall override the corresponding provisions of General Conditions of Contract. Similarly where the description of any item of work in the Tender Schedule differs from the Specifications, the description given in the Schedule of Quantities read with preamble shall have over riding effect.
- (b) 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.
- (c) Any error in Description, Quantity or Rate in Schedule of Quantities or any omission there from shall not vitiate the contract or release the Contractor from the execution of the whole or any part of the works comprised there in according to drawings and specifications or from any of his obligations under the contract.
- (d) If any discrepancy between the rates given by the Contractor in words and figures or in the amount worked out by him in the schedule of quantities and general summary is found, the same shall be adjusted in accordance with the following rules
  - In the event of a discrepancy between words and figures quoted by a tenderer, the description in words shall prevail.
  - All errors in totaling in the amount column and carrying forwarded totals shall be corrected.

**(10) Materials**

- (a) All materials to be provided by the Contractor shall be in conformity with Technical Specifications and relevant Indian Standard Codes. All the Contractor's materials shall be inspected and passed by the Engineer-In-Charge, before their use in the works. WAPCOS official shall be entitled at any time to inspect and examine any materials to be use in or on the works, either on the site or at factory or workshop or other place(s) where such materials are assembled fabricated manufactured or any place(s) where these are laying or from where these shall be obtained and the Contractor shall, if required by the Engineer-In-Charge-In-Charge samples of materials proposed to be used in the works.
- (b) The Contractor shall at his own expense supply to the Engineer-In-Charge samples of materials proposed to be used in the works.

**(11) Testing of Materials**

The Contractor shall provide assistance, instruments, materials, labour and any other arrangement normally required for testing, checking of materials and workmanship as stipulated in the specifications and by statutory authority at his own cost. The Employer has the right to appoint the testing authorities. In case, Engineer-In-Charge desires testing of materials from the testing authorities, the Contractor shall arrange for the same. The testing fee of the testing authorities shall be borne by the Department, if the tested materials are found to be conforming to laid down specifications. In case after testing the materials are not found as per specifications, then the testing fees shall be borne by the Contractor. Failing his so doing, the same shall be provided by the Engineer-In-Charge at the expense of the Contractor and the expenses shall be deducted from any money due to the Contractor under the contract and/or from the Security Deposit or proceeds thereof or of a sufficient portion thereof.

**(12) Contractor's Engineer, Foreman and Workmen**

- (a) The Contractor shall give all necessary personal superintendence during the execution of the work and as long thereafter as the Engineer-In-Charge may consider necessary until the expiration of Defects Liability Period. The Contractor shall employ competent Site Engineer and Foreman as detailed in 'Special Conditions' and as approved by the Engineer-In-Charge whose qualification must conform to the requirement specified by the Engineer-In-Charge who shall be constantly in attendance of the work while the men are at work. Any directions, explanations, instructions or notices given by the Engineer-In-Charge to such Site Engineer or Foreman or any other authorized agent shall be held to be given to the Contractor. In case, Contractor fails to provide Engineer-In-Charge as given in Special Conditions, the Employer shall have right to appoint the necessary Engineer-In-Charge personnel requisite staff needed for proper Supervisor of work at the cost of Contractor for the period of currency of contract inclusive of Defect Liability Period.
- (b) The Contractor shall on the request of the Engineer-In-Charge immediately dismiss from the works any person employed thereon who may in the opinion of the Engineer-In-Charge be unsuitable or incompetent or who may in the opinion of the Employer misconduct himself.

### **(13) Variation and Price for variation**

- (a) The Engineer-In-Charge with the approval of the Employer/Owner/Client shall have power to make any alterations/omissions/ additions and/or substitutions from the original specifications, drawings, designs, and written instructions and such alterations, omissions, additions, substitutions shall not in validate the contract and any altered, additional or substituted work which the Contractor may be directed to do in the manner specified above as part of the work shall be carried out by the Contractor on the same conditions in all respects on which he agreed to do the main work subject to the variation limits prescribed hereunder. In case deviations of agreement quantities exceed the prescribed limits, then the rates for quantities exceeding the prescribed limits shall be determined on market rate basis. The rates for such altered, additional or substituted work under this clause shall be worked out in accordance with the following provisions in their respective order.
- (b) If the rates for the altered, additional, or substituted work are specified in the contract for the work, the Contractor is bound to carry out the altered, additional, or substituted work at the same rates as are specified in the contract for the work.
- (c) If the rates for the altered, additional, or substituted work are not specifically provided in the contract for the work, the rates will be derived from the rates for a similar class of work as are specified in the contract for the work.
- (d) If the rates for the altered, additional, or substituted work cannot be determined in the manner specified in Sub-Clause (b) and (c) above, then the Contractor shall, within 10 working days from the date of receipt of the order to carry out the work through notice in writing, inform the Engineer-In-Charge of the rate which it is his intention to charge for such class of work, supported by analysis of the rate claimed which shall be based on actual cost of work plus 7.5% as Contractor's profit and over heads except in case of departmental materials for which Contractors profit and overheads shall be 7.5%. When such notice has been given, the Engineer-In-Charge with the consent of the Employer/Owner/Client may agree to such a rate but if the Engineer-In-Charge does not agree to the Contractor rate the Engineer-In-Charge may cancel his order to carry out such class of work and arrange to carry out in such a manner as he may consider advisable.
- (e) Under no circumstances, the Contractor shall suspend the work on the plea of non- settlement of rates of items falling under the clause.

### **(14) Faulty materials, Workmanship and Defects after completion**

- (a) The Engineer-In-Charge shall have powers to require the removal from the site of all materials and work which in his opinion are not in accordance with specifications and in case of default, the Engineer-In-Charge shall be at liberty to employ other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such 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/or substitution are to be borne by the Contractor.

- (b) If it shall appear to the Engineer-In-Charge or to the Employer based on audit/technical examination, that any work has been executed with unsound, imperfect, or unskillful workmanship or with materials of any inferior description or that any materials or articles provided by him for the execution of the work are unsound or of a quality inferior to that contracted for or otherwise not in accordance with the contract, any defects, shrinkage or other faults which may appear within the defects liability period of Thirty Six Months from the date of completion arising in the opinion of the Engineer-In-Charge, the Contractor shall on demand in writing which shall be made within Thirty Six Months of the completion of the work from the Engineer-In-Charge specifying the work, materials, articles defects or other faults 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 cost. In case of any such failure, the Engineer-In-Charge may rectify or remove or re-execute the work or remove and replace with others, the material or articles complained of as the case may be at the risk and cost in all respects of the Contractor.
- (c) In lieu of rectifying the work not done in accordance with the contract, the Employer may, allow such work to remain, and in that case make allowance for the difference in value, together with such further reduction as in his opinion may be reasonable. However, this will not cover those works which are not technically acceptable.
- (d) Provided always that nothing in this clause shall relieve the Contractor from his liability to execute the works in all respects in accordance with the terms and conditions of this contract, or from his liability to make good all defects.

#### **(15) Works to be open for inspection**

- (a) All works under or in course of execution or executed in pursuance of the contract shall at all times be open to the inspection and supervision of the Engineer-In-Charge and the Contractor shall at all times during the usual working hours, and at all other times at which reasonable notice of the intention of the Engineer-In-Charge to visit the works shall have been given to the Contractor, either himself be present to receive order and instruction or have a responsible agent duly accredited in writing present for that purpose.
- (b) The Contractor shall give not less than seven days' notice in writing to the Engineer-In-Charge 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 so covered up or placed beyond the reach of measurement and shall not cover up and place beyond the reach of measurement, any work without the consent in writing of the Engineer-In-Charge and the Engineer-In-Charge 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 measurement without such notice having been given or the Engineer-In-Charge's consent obtained, 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.

**(16) Assignment or Sub-letting**

- (a) The contract shall not be assigned or sublet without the written approval of the Employer. And if the Contractor shall assign or sub-let 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 or 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/her servants or agents to any person in the employment of the Employer in any way relating to his office or employment, or if any such employee or person shall become in any way directly or indirectly interested in the contract, the Employer shall have the power to adopt any of the courses specified under clause 21 as may be best suited to the interest of the Employer and in the event of any of the courses being adopted the consequences specified in the said clause shall ensue.
- (b) Where the Contractor is a partnership firm, the approval in writing of the Employer shall be obtained before any changes 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 hereunder the partnership firm would have the right to carry out the work hereby undertaken by the Contractor. If previous approval as aforesaid is not obtained, the contract shall be deemed to have been assigned or sublet in contravention of clause 17(a) and the same action may be taken and the same consequences shall ensue as provided in the said clause 17(a).

**(17) Indemnifying against damages to persons, property and statutes**

The Contractor shall take all precautions to avoid all accidents by exhibiting necessary caution boards day and night, speed limit boards, red flags, red lights and providing barriers. He shall be responsible for all damages and accidents caused due to negligence on his part. No hindrance shall be caused to traffic during the execution of work.

- (a) The Contractor shall be responsible for all injury to persons, animals or things, and for all damage, whether such injury or damage arises from carelessness or accident in any way connected therewith. This clause shall be held to include inter alia any damage due to causes as aforesaid to work, building (whether immediately adjacent or otherwise) and to roads, streets, footpaths, bridges or ways as well as all damage caused to the buildings and works forming the subject of this contract by inclemency of weather. The Contractor indemnifies the Employer and holds him harmless in respect of all expenses arising from such injury or damages as aforesaid and also in respect of any award of compensation or damage consequent upon such claim including legal costs.
- (b) The Contractor shall reinstate all damage of every sort mentioned in this clause, so as to deliver the whole of the contracted works complete and perfect in every respect and so as to make good and otherwise satisfy all claims for damage as aforesaid to the property of third parties.
- (c) The Contractor also indemnifies the Employer against all claim which may be made upon the Employer for acts during the currency of this contract by an employee or representative of an employee of the Contractor or any sub-Contractors, employed by him, for any injury to or loss of life, of such employees, or for compensation payable under any law for the time being in force to any workmen or to the representative, of any deceased or incapacitated workmen.



- (d) The Contractor also indemnifies the Employer against all claims which may be made upon the Employer for acts during the currency of this contract by the Central/State Government or local Municipal authorities for the noncompliance of any laws, regulations, rules pertaining to wages act, safety act in force and any amendments thereof in respect of all labour and apprentices directly or indirectly employed in the work under this contract.
- (e) The Employer shall be at liberty and is hereby empowered to deduct the amount of any damages, compensation costs, charges and/or expenses arising or accruing from or in respect of any such claim and/or damages as aforesaid from any sum or sums due or to become due to the Contractor or Security Deposit.
- (f) The Contractor shall indemnify the Employer against any action, claim or proceedings relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claims made under or action brought against the Employer 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 Employer 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 said Employer or his authorized representative.

**(18) Lien in respect of claim in other contracts**

- (a) Any sum of money due and payable to the Contractor including the Security Deposit under the contract may be, withheld or retained by way of lien by the Employer or Government or any other contracting person or persons against any claim of the Employer or Government or such other persons in respect of payment of a sum of money arising out of or under any other contract made by the Contractor with the Employer or Government or with such other persons.
- (b) It is agreed term of contract that the sum of money so withheld or retained under this clause by the Employer will be kept withheld or retained as such by the Employer or till his claim arising out of in the same contract or any other contract is either mutually settled or determined by the Arbitrator if the contract is governed by 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 any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the Contractor.

**(19) Withholding and lien in respect of Sums claimed**

- (a) Whenever any claim or claims for payment of a sum of money arises out of or under the contract against the Contractor, the Employer shall be entitled to withhold and also have a lien to retain such sums or sums in whole or in part from the security deposit, if any deposited by the Contractor and for the purpose aforesaid, the Employer 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 finalization or adjudication of any such claim. In the event of the security deposit being insufficient to cover the claimed amount or amounts or if no security deposit has been taken from the Contractor, the Employer 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 at any time thereafter may become payable to the Contractor under the same or any other contract with the Employer or any contracting person pending finalization or adjudication of any such claim.

It is an agreed term of the contract that the sum of money so withheld or retained under the lien referred above by the Employer will be kept withheld or retained as such by the Employer till the claim arising out of or under the contract is determined by the Arbitrator (if the contract is governed by the arbitration clause) or 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 Employer 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 payable to any Partner/limited company as the case may be, whether in his individual capacity or otherwise

- (b) The Employer 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 over paid in respect of any work done by the Contractor under the contract or any work claimed by him to have refund the amount of over-payment and it shall be lawful for the Employer to recover the same from him in the manner prescribed in sub-clause(a) 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 the Employer to the Contractor.

Provided that the Employer 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 Employer on the one hand and the Contractor on the other hand, under any term of contract permitting payment for work after assessment by the Employer.

#### **(20) In-case of death of Contractor**

Without prejudice to any of the rights or remedies under this contract, if the Contractor dies, the Employer shall have the option of terminating the contract without compensation to the Contractor.

#### **(21) Sub-Contractors**

The Employer reserves the right to use the premises and any portion of the site for the execution of any work not included in the contract. The Contractor is to afford all reasonable facilities to all Sub-Contractors, Specialists, Merchants, Tradesmen and others who may at any time be appointed by the employer for executing any work supplying any goods relating to the constructions; servicing, equipping or furnishing of the work under this contract.

#### **(22) Labour Laws**

- (a) The Contractor shall employ both skilled and un-skilled labour in sufficient numbers to maintain the required rate of progress and quality to ensure workmanship of the degree specified in the contract agreement and to the satisfaction of the Engineer-In-Charge-in- charge.

- (b) The Contractor shall pay to the labour wages not less than fair wages as defined in the contract, Labour (Regulation and Abolition) Act, 1970 and Rules made there under.
- (c) The Contractor shall in respect of labour employed by him comply with or cause to be complied with the contract Labour (Regulation and Abolition) Act, 1970 and Rules made there under in regard to all matters provided therein.
- (d) The Contractor shall comply with the provisions of the payment of wages Act, 1936, Minimum Wages Act, 1948, Employers Liability Act, 1938, Workmen's Compensation Act, 1948 or any modifications there of or any other law relating thereto and rules made there under from time to time.
- (e) The Contractor shall be liable to pay His Contribution and the Employee's Contribution to the Employees' State Insurance Scheme in respect of all labour employed by him for the execution of the contract, in accordance with the provision of the Employees State Insurance Act, 1948 as amended from time to time and as applicable in this case. In case the Contractor fails to submit full details of his account of labour employed and the contribution payable, the Engineer-In-Charge shall recover from the running bills of Contractor and amount of contribution as assessed by him. The amount to recover shall be adjusted against the actual contribution payable under Employees State Insurance Scheme.
- (f) The Engineer-In-Charge shall on a report having been made by an inspecting staff defined under the Contract Labour (Regulation and Abolition Act, 1970) and Rules made there under, have the power to deduct the moneys due to Contractor may 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 workers, non-payment of wages or of deductions made from their wages which are not justified by the terms of the contract or non-observance of the said Act.
- (g) The Contractor shall indemnify the WAPCOS against any payment to be made under and for observance of the Contract Labour (Regulation and Abolition Act, 1970) and Rules made there under without Prejudice to his right to claim indemnity from his Sub- Contractors.
- (h) The ESI and EPF contributions on the part of Employer in respect of this Contract shall be paid by the Contractor. No reimbursement shall be allowed on account of this.

**(23) Model rules for labour welfare**

- (a) The Contractor shall at his own expense comply with or cause to be complied with model rules for Labour Welfare as provided under the rules framed by the appropriate government from time to time for the protection of health and for making sanitary arrangements for workers employed directly or indirectly on the works. In case the Contractor fails to make arrangements as aforesaid the Engineer-In-Charge shall be entitled to do so and recover the cost thereof from the Contractor.
- (b) Failure to comply with model rules for Labour Welfare, Safety Code or the provisions relating to report on accidents and to grant maternity benefits to female workers shall made the Contractor liable to pay to the WAPCOS as liquidated damages an amount not exceeding Rs. 50 for each default or materially incorrect statement. The decision of the Engineer-In-Charge in such matters based on reports from the inspecting officers, shall be final and binding and deductions for recovery of such liquidated damages may be made from any amount payable to the Contractor.

- (c) The Contractor shall not be permitted to enter on (other than for inspection purpose) or take possession of the site until instructed to do so by the Engineer-In-Charge-in-charge in writing. The portion of the site to be occupied by the Contractor shall be indicated by the Engineer-In-Charge at site and the Contractor shall on no account be allowed to extent him operations beyond these areas.
- (d) In respect of any land allotted to the Contractor for purpose of or in connection with the contract, the Contractor shall be a license subject to the following and such other terms and condition as may be imposed by the licenser.
- (e) The Contractor shall provide, if necessary of if required on the site, all temporary access there to and shall later, adapt and maintain the same as required from time to time and shall take up and clear them away as and when no longer required and as when ordered by the Engineer-In-Charge and make good all damage done to the site.

**(24) Side Drainage**

All water which may accumulate on the site during the progress of the works or in trenches and excavations shall be removed from the site to the satisfaction of the Engineer-In-Charge and at the Contractors' expense. The Contractor shall note at any time do, cause or permit any nuisance on the site or do anything which shall cause unnecessary disturbance or inconvenience to owners, tenants of occupiers of other properties near the site and to the public generally.

**(25) Materials obtained from excavation**

Materials of any kind obtained from excavation on the site shall remain government property and shall be disposed of as the Engineer-In-Charge may direct.

**(26) Treasure Trove, Fossils, etc.**

All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the site shall be the absolute property of the government and the Contractor shall take reasonable precautions to prevent his workmen or any other person from removing or damaging any such article or thing and shall immediately open discovery thereof and before removal acquaint the Engineer-In-Charge

**(27) Protection of trees**

Tree designated by the Engineer-In-Charge shall be protected from damage during the course of the works and earth level within 1 meter of each such tree shall not be changed. Where necessary, such trees shall be protected by providing temporary fencing.

In the event of tree cutting is inevitable, necessary approval of owner/client and other statutory/non-statutory bodies shall be obtained by contractor prior to cutting of trees.

**(28) Watching and Lighting**

The Contractor shall provide and maintain at his own expense all lights, guards, fencing and watching when and where necessary or required by the Engineer-In-Charge for the protection of the works or for the safety and convenience of these employee on the works or the public.

**(29) Liquidated Damages and Compensation for Delay**

- (a) The time for carrying out the work as entered in the tender shall be strictly observed by the Contractor and shall be deemed to be the essence of the contract on the part of the Contractor. The work shall

throughout the stipulated period of the contract be proceeded with all due diligence and the Contractor shall pay as compensation an amount equal to ½ (Half) % or such smaller amount as the Employer (whose decision in

writing shall be final) may decide on the amount of the whole work as shown in the agreement, for every week that the work remains non-commenced or unfinished after the proper dates subject to a maximum of 10 (Ten) % of the contract value.

- (b) And further to ensure good progress during the execution of the work, the Contractor shall be bound in all cases in which the time allowed for any work exceeds one month (save for special jobs) to complete 1/8th (One-Eighth) of the whole of the work before 1/4th (One-Fourth) of the whole time allowed under the contract has elapsed; 3/8th (Three-Eighth) of the work before ½ (One-Half) of such time has elapsed, and 3/4th (Three-Fourth) of the work before 3/4th (Three-Fourth) of such time has elapsed. However, for special jobs if a time schedule has been submitted by the Contractor and the same has been accepted by the Employer, the Contractor shall comply with the said time schedule. In the event of the Contractor failing to comply with this conclusion, he shall be liable to pay as compensation an amount equal to half per cent or such smaller amount as the Employer (whose decision in writing shall be final) may decide on the said cost of the work for every week that the due quantity of work remains incomplete. Provided that the entire compensation to be paid under the provisions of this clause shall not exceed ten percent on the cost of the work as shown in the agreement.
- (c) 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, 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 31 d, 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 29 for delay in performance and claim of compensation under that clause.

### **(30) Damage to works in consequence of hostilities or war-like operations**

- (a) 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 Employer 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 war-like operations, the Contractor shall, when ordered in writing by the Employer, 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,

removal of serviceable materials and for the reconstruction of all works ordered by the Employer such payment being in addition to compensation up to 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 Employer. The Contractor shall be paid for the damage/ destruction suffered and for restoring the material at the rates based on the analysis of rates tendered for in accordance with the provision of this agreement. The certificate of the Employer regarding the quality and quantity of materials and the purpose for which they were collected shall be final and binding on the Contractor.

- (b) Provided always that no compensation shall be payable for any loss in consequence of hostilities or war-like operations:
  - Unless the Contractor had taken all such precautions against Air Raid as are deemed necessary by the A.R.P. Officers or the Employer
  - For any materials etc., not on the site of the work or for any tools and plant, machinery, scaffolding, temporary buildings and other things not intended for the work.
- (c) 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 Employer.

### **(31) Extension of Time**

- (a) If the Contractor shall desire an extension of time for the completion of the work on the grounds of his having been unavoidably hindered in its execution or any other ground, he shall apply in writing to the Employer within thirty days of the date of hindrance on account of which he desires extension as aforesaid, and the Employer shall, if in his opinion (which shall be final) reasonable grounds shown therefor, authorize such extension of time if any, which may, in his opinion, be necessary or proper.
- (b) In the event, the value of work exceeds the value of the Bill of Quantities owing to variations the Contractor shall be entitled to ask for extension of time in proportion to the increased value of work.
- (c) If in case, performance security is submitted in the form of bank guarantee, then the Contractor should make a request for extension of time only after the firm has got validity of Bank Guarantee extended suitably.
- (d) If the work(s) be delayed
  - i) Force majeure, or
  - ii) Abnormally bad weather, or
  - iii) Serious loss or damage by fire, or
  - iv) civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or
  - v) delay on the part of other contractors or tradesmen engaged by Engineer-in-Charge in executing work not forming part of the Contract, or
  - vi) any other cause like above which, in the reasoned opinion of the Engineer-in-Charge is beyond the Contractor's control.

then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer-in-Charge but shall nevertheless use constantly his best endeavours to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the works.

The contractor shall have no claim of damages for extension of time granted or rescheduling of milestone/s for events listed in sub clause d.

- (e) In case the work is hindered by the Department or for any reason / event, for which the Department is responsible, the authority as indicated in Schedule 'F' shall, if justified, give a fair and reasonable extension of time and reschedule the mile stones for completion of work Such extension of time or rescheduling of milestone/s shall be without prejudice to any other right or remedy of the parties in contract or in law; provided further that for concurrent delays under this sub clause and sub clause d 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.
- (f) 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 indicating the period by which rescheduling of milestone/s or extension of time is desired.
- (g) 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. Engineer -in- Charge shall finalize/ reschedule a particular mile stone before taking an action against subsequent mile stone. Such extension or rescheduling of the milestones shall be communicated to the Contractor by the authority as indicated in Schedule 'F' in writing, within 21 days of the date of receipt of such request from the Contractor. In 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 above), a fair and reasonable extension within a reasonable period of occurrence of the event.
- (h) 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 clauses above and beyond the justified extended date, 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.

### **(32) Suspension of work by Contractor**

- (a) The Employer may without prejudice to his right against the Contractor in respect of any delay or inferior workmanship or otherwise or to any claims for damages in respect of any breaches of the contract and without prejudice to any rights or remedies under any of the provisions of this contract or otherwise and whether the date for completion has or has not elapsed by notice absolutely determine the contract in any of the following cases:
  - (i) If the Contractor having been given by the Engineer-In-Charge a notice to rectify, reconstruct or replace any defective work or that the work is being performed in any inefficient or otherwise improper or un workman-like manner shall omit to comply with the requirements of such notice for a period of seven days thereafter or if the Contractor shall delay or suspend the execution of the work so that in the judgment of the employer (which shall be final and binding) he/she will be unable to ensure completion of the work by the date for completion or he/she has already failed to complete the work by that date.
  - (ii) 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 of creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.

- (iii) If the Contractor commits breach of any of the terms and conditions of this contract.
- (iv) If the Contractor commits any acts mentioned in Clause-12 hereof.
- (v) 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.
- (vi) 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.
- (vii) 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.

### **(33) Secured Advance**

The Contractor on signing an indenture in the form specified by the Employer during the progress of the execution of the work may be paid if agreed by the Employer up to 75 percent of the estimated value which shall take into account the market value and Contractors tendered rates for the finished item of any material which in the opinion of the Engineer-In- Charge is likely to be incorporated in the work within next three months, are non-perishable and are in accordance with the contract and which have been brought to the site in connection therewith and are adequately stored and 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 clause are incorporated in the work the amount of such advance shall be deducted from the next payment made under any of the clause or clauses of this contract.

### **(34) Mobilization 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 Commercial Bank for the amount equal to 110% of the amount of advance and valid for the contract period. This (Bank Guarantee from Scheduled Commercial 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. The mobilization advance 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.

**(35) Certificates and Payments**

- (a) No payments shall be made for a work estimated to cost Rupees Twenty Lakh or less till the whole of the work shall have been completed and certificate of completion given. But in the case of a work estimated to cost more than Rupees Twenty Lakh, the Contractor shall, on submitting the bill be entitled to receive a monthly payment proportionate to the part of the work executed, and to the satisfaction of the Engineer- In-Charge, whose certificate of the sum so payable shall be final and conclusive against the Contractor, provided the amount of work done is as per the value of intermediate certificate or for a lesser amount at the discretion of the Engineer-In-Charge as mentioned in the NIT. All such intermediate payments shall be regarded as payments by way of advance against the final payment only and not as payments for work actually done and completed and shall not preclude the requiring of bad, unsound, imperfect or unskilled work to be removed and taken away and reconstructed, or re-erected or be considered as an admission of the due performance of the contract, of any part thereof in any respect or the accruing of any claim nor shall it conclude, determine, or affect in anyway the powers of the Employer under these conditions or any of them as to the final settlement and adjustment of the accounts or in any other way vary or affect the contract. The final bill shall be submitted by the Contractor within two months of the date fixed for the completion of work or of the date of the certificate of completion furnished by the Employer and payment shall be made within three months if the value of the completed works is up to Rs. 2 (Two) lacs and in 06 (Six) months if the same exceeds Rs. 2 (Two) lacs of the submission of such bill. If there shall be any dispute about any item or items of the work then the undisputed item or items only shall be paid within the said period of 03 (Three) months or 06 (Six) months as the case may be.
- (b) Whenever there is likely to be delay in recording detailed measurements for making a running payment, advance payment without detailed measurements for work done worked out at 75 percent of the tendered rates for assessed quantities may be made in running account bills by the Employer on the basis of a certificate from the Engineer-In-Charge. The advance payments so allowed shall be adjusted in the subsequent running bills by taking detailed measurements thereof. Final payments shall be made only on the basis of detailed measurements.
- (c) A bill shall be submitted by the Contractor each month on or before the date fixed by the Engineer-In-Charge on printed forms obtainable from the Engineer-In- Charge's office. The Engineer-In-Charge shall take or cause to be taken the requisite measurements for the purpose of having the same verified and the claim, as far as admissible, adjusted as far as possible, before the expiry of ten days from the presentation of the bill. If the Contractor does not submit the bill within the time fixed as aforesaid the Engineer-In-Charge may cause action within 07 (Seven) days of the date fixed as aforesaid, an authorized representative to measure up the said work in the presence of the Contractor whose signature to the measurement will be sufficient warrant and the Engineer-In-Charge may prepare the bill from such measurements.
- (d) Before taking any measurements of any work, the Engineer-In-Charge or his authorized representative deputed by him shall give reasonable notice to the Contractor. If the Contractor fails to attend after such notice or fails to sign or to record the difference within a week from the date of measurement in the manner required by the Engineer-In-Charge then in any such event the measurements taken by the Engineer-In-Charge or by authorized representative

deputed by him as the case may be, shall be final and binding on the Contractor and the Contractor shall have no right to dispute the same.

- (e) The charges in the bills shall always be entered at the rates specified in the agreement or in the case of any extra work ordered in pursuance of these conditions and not mentioned or provided for in the agreement at the rate determined as per Clause 10. However in case of partially executed items of work, the Employer at his discretion allows proportionate rates for such items of work as determined by the Engineer-In- Charge whose certificate of the sum so payable shall be final and conclusive against the Contractor.
- (f) All payments in the form of Monthly bills and Final bills are subjected to the submittal of the following documents to WAPCOS by the Contractor and verification of the said documents by owner/client of the respective billing month:
  - i) Compliance Reports to all Non-Compliance Reports (NCR), Red Flag Report or any such reports issued by owner/client, WAPCOS and/or the TPQA Consultant;
  - ii) All Quality Test Reports
  - iii) Monthly Progress Report (Physical and financial)
  - iv) Inspection reports towards site and material
  - v) Copy of Inspection Register
  - vi) Copy of Site Order Book
  - vii) All other relevant documents which shall be communicated by owner/client/WAPCOS before commencement of any work

### **(36) Security Deposit**

- (a) The Bidder whose tender may be accepted (hereinafter called the Contractor) shall permit Employer at the time of making any payment to him for work done under the Contract to deduct a sum at the rate of 4% of the gross amount of each running and final bill.

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.

- (b) In case a Fixed Deposit Receipt of any scheduled bank is furnished by the Contractor to the Employer as part of the Security Deposit and the bank goes into liquidation or for any reason is unable to make payment against the said Fixed Deposit Receipt, the loss caused thereby shall fall on the Contractor and the Contractor shall forthwith on demand furnish additional security to the Employer to make good the deficit of such sum from the running bill as mentioned above. Such deductions will be held by the Employer by way of security deposit, provided always that the Employer for this purpose shall be entitled to recover the said percentage of the amount from each running bill till the balance of the amount of security deposit is realized. All compensation or the other sums of money payable by the Contractor under the terms of this contract may be deducted from the security deposit or from the interest arising there from or from any sums which may be due to or may become due to the Contractor by the Employer on any account whatsoever and in the event of his/her security deposit being reduced by reason of any such deductions aforesaid, the Contractor shall within ten days make good in

cash or further fixed deposit receipt pledged in favor of the Employer. The Security Deposit shall be collected from the running bills of the Contractor at the rates mentioned above and the Earnest Money Deposit if deposited at the time of tenders will be treated as part of the Security Deposit.

- (c) The Contractor if he/she so desires may furnish fixed deposit receipt in advance towards the Security Deposit. Such Fixed Deposit Receipt shall be of a minimum value of Rs. 25000 each (The last such Fixed Deposit Receipt could be of a lower value on the basis of the amount). In case any recovery is effected from running account bills, such recovered amount shall not be replaced with Fixed Deposit Receipt. It is in the Contractor's interest to keep a watch about the adequacy of the Fixed Deposit Receipt submitted.
- (d) The Security Deposit as deducted above shall be released within year wise within the Defect Liability Period of 03 (Three) years i.e., 1st year: 50% of total SD; 2nd Year: 25% of total SD; and 3rd Year: 25% of total SD.
- (e) In case of termination of contract, this Security Deposit shall be forfeited and amount necessary to make up this amount shall be recovered from money due to the Contractor under this contract, or any other contract with the Employer.
- (f) **Performance Security**
  - (i) The Contractor shall be required to deposit an amount equal to 5% of the tendered value of the contract as Performance Security within the period prescribed for commencement of work in the Letter of Award issued to him. Performance Security may be accepted as Demand Draft or Bank Guarantee of Scheduled Banks and State Bank of India or in the form of Fixed Deposit Receipts pledged in favor of the Employer.
  - (ii) The Contractor shall submit an irrevocable Performance Guarantee of 5 (Five)% of the tendered amount in addition to the Security Deposit of 4 (four) % for his proper performance of the contract agreement (not withstanding and/or without prejudice to any other provisions in the contract) within the period prescribed for commencement of work as in the Letter of Acceptance (LoA) issued to him. This guarantee shall be in the form of fixed deposit receipts pledged in favor of the Employer or Bank Guarantee of Scheduled Banks of State Bank of India in accordance with the Performa attached. In case fixed deposit receipts of any bank are furnished by the Contractor to Employer as part of the Performance Security and Bank is unable to make payment against the said Fixed Deposit Receipts, the loss caused thereby shall fall on the Contractor and the Contractor shall forthwith on demand furnish additional security to the employer to make good the deficit.
  - (iii) The Contractor will not be allowed to start the work unless the Performance Security / Guarantee is submitted by him/her. In case of failure by the Contractor to furnish the Performance Security / Guarantee within specified period, Employer shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the Earnest Money Deposit absolutely.
  - (iv) The Performance Security shall be initially valid up to 60 days after recording of satisfactorily completion of work by the Employer. In case the time of completion of work gets enlarged, the Contractor shall get the validity of Performance Security extended to cover such enlarge time for

completion of work on 60 days thereafter. After 60 days of recording of satisfactory completion of work by the Employer, the Performance Security shall be returned to the Contractor, without any interest.

- (v) The Employer shall not make a claim under the Performance Guarantee except for amounts to which the Employer is entitled under the contract (notwithstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:
- Failure by the Contractor to extend the validity of the Performance Guarantee as described therein above, in which event the Employer may claim the full amount of the Performance Guarantee.
  - Failure by the Contractor to pay the Employer any amount due, either as agreed by the Contractor or determined under any of the clause/ conditions of the agreement, within 30 days of the service of notice to this effect by the Employer.
  - In the event of the contract being determined or rescinded under provision of any of the clause / condition of the agreement, the Performance Guarantee shall stand forfeited in full and shall be absolutely at the disposal of the Employer.

### **(37) Completion Certificate**

As soon as the work is completed, the Contractor shall give notice of such completion to the Engineer-In-Charge and within 10 (Ten) days of receipt of such notice the Engineer-In-Charge shall inspect the work and shall furnish the Contractor with a certificate of the work and shall furnish the Contractor with a certificate of completion indicating (a) the date of completion (b) defects to be rectified by the Contractor (and/or) (c) item for which payment shall be made at reduced rates. When separate periods of completion have been specified for items or groups of items, the Engineer-In-Charge shall issue separate completion certificate for such items or groups of items. No certificate of completion shall be issued, nor shall the work be considered to be completed till the Contractor shall have removed from the premises on which the work has been executed all scaffolding, sheds and surplus materials, except such as are required for rectification of defects, rubbish and all huts and sanitary arrangements required for his workmen on the site in connection with the execution of the work, as shall have been erected by the Contractor workmen and cleaned all dirt from all parts of building(s) in, upon or about which the work has been executed or of which the work has been executed or of which he may have had possession for the purpose of the execution there of and cleaned floors, gutters and drains eased doors and sashes, oiled locks and fastenings labelled keys clearly and handed them over to the Engineer-In-Charge or his representative and made the whole premises fit for immediate occupation or use to the satisfaction of the Engineer-In-Charge. If the Contractor shall fail to comply with any of the requirements of this conditions as aforesaid, on or before the date of completion of the works, the Engineer-In-Charge may at the expense of the Contractor fulfil such requirements and dispose of the scaffoldings, surplus materials, and rubbish etc. as he thinks fit and the Contractor shall have no claim in respect of any such scaffolding surplus materials except for any sum actually realized by the sale there of less the cost of fulfilling the requirements and any other amount that may be due from the Contractor. If the expense of fulfilling such requirements is more than the amount realized on such disposal as aforesaid, the Contractor shall forthwith on demand pay such excess.

If at any time before completion of the entire work, items or groups of items for which separate periods of completion have been specified, have been completed, the Engineer- In-Charge with the consent of the Contractor takes possession of any part or parts of the same (any such part) then notwithstanding anything expressed or implied elsewhere in this contract :

- (a) Within ten days of the date of completion of such items or groups of items or of possession of the relevant part of Engineer-In-Charge shall issue completion certificate for the relevant part as in condition 30 above provided the Contractor fulfils his obligation under that condition for the relevant part.
- (b) The Defects Liability period in respect of such items and the relevant part shall be deemed to have commenced from the certified date of completion of such items or the relevant part as the case may be.
- (c) The Contractor may reduce the value insured to extent of full value of the completed items or relevant part as estimated by the Engineer-In-Charge for this purpose. This estimate shall be applicable for this purpose only and for no other.
- (d) For the purposes of ascertaining compensation for delay in completion of the work relevant part will be deemed to form a separate item or group, with date of completion as given in the contract or as extended under the relevant condition and actual date of completion as certified by the Engineer-In-Charge- under this condition.

**(38) Carrying out part work at risk & cost of contractor**

If contractor:

- (a) At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do so even after a notice in writing of 7 working days in this respect from the Engineer-in-Charge; or
- (b) Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it within 7 working days even after a notice in writing is given in that behalf by the Engineer-in-Charge; or 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.
- (c) The Engineer- in-Charge without invoking action, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to Government, by a notice in writing to take the part work / part incomplete work of any item(s) out of his hands and shall have powers to :
  - (i) Take possession of the site and any materials, constructional plant, implements, stores, etc., thereon; and/or
  - (ii) Carry out the part work / part incomplete work of any item(s) by any means at the risk and cost of the contractor.

The Engineer-in-Charge shall determine the amount, if any, is recoverable from the contractor for completion of the part work/ part incomplete work of any item(s) taken out of his hands and execute at the risk and cost of the contractor, the liability of contractor on account of

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

#### **(39) Removal of workmen**

The Contractor shall employ in and about the execution of the works only such persons as are skilled and experienced in their several trades and Engineer-In-Charge shall be at liberty to object to and require the Contractor to remove from the works any person employed by the Contractor in or about the execution of the works who in the opinion of the Engineer-In-Charge misconduct himself or incompetent or negligent in the proper performance of his duties and such person shall not be again employed upon the works without permission of the Engineer-In-Charge.

#### **(40) Uncovering and making good**

The Contractor, wherever applicable, shall uncover any part of the works and/or make opening in or through the same as the Engineer-In-Charge may time to time direct for his verification and shall reinstate and make good such part to the satisfaction of the Engineer-In-Charge without any additional payment.

#### **(41) Escalation**

No Escalation shall be paid.

#### **(42) Over Payments and Under Payments**

Whenever any claim for the payment of a sum of money to the arises out of or under this contract against the Contractor the same may be deducted by the WAPCOS from any sum then due or, which at any time thereafter may become due to the Contractor under this contract and failing that under any other contract with the WAPCOS (which may be available with the WAPCOS) or from his Security Deposit; or he shall pay the claim on demand.

- (a) The WAPCOS reserves the right to carry out post payment audit and technical examination of the final bill including all supporting vouchers, abstracts, etc. The WAPCOS further reserve the right to enforce recovery of any over payment when detected, notwithstanding the fact that amount of the final bill may be included by one of the parties as an item of dispute before an arbitrator appointed under Condition 42 of this contract and notwithstanding the fact than the amount of the final bill figures the arbitration award.
- (b) If as a result of such Audit and Technical Examination any over payment discovered in respect of any work done by the Contractor or alleged to have been done by him under the contract, it shall be recovered by the WAPCOS from the Contractor by any or all of the methods prescribed above or if any underpayment is discovered, the amount shall be duly paid the Contractor by the WAPCOS.
- (c) Provided that the aforesaid right of the WAPCOS to adjust over-payment against amounts due to the Contractor under any other contract with the WAPCOS shall not extend beyond the period of two years from the date of payment of the final bill or in case the final bill is a minus bill, from the date the amount payable by the Contractor under the minus final bill is communicated to the Contractor.
- (d) Any amount due to the Contractor under this contract for under payment may be adjusted against any amount then due or which may at any time there after become due before payment is made to the Contractor, from him to the WAPCOS on any other contract or account whatsoever.

#### **CLAUSE 43: SETTLEMENT OF DISPUTES & ARBITRATION Amicable Resolution and Mediation**

##### **43.1 Settlement of Disputes**

43.1.1 Except where otherwise provided in the Contract, all questions and disputes relating to the meaning of the specifications, design, drawings and instructions and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the Contract, designs, drawings, specifications, instructions, orders or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter:

- i) If the Contractor considers any work demanded of him to be outside the requirements of the Contract, or disputes any drawings, record or decision given in writing by the Engineer-in-Charge on any matter in connection with or arising out of the Contract or carrying out of the work, to be unacceptable, he shall promptly within 15 days request Engineer in Charge in writing for written instruction or decision. Thereupon, the Engineer in Charge shall give his written instructions or

decision within a period of one month from the receipt of the Contractor's letter.

ii) If the Engineer in Charge fails to give his instructions or decision in writing within the aforesaid period or if the Contractor is dissatisfied with the instructions or decision of the Engineer in Charge, the Contractor may, within 15 days of the receipt of decision, appeal to the Chief Executive Director, WAPCOS Limited who shall afford an opportunity to the Contractor to be heard, if the latter so desires, and to offer evidence in support of his appeal. The Chief Executive Director WAPCOS Limited shall give his decision within 45 days after the Contractor submits the said evidence in support of his appeal. If the Contractor is dissatisfied with this decision of Chief Executive Director, WAPCOS Limited, the Contractor shall within a period of 15 days from receipt of the decision of Chief Executive Director, WAPCOS Limited, shall give notice to WAPCOS Limited intimating its dissatisfaction, failing which the decision of Chief Executive Director, WAPCOS Limited shall be final, binding and conclusive and not referable to adjudication by the arbitration.

- i) In case the Contractor is not satisfied with the decision of Chief Executive Director, WAPCOS, he may proceed for arbitration as detailed in **Clause 43.2** hereinafter.
- ii) It is a term of Contract that each party invoking arbitration must exhaust the aforesaid mechanism of settlement of claims/disputes prior to invoking arbitration.
- iii) Performance of this Agreement/ Contract shall continue during arbitration proceedings or any other dispute resolution mechanism pursuant to Clause 43.2. No payment due or payable by the Employer shall be withheld on account of pending reference to the arbitration or other dispute resolution mechanism except to the extent that such payment of dispute.

#### **43.2 Arbitration**

Any dispute, controversy of 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 convene 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 on 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 neither 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 on date).
- e. It is also acknowledged and accepted that WAPCOS is only working as intermediary between the Contractor and the Owner/Client. Also, the award including costs if any passed against WAPCOS and



costs incurred in the proceedings shall be the sole responsibility of Owner/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 Dhanbad and any award whether interim or final, shall be made, and shall be deemed for all purposes between the parties to be made, in Dhanbad. 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 laws of India and the Parties submit to sole & exclusive jurisdiction of courts at Dhanbad.”

#### **(44) Laws governing the Contract**

This contract shall be governed by the Indian Laws for the time being in force within the ordinary civil jurisdiction of courts at Dhanbad.

#### **(45) Dismantled material**

The Contractor shall treat all materials obtained during dismantling of a structure, services sub systems/installations, excavation of the site for a work etc., as employer's property and such materials shall be disposed off to the best advantage of the Employer according to the instructions issued in writing by the Engineer-In-Charge.

#### **(46) Electrical License**

In Case of Electrical work, valid Electrical License must be submitted

**(47)** In any vendors or contractor submits forged document for submission of tender the vendor will be backlisted for five year and full EMD will be forfeited.

### **CLAUSE 47: CONTRACTOR LIABLE FOR DAMAGES, DEFECTS DURING DEFECT LIABILITY PERIOD**

Defect liability period of three years and maintenance liability period of two years post completion of Defect liability period shall be reckoned from the date of issue of the Taking Over Certificate or Completion Certificate whichever is later.

If the Contractor or his working people or servants shall break, deface, injure or destroy any part of work in which they may be working, or any 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 of it 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 12 (Twelve) months after a certificate final or otherwise of its completion shall have been given by the Engineer-in-Charge as aforesaid arising out of defective 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 proceed of sale thereof or of a sufficient portion thereof. The Security Deposit of the Contractor shall be refunded in accordance with Clause 36 of GCC.

#### **Clause 48: Reporting of Offence and Registration of FIR**

In case of any theft, damage, incident of violence, local hindrances, threats etc. the contractor shall report the offence to appropriate law enforcing agency and file an FIR with intimation to WAPCOS.

#### **Clause 49: Preference to Make In India**

1. The provisions of revised 'Public Procurement (Preference to Make in India) Order 2017-Revision' issued by Department of Industrial Policy and Promotion under Ministry of Commerce and Industry vide letter no.-P45021/2/2017-PP (BE-II) as amended on 16.09.2020 shall be applicable to the bidding process and award of the contract shall be done accordingly.
2. Verification of Local Content
  - i. The bidder at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement of the tender. They shall also give details of the location(s) at which the local value addition is made.
  - ii. In cases of procurement for a value in excess of Rs 10 Crores, the bidder 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 accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

#### **Clause 50: Rule 144 (xi) in General Financial Rules (GFRs) 2017**

- i. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.
- ii. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- iii. "Bidder from a country which shares a land border with India" for the purpose of this Order means:-
  - a) An entity incorporated, established or registered in such a country; or
  - b) A subsidiary of an entity incorporated, established or registered in such a country; or
- c) An entity substantially controlled through entities incorporated, established or registered in such a country; or
  - d) An entity whose beneficial owner is situated in such a country; or
  - e) An Indian (or other) agent of such an entity; or
  - f) A natural person who is a citizen of such a country; or
- g) A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- iv. The beneficial owner for the purpose of clause 33 (iii) above will be as under:
  1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercise control through other means.

Explanation-

2. "Controlling ownership interest" means ownership of or entitlement to more than twenty- five per cent. Of shares or capital or profits of the company;

3. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
4. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
5. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profit of such association or body of individuals;
6. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
7. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.
- v. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.

The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

#### **Clause 51: Work Schedule**

The work shall be completed in all respect within 03 months from the Date of commencement of work. In order to ensure the completion of work within the stipulated time, the contractor shall be required to maintain the following schedule:

<b>Sl. No.</b>	<b>Description of Mile stone</b>	<b>Time Allowed in Days (from date of start)</b>	<b>Amount to be withheld in case of non - achievement of mile stone</b>
1.	Submission of Project completion schedule	07	In the event of non-achieving of necessary progress as indicated in the table an amount of 1% of the tender value will be withheld on failure of each mile stone
2.	Submission of Quality Assurance Plan (QAP)	15	
3.	Submission of design and drawing	20	
4.	Completion of all the civil works like foundation, platform, trenches, structural works etc. in all aspects	45	
5.	Supply of all the required Device's / Product's / Equipment's	60	
6.	Installation, Testing and Commissioning of Flood Light's in all aspects	75	
7.	Works completed in all aspects with cleaning etc.	90	

The above timelines are broad and 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, items 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 the specified time.

The contractor shall submit weekly and monthly Physical and Financial Progress (MPR) as per mutually agreed format. The format shall be prepared & proposed by Contractor and Approved by WAPCOS.

## **CLAUSE 52: 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 un-workman like manner shall omit to comply with the requirement of such notice for a period of seven days thereafter.
- ii. If the Contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence so that in the opinion of the Engineer-in-Charge (which shall be final and binding) he will be unable to secure completion of the work by the date for completion 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 within the stipulated date or items of work with individual date of completion, if any stipulated, on or before such date(s) of completion and does not complete them within the period specified in a notice given in writing in that behalf by the Engineer-in-Charge.
- 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 Limited 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 Limited.
- vi. If the Contractor shall enter into a Contract with WAPCOS Limited 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 Limited 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, transfers, sublets (engagement of labour on a piece- work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Engineer -in-Charge.

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

a) To determine the Contract as aforesaid (of which termination notice in writing to the Contractor under the hand of the Engineer-in-Charge shall be conclusive evidence). Upon such determination, the Security Deposit already recovered and Performance Security under the Contract shall be liable to be forfeited and shall be absolutely at the disposal of the WAPCOS.

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.

**Note:**

Actions under Clause 47 and 52 are independent.

The compensation under Clause 47 is for loss caused due to delay in performance, whereas, the compensation under Clause 52 is for consequential losses due to non-performance of the Contract. Hence, the Employer is entitled to compensation under Clause 52 and Clause 47 independently. Hence, the Employer is empowered to take action under Clause 47 for levy of compensation depending on liability of Contractor under Clause 47 based on the delay at the stage of Clause 52 action, before determination.

### **CLAUSE 53: CONTRACTOR LIABLE TO PAY COMPENSATION EVEN IF ACTION NOT TAKEN UNDER CLAUSE 52**

In any case in which any of the powers conferred upon the Engineer-in-Charge by **Clause 52** 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 54: Site Offices and facilities**

The cost of providing the work/facilities stated in the sub-clauses of this clause are to be borne by the Contractor and shall be deemed to be included in the percentage rate quoted by the Contractor.

1. Office Accommodation & Mobility and Communication: On account of furnished Project office equipped with all facilities such as telephone, fax, internet, photocopier, computer/ laptop & printer along with operator, regular electric & purified drinking water supply and inspection vehicle etc. as per the requirement of the project an amount equal to 2.00% of gross bill from all running account & final bill will be recovered.
2. The contractor shall also make sufficient arrangement for Photography/ Videography preferably by maintaining a camera/video camera at site so that video and photographs can be taken of a specific activity at any point of time. The contractor shall also provide software like MS Project/Primavera etc. for the purpose of preparing progress report etc.
3. The Contractor shall provide at his own cost, One Site sign Board, at directed location of overall size 2.40 metres wide and 1.50 metres height and of approved design. The names of the Project, Employer, Consultants, Engineer and Contractor etc. shall be exhibited as directed.
4. The Contractor shall maintain daily weather record. Daily maximum and minimum temperature and corresponding, humidity shall be recorded and charted. Rainy days shall be recorded when the rain lasting more than one hour hampers the work. Any other inclemency in weather shall be recorded. The records shall be regularly shown to the Engineer-in-Charge and his signature obtained.
5. The Contractor shall arrange at his own cost to maintain a progress record of the works by taking (5"x 7")/8"x10" size colour photographs minimum 6 Nos. or more per month as directed by the Engineer-in-Charge during the construction stages and after completion and shall supply one set to the Engineer-in-Charge at no extra cost. These photographs shall also be submitted as part of the Contractors R.A Bills.
6. The same shall be furnished as per requirement of Monthly Progress report.

7. The Contractor shall provide arrangements for firefighting at his own cost. For this purpose, he shall provide requisite number of fire extinguishers and adequate number of buckets, some of which are to be always kept filled with sand and some with water. This equipment shall be provided at suitable prominent and easily accessible places and shall be properly maintained. The Contractor may be subject to periodic fire prevention inspections and any deficiency or unsafe condition shall be corrected by the Contractor at his own cost and to approval of the Engineer-in-Charge and the relevant authorities.

These fire prevention inspections shall include but not limited to the following:

- i. Proper handling, storage and disposal of combustible materials, liquids and wastes.
- ii. Work operations which can create fire hazards.
- iii. Access for firefighting equipment.
- iv. Type, size, number and location of fire extinguishers or other firefighting equipment.
- v. Inspection and maintenance records for extinguishers
- vi. Type, number and location of containers for the removal of surplus materials and rubbish.
- vii. General housekeeping

8. For the purpose of quick communication between the Engineer-in-Charge and the Contractor or his Representative, Site Order Books shall be maintained at site in the manner as described below:

Any communication, relating to the works may be conveyed through records in the site order book. Such a communication from one party to the other shall be deemed to have been adequately served in terms of the Contract. Each site order book shall have machine numbered pages in triplicate and shall be carefully maintained and preserved by the Contractor and shall be made available to the Engineer-in-Charge as and when demanded.

Any instruction which the Engineer-in-Charge may like to issue to the Contractor may be recorded by him in the site order book and two copies thereof taken by the Engineer-in-Charge for his record.

The Contractor or his Representative may similarly record in the site order book any communication he may like to send to the Engineer-in-Charge. Two copies thereof when sent to the Engineer-in-Charge and receipt obtained thereof, will constitute adequate services of the communication to the Engineer-in-Charge.

9. The Contractor shall provide all materials as provided in the tender. The Employer shall approve any make after inspection of samples.
10. The Contractor shall display all permissions, licenses, registration certificates and other statements required to be displayed under various labour laws and other legislations applicable to the works at the site office and also maintain the requisite register / records factually and up to date and keep them ready for inspection by the concerned authorities and also make available the same to the Engineer-in-Charge / Owner for inspection.
11. The relevant I.S. codes of practice and other relevant codes shall be of latest version with their amendments/ revisions. The Contractor shall keep and maintain copies of the latest editions of codes at the work site and make it available to Employer whenever required.
12. In case of Guarantees specified for certain periods for due performance of materials and specialist items of work, the Contractor shall be a co-guarantor with the Specialist Contractor or Supplier offering such Guarantee and shall offer such co- Guarantee in a format approved by the Employer.
13. General shift & normal working period means from 8.00 am to 5.00 pm. No night or rest day work. A weekly holiday is to be observed on Sunday. For carrying out work on Sunday and Holidays or during night, the Contractor will approach the Engineer-in-Charge or his representative at least two days in advance and obtain his permission. The Engineer-in-Charge at his discretion can refuse such permission. The Contractor shall have no claim on this account whatsoever. If work demand, the

Contractor shall make arrangements to carry out the work on Sundays, Holidays and in two, three shifts with the approval of Engineer-in-Charge at no extra cost to Employer.

14. The Contractor has to make own security arrangement. Contractor shall maintain upto date record of in & out of the material & labour / staff at the security gate of campus at its own expenses.
15. If desired by the Employer, the Contractor shall stack and spread to the require profile the excess earth available suitable for filling in layers not exceeding 200mm, watering, consolidation within the campus and dispose of all surplus material to the nearest dumping ground/ land fill area without any additional cost, etc.
16. The Employer may if require, request the assistance of Contractor labour for purpose other than from part of Contract. The Contractor will not unreasonably deny such assistance and the Engineer-in-Charge decision in this regard shall be binding on the Contractor. The Contractor will be then paid on the basis of minimum wages rates and provision made in the General Conditions of Contract.
17. The Contractor shall provide safety equipment to the Employers/officers (whenever required).
18. The agreement between Contractor & their Subcontractors (MEP & utility services) should have clause regarding obligation by the Subcontractor to enter into Contract with the Employer for comprehensive AMC if required at the rate & terms & condition mutually decided with Engineer-in-Charge after expiry of Defects Liability & Maintenance Period successfully.
19. Contractor shall deploy security/ watchmen for 24 hours on site at entire execution period.
20. Contractor shall provide safety gadgets to the Employer officers.
21. Working on extended hours beyond normal working hours with prior agreement and /or determination between Contractor and the Engineer-in-Charge/Employer's Representative to work on extended hours, Contractor has to make arrangement of Transportation for Employer's Representative / the Engineer-in-Charge as determine and agreed jointly.
22. If applicable , Contractor shall properly cover up & protect all the work throughout the duration of work at his cost until completion, particularly flooring, risers, mouldings, steps, terrace or special floor finishes (by a layer of 25 mm thick Plaster of Paris over Polyethylene sheet as approved by Engineer-in-Charge) staircases and balustrades, doors and glass, paint work, furniture and all finishing. Contractor shall prepare Mock-up for flooring, false ceiling, partition etc. & take the approval from the Employer and Consulting Architect before proceeding with the work.

#### **CLAUSE 55: FORECLOSURE OF CONTRACT DUE TO ABANDONMENT OR REDUCTION IN SCOPE OF WORK**

If at any time after acceptance of the tender, Engineer-in-charge shall decide to abandon or reduce the scope of the works for any reason whatsoever and hence not require the whole or any part of the works to be carried out, the Engineer-in-Charge shall give notice in writing to that effect to the Contractor 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 Limited shall have the option to take over Contractor's materials or any part thereof either brought to site or of which the Contractor is legally bound to accept delivery from Suppliers (for incorporation in or incidental to the work) provided, however WAPCOS Limited shall



be bound to take over the materials or such portions thereof as the Contractor does not desire to retain. For materials taken over or to be taken over by WAPCOS Limited, 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 Limited are rendered surplus, the same except normal wastage shall be returned by the Contractor to WAPCOS Limited 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 Limited 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.
- (v) Reasonable compensation for repatriation of Contractor's site staff and imported labour to the extent necessary.

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

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 Limited 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 Limited from the Contractor under the terms of the Contract.

#### **CLAUSE 56: Handing Over**

The structure under the contract shall be handed over to client/owner and the contractor shall ensure to comply with all non-compliance report (NCR) or any other comments/observations issued by Standing Handing over Taking over Committee constituted by client/owner. Handing over process shall be completed only after satisfactory compliance of NCR/ Comments/Observations issued by Standing Handing over Taking over Committee

## **SECTION - V**

---

### **SPECIAL CONDITIONS OF CONTRACT**

---

## SECTION V

### SPECIAL CONDITIONS OF CONTRACT

- (1) These special conditions are meant to amplify the general specifications and general conditions of contract.
- (2) Work shall be done as per CPWD specification with latest correction.
- (3) The work and services to be covered under this specification and the conditions therein are detailed in the following sections of the specification and these sections along with document from a part of this tender specification.

Notice Inviting Tender (NIT)

Section I : Instruction to Bidders

Section II : Selection and Qualifying Criteria

Section III : Forms

Section IV : General Conditions of Contract

Section V : Special Conditions of Contract

Section VI : Additional Conditions of Contract

Section VII : General Information

Section VIII : Annexures

Section IX : Scope of works

Section X : Proforma of Schedule A, B, C, D, E and F

Section XI : Tender Drawings

Section XII : Financial Proposal

- (4) The contractor shall arrange for all approach facilities at his own cost as may be required during construction period.

#### (5) **Completion Time**

The work shall be completed within the time as mentioned in the Work Order duly signed by Engineer- in- charge of WAPCOS Limited.

#### (6) **Medical Care**

The contractor shall be fully responsible for any first aid and emergency medical treatment to his employees at site. Necessary arrangements for this purpose shall be made by the contractor at site.

#### (7) **Security Rules & Regulation and Entry Passes**

The contractor will have to submit the details of the persons to be employed this work within two days of award of work. The contractor will be allowed to start the work only after submission of details in prescribed verification forms (in duplicate) along with four nos. passport size photograph and medical fitness certificate for each labour separately to the Competent Authority of WAPCOS Limited. Contractor will make necessary Entry Passes for concerned officials of WAPCOS Limited, sufficiently in advance. Contractor shall strictly abide by the prevailing security rules and regulation and also to be enforced by WAPCOS Limited, time to time. Entry to the works premises is strictly restricted and only bonafide pass (permission) holders are allowed.

(8) **Time frame for payment**

Payment shall be released within 21 days after checking, entries made on Measurement Book (MB) duly signed by the corresponding officials of WAPCOS Limited and the respective representative of the Contractor subject to release of fund by owner/client. No claim whatsoever shall be entertained for late payment beyond 21 days.

(9) **Contractor to follow Security Rules and Regulations**

The Contractor shall strictly abide by the prevailing Security Rules and Regulation

(10) In case of any discrepancy, the order of precedence in interpretation shall be as under:

- 1 Schedule of Quantity
- 2 Drawings
- 3 Special Condition of Contract
- 4 General Conditions of Contract
- 5 Additional Conditions of Contract
- 6 BIS Code
- 7 BS and other International Codes
- 8 CPWD Specifications
- 9 Best Engineering practices

(11) Whenever applicable, the structural and architectural drawings shall at all times be properly correlated before executing any work. However, in case of any discrepancy in the item given in the Schedule of Quantities appended with the tender and drawings related to the relevant item the former shall prevail unless and otherwise given in writing by the Engineer-In-Charge.

No payment shall be made to the contractor for any damage caused by rain, snowfall, floods or another natural cause whatsoever during the execution of work. The damage to work will be made good by the contractor at his own cost, and no claim on this account shall be entertained.

All materials used shall be as per specifications and ISI marked wherever applicable. ISI marking referred relate to latest BIS code as published by Bureau of Indian Standards up to 30 days before the date of opening the tender.

The Contractor shall give a performance test of the entire installation(s) as per standard specifications and/or as directed by the Engineer and will also submit test certificates as are required by Municipal/ Electrical authority or any other authority. Nothing extra shall be payable for the same other than the fees paid to such authorities which shall be reimbursed on production of receipts.

(12) **Cement**

- (a) The contractor shall procure 43 grade (conforming to IS: 8112) Ordinary Portland Cement (OPC)/ Portland Pozzolana Cement (PPC) (conforming to IS: 1489 (Part I) 1991), as required in the work, from reputed manufacturers of cement. Supply of cement shall be taken in 50 kg bags bearing manufacturer's name and ISI marking. Incase test results indicate that the cement arranged by the contractor does not conform to the relevant BIS Codes, the same shall stand rejected and shall be removed from the site by the Contractor at his own cost within a week's time of written order from the Engineer- In-Charge to do so.
- (b) Cement brought to site and remaining unused after completion of work shall not be removed from site without written permission of the Engineer-In-Charge.

- (13) The provision of Para 13 (f) of Special Conditions of Contract shall apply *Mutatis-Mutandis* in the case of cables (other than underground cables), wires, conduits/GI pipes, GI/MS sheets used in various items of work shall be calculated in the basis of measurements recorded in the measurement books for the purpose of payment and for assessing the consumption of materials used in the works. Over this quantity a variation of 5% plus shall be allowed for wastage of materials during execution in case of cables (other than underground cables), wires, conduits/GI pipes, and 10% plus in case of GI/MS sheets.
- (14) Unless otherwise provided in the schedule of quantities, the rates tendered by the Contractor shall apply for all heights, lifts, leads and depths of the work and nothing extra shall be payable on this account.
- (15) The surplus excavated earth which is beyond the requirement of the Employer's work may be allowed by the Employer to be disposed of by the Contractor on his own or sell the surplus excavated earth to private parties at his discretion but nothing extra will be paid for the carriage or disposal of surplus earth if the same is not required for any other work of the Employer.
- (16) CPWD mode of measurement shall be followed.
- (17) Material Test Certificate (MTC) must be submitted for all materials.
- (18) **BLACKLISTING POLICY**

The Blacklisting Policy of the company is available on official website of WAPCOS Limited. The Bidder/tenderer/consultant/contractors have to mandatorily furnish an undertaking addressing the same to Engineer-in-Charge in the form of certificate to abide the contents of Blacklisting Policy as per forms attached in section III of Tender Document. Any action in violation of the blacklisting policy or to the certificate furnished shall result in cancellation of tender at the stage before or after the award of work.

### **(19) Insurance of Works Etc.**

19.1 Contractor is required to take Contractor's All Risk policy from Nationalized insurance company in the joint name with Employer and bear all costs towards the same for the full period of execution of works including the Defect Liability Period for the full amount of contract against all loss of damage from whatever cause arising other than excepted risks for which he is responsible under the terms of the contract and in such manner that the Employer and the Contractor are covered during the period of construction of works and/or also covered during the period of Defect Liability for loss or damage.

- a. The Works and the Temporary works to the full value of such works.
- b. The materials, constructional plant, centering, shuttering and scaffolding materials and other things brought to the site for their full value.

Whenever required by Employer, the Contractor shall produce the policy or the policies of insurance and the receipts for payment of the current premium.

### **19.2 Insurance under Workmen Compensation Act**

Contractor is required to take insurance cover under the Workman Compensation Act, 1923 amended from time to time from Nationalized insurance company and pay premium charges

thereof. Wherever required by Employer the Contractor shall produce the policy or the policies of Insurance and the receipt of payment of the current premiums.

### **19.3 Third Party Insurance**

Contractor is required to take third party insurance cover for an amount of 5% (five percent) of contract value from Nationalized insurance company for insurance against any damage, injury or loss which may occur to any person or property including that of Employer / Owner, arising out of the execution of the Works or Temporary works. Wherever required by Employer the Contractor shall produce the policy or the policies of Insurance and the receipt of payment of the current premiums.

19.4 If the Contractor shall fail to effect and keep in force the insurances referred to above, or any other insurance which he may be required to effect under the terms of the Contract, then and in any such case the Employer on advice of the EIC may effect and keep in force any such insurance and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount so paid by the Employer as aforesaid from any moneys due or which may become due to the Contractor, or recover the same as debt due from the Contractor.

19.5 The Contractor shall at all times indemnify Employer and Owner against all claims, damages or compensation under the provision of Payment of wages act-1936, Minimum Wages Act-1948, Employer's liability Act-1938, the workmen's compensation Act-1947, Industrial Disputes Act-1947 and Maternity Benefit Act-1961 or any modifications thereof or any other law in force or as consequence of any accident or injury to any workman or other persons in or about the works, whether in the employment of the Contractor or not, against all costs, charges and expenses of any suit, action or proceedings arising out of such incident or injury and against all sum or sums which may with the consent of the Contractor be paid to compromise or compound any such claim. Without limiting his obligations and liabilities as above provided, the Contractor shall insure against all claims, damages or compensation payable under the Workmen's Compensation Act 1923 or any modification thereof or any other law relating thereto.

19.6 The Contractor, in case of re-building or reinstatement after fire, shall be entitled to such extension of time for completion as the EIC may deem fit, but shall, however not be entitled to reimbursement by the Employer or any shortfall or deficiency in the amount finally paid by the Insurer in settlement of any claim arising as set out herein.

The above clauses shall be part of tender document and bidders shall duly consider the same in participation and submission of bids.

**(20)** It is clearly agreed and understood by the Contractor that notwithstanding anything to the contrary that may be stated in the agreement between Employer/WAPCOS and the Contractor; the Contractor shall become entitled to payment only after Employer/WAPCOS has received the corresponding payment(s) from the Principal Employer/Client (IIT (ISM), Dhanbad) for the work done by the Contractor. Any delay in the release of payment by the Principal Employer/Client to Employer/WAPCOS leading to a delay in the release the corresponding payment by Employer/WAPCOS to the Contractor shall not entitle the Contractor to any compensation/interest from Employer/WAPCOS.

All payments shall be released by way of e-transfer through RTGS in India directly at their Bank account by Employer.

## **SECTION - VI**

---

### **ADDITIONAL CONDITIONS OF CONTRACT**

---

## SECTION VI

### ADDITIONAL CONDITIONS OF CONTRACT

**(1) Compliance with Local Bye-Laws, Rules And Regulations**

The work shall 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 shall be paid on this account. The contractor shall give due notices to the Municipality, Gram Panchayat, Police and/or other authorities as may be required under the law / rules under force and obtain all requisite licenses / permissions to carry out the work and pay all charges which may be liveable on account of his execution of the work under the agreement. Nothing extra shall be payable on this account.

In the event of any restrictions being imposed by security and traffic agencies or any other authority having jurisdiction in the area on the working or movement of labour / material, the contractor shall strictly follow such restrictions and nothing extra shall be payable to the contractor on this account. The loss of time on this account, if any, shall have to be made up by generating additional resources etc.

**(2) Protection of Existing Structures / Services and Interference with Other Works**

The contractor shall protect existing drains, pipes, cables, overhead wires, sewer lines, water lines and other services encountered in the course of execution of the work, and shall repair any damage caused by him at his own expense. The contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services.

The contractor shall carry out his work so as not to interfere with or hinder the progress or completion of the work being performed by other contractor (s) or by the Engineer-in-Charge and shall as far as possible arrange his work and shall place and dispose of the materials being used or removed, so as not to interfere with the operations of other contractors. He shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of Engineer-in-Charge.

**(3) Temporary Electricity and Telephone Connection For Execution of Work**

The contractor shall make his own arrangements for temporary electric and telephone connection, if required and make necessary payment including all initial cost, security money and electric / telephone charges for its use direct to the authority concerned. The Engineer-in- Charge will provide all possible assistance by way of reasonable recommendation for obtaining electricity connection to the concerned authorities but bears no responsibility for the same.

**(4) All Heights, Lifts, Leads and Depths**

Unless otherwise specified in tender document, 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 extra shall be payable to him on this account.



**(5) Stacking of Materials**

The Contractor(s) shall take instructions from the Engineer-in-Charge regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed. The stacking shall take place as per stacking plan however, if any change is required, the same shall be done with the approval of Engineer-in-Charge.

**(6) Damage Caused by Rain, Snowfall, Flood or Any Other Natural Calamity**

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 government property and the work for which payment has been advanced to him

**(7) Safety Practices and Supervision**

- (i) Necessary protective and safety equipment shall be provided to the Site Engineer, Supervisory staff, labour and technical staff of the contractor by the Contractor at his own cost and to be used at site.
- (ii) No inflammable materials including P.O.L shall be allowed to be stored in huge quantity at site. Only limited quantity of P.O.L may be allowed to be stored at site subject to the compliance of all rules / instructions issued by the relevant authorities and as per the direction of Engineer-in-Charge in this regard. Also all precautions and safety measures shall be taken by the Contractor for safe handling of the P.O.L products stored at site. All consequences on account of unsafe handling of P.O.L shall be borne by the Contractor.
- (iii) In addition to the supervision of work by WAPCOS being a client, shall be carrying out regular and periodic inspection of the ongoing activities in the work and deficiencies, shortcomings, inferior workmanship pointed out by them shall be communicated by WAPCOS engineers to the contractor. Upon receipt of instructions from Engineer- in-Charge these are also to be made good by necessary improvement, rectification, replacement upto his complete satisfaction.
- (iv) All the hidden items such as water supply lines, drainage pipes, conduits, sewers etc. are to be properly tested as per the design conditions before covering and their record measurements in computerized measurement book duly checked shall be deposited with Engineer-in-Charge or his authorized representative, prior to hiding these items.
- (v) The contractor shall follow “Safety, Health and Environment Handbook 2019” issued by CPWD in 2019. Any non-compliance shall liable to penalty upto 1% of project cost or such lower amount as decided by Engineer-in-Charge

**(8) De-Watering**

- (i) De-watering required, if any, shall be done conforming to BIS Code IS: 9759 (guide lines for de-watering during construction) and / or as per the specifications approved by the Engineer-in-Charge. Design of an appropriate and suitable dewatering system shall be the Contractor's responsibility.

- (ii) Such scheme shall be modified / augmented as the work proceeds based on fresh information discovered during the progress of work, at no extra cost. At all times during the construction work, efficient drainage of the site shall be carried out by the Contractor and especially during the laying of plain cement concrete, taking levels etc. The Contractor shall also ensure that there is no danger to the nearby properties and installations on account of such lowering of water table. If needed, suitable precautionary measures shall be taken by the Contractor. Also the scheme of dewatering adopted shall have adequate built in arrangement to serve as stand-bye to attend to repair of pumps etc. and disruption of power / fuel supply. Nothing extra shall be payable on this account.
  - (iii) In trenches where surface water is likely to get into cut / trench during monsoons, a ring bund of puddle clay or by any other means shall be formed outside, to the required height, and maintained by the Contractor. Also, suitable steps shall be taken by the Contractor to prevent back flow of pumped water into the trench. Nothing extra shall be payable on this account.
  - (iv) For works below ground level the contractor shall keep that area free from water. If dewatering or bailing out of the water is required, the contractor shall do the same at his own cost and nothing extra shall be paid. Nothing extra shall be paid for execution of work in or under water and / or liquid mud including pumping out of water as required.
- (9) For avoiding of scratch marks or damage to the vitrified / ceramic floor tile, the necessary arrangement of hessian cloth with a coat of plaster of paris over it shall be provided. Nothing shall be paid extra on this account.
- (10) The original copies of challan/cash memos towards the quantity of various materials procured shall be made available by the contractor at the request from the Engineer-in-Charge and a copy of the same shall be kept in record. Warranty / Guarantees cards of various materials shall also be submitted by the contractor during handing over of the buildings to the client.
- (11) The contractor shall pay all levies, fees, royalties, taxes and duties payable or arising from out of, by virtue of or in connection with and/or incidental to the contract or any of the obligations of the parties in the terms of the contract documents and/or in respect of the works or operation(s) or any part thereof to be performed by the contractor and the contractor shall indemnify and keep indemnified the CVC from the against the same or any default by the contractor in the payment thereof. The quoted rated by the contractor shall be deemed to be inclusive of all taxes and nothing extra shall be paid on this account.
- (12) The following documents need to be submitted by the contractor at the time of agreement
- (a) Project Completion Schedule in MS Project or PRIMAVERA
  - (b) Quality Approval Plan (QAP) based on BIS and relevant Statuary Code of practice
  - (c) Warranty Certificate from OEM at the time of execution
- (13) **Testing**
- I. Site Testing Facility**
    - (a) Test at site will be conducted as per approved QAP
    - (b) All test should be done as per BIS and relevant Statuary Code of practice

- (c) All the equipment should have Valid Calibration Certificate from NABL.

## **II. Testing from outside lab**

- (d) Testing will be conducted as per approved QAP

### **(14) Quality Assurance Plan**

The contractor shall ensure the highest standard of quality in work and comply the following: Compliance Reports to all Non-Compliance Reports (NCR), Red Flag Report or any such reports issued by owner/client, WAPCOS and/or the TPQA Consultant;

- i) All Quality Test Reports
- ii) Monthly Progress Report (Physical and financial)
- iii) Inspection reports towards site and material
- iv) Copy of Inspection Register
- v) Copy of Site Order Book
- vi) All other relevant documents which shall be communicated by owner/client/WAPCOS before commencement of any work

### **(15) Kick off Meeting**

A kick off meeting shall be conducted in the presence of officials from client/owner, WAPCOS and contractor within 15 days of award of work.

## **SECTION - VII**

---

### **GENERAL INFORMATION**

---

## SECTION VII

### GENERAL INFORMATION

Project	:	<b>“Supply, Installation, Testing and Commissioning of Flood Light in Upper Ground at IIT (ISM) Dhanbad.”</b>
Address	:	WAPCOS Limited C/o Indian Institute of Technology (Indian School of Mines) Dhanbad
Project Site	:	<b>Cricket Field of Upper Ground</b> at the campus of Indian Institute of Technology (Indian School of Mines) Dhanbad
Nearest Railway Station	:	Dhanbad (Approximately 3.0 KM)

The information given below is only for the Tenderer's general guidance and Tenderer shall acquaint detailed information in first hand by site investigation of his own before bidding.

(1) **Location**

Indian Institute of Technology (Indian School of Mines) Dhanbad, Dhanbad 826 004 (Jharkhand)

(2) **Rate/Percentage**

The tenderers are required to **Quote the Percentage Rate with total quoted amount** against the scope of the work as per Section IX, in both words and figures clearly, failure in this respect is liable to render the tender incomplete.

- (3) The tenderers shall submit along with the tender a list of Construction agreement and machinery in their possession and which they shall bring at site for these construction works.
- (4) If any clarification regarding Specifications, Conditions of Contract etc. or Schedule of Quantity is required, the same can be obtained by the tenderers from the *Office of* WAPCOS Limited, CMU Building, IIT(ISM) Campus Dhanbad.
- (5) In the event of the tender being submitted by a firm (Partnership) it must be signed separately by each member thereof, or in the event of the absence of any partner it must be signed on this 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.
- (6) Receipts for payment made on account of a week when executed by a firm (Partnership) must also be signed by the partners except whose the contractors are described in their tender as a firm, in which case the receipt must be signed in the name of the firm by one of the partners or by some other persons having authority to give official receipts for the firm.
- (7) Any person who submits a tender shall fill up the usual prescribed form stating at what rate he is willing to undertake each items of the work. The quantities shown there in are approximate only, being an indication of the scope of the work enable the tenderer to tender

for the different or decrease in the quantity of any item of the work ,the actual quantities executed may be paid for it, the rate stated for that part.

**(8) Earnest Money Deposit**

Earnest Money Deposit in the form of Treasury Challan or Demand Draft or Pay order or Banker's Cheque or Deposit at Call Receipt or Fixed Deposit Receipt (drawn in favour of ..... WAPCOS Limited) shall be scanned and uploaded to the e- tendering website within the period of bid submission. The original EMD should be deposited within the period of bid submission. A part of earnest money is acceptable in the form of bank guarantee also. In such case, minimum 50% of earnest money or Rs. 20 lakh whichever is less, shall have to be deposited in shape prescribed above, and balance may be deposited in shape of Bank Guarantee of any scheduled bank having validity for six months or more from the last date of receipt of bids which is to be scanned and uploaded by the intending bidders. Copy of Enlistment Order and certificate of work experience and other documents as specified in the bid shall be scanned and uploaded to the e-tendering website within the period of bid submission

**(9) Performance Guarantee**

The contractor, whose bid is accepted, will be required to furnish Performance Guarantee of 5% (Five Percent) of the bid amount within 15 days. 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. In case the contractor fails to deposit the said performance guarantee within the period as indicated including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. The earnest money deposited along with bid shall be returned after receiving the aforesaid performance guarantee. The contractor whose bid is accepted will also be required to furnish either copy of applicable licenses/ registrations or proof of applying for obtaining labour licenses, registration with EPFO, ESIC and BOCW Welfare Board including Provident Fund Code No. if applicable and also ensure the compliance of aforesaid provisions by the sub-contractors, if any engaged by the contractor for the said work

The Performance Guarantee shall be initially valid up to the stipulated date of completion plus minimum 60 days beyond that. In case the time for completion of work gets enlarged, the contractor shall get the validity of Performance Guarantee extended to cover such enlarged time for completion of work. After recording of the completion certificate for the work by the competent authority, the performance guarantee shall be returned to the contractor, without any interest.

**(10) Security Deposit**

The Bidder whose tender may be accepted (hereinafter called the Contractor) shall permit Employer at the time of making any payment to him for work done under the Contract to deduct a sum at the rate of 4% of the gross amount of each running and final bill. Such deductions will be made and held by WAPCOS Limited 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 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 make good the deficit.

### **Refund the Security Deposit**

The Security Deposit as deducted above shall be released within year wise within the Defect Liability Period of 03 (Three) years i.e., 1st year: 50% of total SD; 2nd Year: 25% of total SD; and 3rd Year: 25% of total SD.

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.

- (11) The officer inviting tender shall have the right to reject all or any of the tender and will not be bound to accept the lowest.
- (12) The tender form must be filled and all entries must be made by the handwritten in ink. All the rates must be filled both in words and figures. If any of the documents is missing or un-signed, the tender will be considered invalid. All erasers and alterations made while filling the tender must be attested by dated initials of the tenderers. Overwriting of the figures is not permitted. To comply with any of these conditions will render the tender invalid. No advice of any change in rates of conditions after the opening of the tender will be entertained.
- (13) Quoted rates must be in words and figures against all items.
- (14) The tenderer should mention their price in figure as well as in words. In case of any dispute / ambiguity, the price mentioned in words shall be considered as final. Insertions, postscripts, additions, and alterations shall not be recognized unless confirmed by tenderers signature. Tenderer shall submit price bid signed and stamped on each page.
- (15) **Contractor will have to follow**  
The successful tenderers shall have to comply with provision of Contract Labour Act 1970 (Regulation & Abolition), EPF & MP Act 1952 and rules framed thereunder, if applicable to him / them.
- (16) If it is found that labour payment day is not on stipulated payment day is not followed and wage slip is not issued to the labours engaged for this work, WAPCOS shall compel you to stop the work and action will be initiated beside taking suitable steps to make the payment to the labours at risk and cost of the contract.
- (17) Tenders (Technical as well as Price part) shall be submitted in a manner asked for.
- (18) **Canvassing prohibited**  
Canvassing in any form is strictly prohibited and any tenderer found to have resorted to canvassing shall be liable to have his tender rejected summarily.

(19) **Misinformation**

If the tenderer deliberately gives wrong information in his tender to create circumstances for the acceptance of his tender, the authority reserve the right to reject such tender.

(20) **Documents Not Transferable**

Tender documents are not transferable.

(21) **Not More Than One Tender**

Not more than one tender for a work shall be submitted by one contractor or one firm of contractors.

(22) **Tender Document Property of the Purchaser**

Tender documents in which tender are submitted by a tenderer shall become the property of the purchaser and the purchaser shall have no obligation to return the same to the tenderer.

(23) **Tenderer to Bear Expenses**

The purchaser shall not be liable for any expenses whatsoever incurred by the Tenderer in the preparation of the tender whether his tender is accepted or not even if the purchaser calls for complete withdrawal of invitation of tender.

(24) **Variation and Schedule of Quantities**

The quantities set out in the Schedule of items are tentatively estimated quantities only. The actual quantities of the items may vary from those indicated in the tender document depending upon requirement of the work decided by the Engineer-in-charge with intimation, and individual item may vary to any extent or may be excluded altogether. The contractor are advised to keep the above in mind while quoting their rates.

- (a) Electricity will be provided on Payment.
- (b) Water arranged by the Contractor for Concrete and Masonry work at working site at his own cost from supply point.
- (c) Tools and Tackles: All Tools and Tackles will have to be arranged by the Contractor.

(25) **Submission of Tender**

**List of documents to be submitted in Part I: Technical Bid**

- (a) Tenderer's covering letter.
- (b) Document showing deposit of earnest money, as asked for, in the NIT in a separate sealed cover and inserting photo/Carbon copy in each copy of the technical bid.
- (c) Filled in proposal exhibit sheets. In case of Price tabulation only confirmation is to be given against each item as regards filling of prices. But the rates of items of work and amount of all the items to be mentioned only in the part-II (Price proposal of the work).
- (d) Signed NIT tender document in the first copy of the tender as per clause 2.2 and confirmation of such enclosure in balance copies.
- (e) List of jobs executed during last 07 (Seven) years with following information:-
  - (i) Name of employer and name of work.
  - (ii) Scheduled completion time with name and nature of jobs with awarded value.
  - (iii) Actual completion time of the work.
  - (iv) Reasons for delay in completion of the job if a



- (v) List of jobs, presently in hand as well as under execution along with above information.
- (f) List of construction equipment/'Tech. Staff/Manufacturing/Testing facilities available for this contract along with their present conditions/locations, if applicable.
- (g) Drawing list, wherever applicable.
- (h) Other document as may be required to be submitted along with the tender in accordance with Technical specifications, Special conditions and General conditions of NIT Tender Document.
- (i) Financial status, Balance sheet, Profit and Loss Account for last five years
- (j) Schedule of quantities mentioning description, quantities and units of item without mention of any rate or amount on the same.

#### **List of documents to be submitted in Part II: Price Bid**

- (a) Tenderer's covering letter.
- (b) Filled in proposal sheets (mentioned under price proposal in NIT tender document) which included the list of items of work quantities of each item, rate quoted and amount computed for all items and total value of work.
- (c) Any other documents as deemed necessary.

#### **NIT Tender document to be signed and returned**

- (a) All tender papers, which comprise the following, shall be signed and returned with the first copy of tender under Part I.
  - (i) Notice Inviting Tender.
  - (ii) General Information.
  - (iii) Condition of Tendering
  - (iv) Forms
  - (v) General Conditions of Contract
  - (vi) Special Conditions of Contract
  - (vii) Technical Specification
  - (viii) Proposal Exhibit Sheets
  - (ix) Drawings and documents enclosed with the specifications.

All pages of tender papers, drawings and documents shall be initialed at the lower right hand corner with ink only and signed by the tenderer or any person holding power of attorney authorizing him to sign on behalf of tenderer.

- (b) Filled in proposal Exhibit Sheets.
- (c) Full statement regarding the status and past experience of the tenderer.
- (d) List of construction equipment/manufacturing/'Tech. Staff/Testing facilities available for this contract along with their present conditions/locations.
- (e) Document showing Earnest Money Deposit.
- (f) Tenderer's covering letter.
- (g) Other documents as may be required to be submitted along with the tender in accordance with Technical Specification, Special conditions of Contract and General Conditions of contract. When the work is awarded and the letter of acceptance issued, these documents shall become an integral part of the Contract. The tenderer shall submit in separate volumes one additional copy of the following documents duly signed by the tenderer without which the tender is liable to rejection.
  - (i) Filled in Proposal Exhibit Sheets.

- (ii) Full statement regarding the status and past experience of the tenderer.
- (iii) List of construction equipment/Tech. Staff/Manufacturing/Testing facilities available for this contract along with their present conditions/locations.
- (iv) Documents showing earnest money deposit.
- (v) Tenderer's covering letter.
- (vi) Confirmation that signed tender papers have been enclosed in original copy of tender.

### **All pages to be signed**

All pages of the tenderer's offer drawings and other accompanying documents shall be initialed at the lower right hand corner with ink only and signed where required by the tenderer or any person holding power of attorney authorizing him to sign on behalf of tenderer before submission of the tender. All signature shall be dated.

### **Authorization**

In the event of the tender being submitted by a firm, it must be signed by each partner thereof, and in the event of the absence of any partner, it shall be signed on his behalf by a person holding a power of attorney authorizing him to do so, certified copy of which shall be enclosed. Tender submitted on behalf of complete registered under the Indian Companies Act, for the time being force, shall be signed by persons duly authorized to submit the tender on behalf of the company and shall be accompanied by certified copies of the resolution, extracts of articles of association, special or general power of attorney and other information to show clearly the title authority and designation of persons signing the tender on behalf of the company.

### **Validity of tender**

If the tender submitted does not contain all the relevant information or needs clarification on the information furnished and the tenderer is requested to supplement the information or submit clarification, the aforesaid validity period of seventy five days shall be deemed to commence from the date of receipt of the information and clarification called for. Every tenderer is therefore requested to furnish all the relevant information to make the tender complete so as to avoid undue delay in finalization of offers.

Every tenderer shall be deemed to have agreed as aforesaid in consideration of the tender being considered by the purchaser in terms here of, provided the same has been duly submitted and found to be in order. If the tenderer be notified in writing at the address given in the tender within the said period of three months that has been accepted, he shall be bound by the terms of agreement constituted by his tender and such acceptance thereof by the purchaser until a written contract has been executed in place of such agreement.

The tenderer whose tender has been accepted and so notified shall become the **“Successful Tenderer”**.

### **Qualification Criteria**

Tenderer's fulfilling the following criteria shall only be considered as technically qualified.  
Price bids of only Qualified bidders shall be opened: -

- (1) A tenderer shall produce annual turnover on works of the individual/firm/company from Chartered Accountant as per returns filed with Income Tax Department for the past 3 (three)

financial years. Average Annual financial turnover during the last 3 (three) financial years, should be at least 30% of the estimated cost.

- (2) The Contractor should also have completed job of similar nature in last seven year as under:
  - (a) One Work Order/Job of similar nature, value not less than **80% of Estimated Cost.**
  - (b) Two Work Orders/Jobs of similar nature, value not less than **50% of Estimated Cost.**
  - (c) Three Work Orders/Jobs of similar nature, value not less than **40% of Estimated Cost.**
- (3) Tenderers should enclose relevant documents (copy of Work order, Completion certificate etc.) in support of their credential to justify their qualification as mentioned above in the technical part of the offer.
- (4) The intending tenderer shall have to produce documentary evidence to prove their past experience, capabilities, proven track record and financial resources to do such type of work.

## SECTION - VIII

---

### ANNEXURES

---

ANNEXURE - I	FORMAT FOR CONTRACT AGREEMENT
ANNEXURE - II	FORMAT FOR PERFORMANCE BANK GUARANTEE
ANNEXURE - III	FORMAT FOR MOBILIZATION ADVANCE PAYMENT BANK GUARANTEE
ANNEXURE - IV	FORMAT FOR INDENTURE FOR SECURED ADVANCES
ANNEXURE - V	FORMAT OF BANK GUARANTEE FOR EMD
ANNEXURE - VI	FORMAT FOR SEEKING EXTENSION OF TIME
ANNEXURE - VII	FORMAT OF GUARANTEE BOND /AFFIDAVIT FOR WORKS
ANNEXURE - VIII	CONTRACT FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF WATER PROOFING WORKS
ANNEXURE - IX	FORMAT FOR GUARANTEE BONDS FOR ANTI-TERMITE TREATMENT
ANNEXURE - X	SAFETY CODES
ANNEXURE - XI	MODEL RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS EMPLOYED BY CONTRACTORS
ANNEXURE - XII	CONTRACTOR'S LABOUR REGULATIONS
ANNEXURE - XIII	NO CLAIM CERTIFICATE

**ANNEXURE-I**

**(Format for “Contract” to be signed on Non-Judicial Stamp Paper of Rs. 100 by successful bidder)**

**CONTRACT AGREEMENT**

This Contract made on the \_\_\_\_ day of \_\_\_\_ 20\_\_\_\_ between WAPCOS Limited, a Company in corporate under Indian Company’s Act and having its registered office at 5<sup>th</sup> floor, Kailash Building, 26, K. G. Marg, New Delhi (hereinafter called “WAPCOS” of the one part) and (Name of Contractor Firm & Address)\_\_\_\_\_ (hereinafter called “Contractor” of the other part).

WHEREAS the WAPCOS is desirous that Work known as “\_\_\_\_\_”. (Herein after referred to as “Work/ Project”) under the Tender no. \_\_\_\_\_ dated \_\_\_\_\_ should be executed by the Contractor AND WHEREAS by a Letter of Award No. \_\_\_\_\_ dated \_\_\_\_\_ issued by WAPCOS Limited and accepted by the contractor. WAPCOS Limited has accepted a Bid submitted by the Contractor for the execution and completion of such Work AND WHEREAS the Contractor has agreed to undertake such Work and furnish a Performance Security \_\_\_\_\_ (details) pursuant to Tender conditions.

NOW THIS AGREEMENT WITNESSETH as follows;

In this Contract words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.

The following documents shall be deemed to form and be read and construed as part of this Contract, viz;

- a) Tender Document no. \_\_\_\_\_ dtd. \_\_\_\_\_
- b) Letter of Award to Contractor by WAPCOS
- c) Documents furnished by the Contractor during Bidding process
- d) Corrigendum/Amendments, if any
- e) Clarifications / Correspondences, if any
- f) Any other documents as forming part of the contract

1. The aforesaid documents shall be taken as complementary and mutually explanatory of one another.
2. In consideration of the payment to be made by WAPCOS to the Contractor as indicated in this Contract, the Contractor hereby covenants with WAPCOS to execute and complete the Works in conformity, in all respects, with the provisions of the Contract.
3. WAPCOS hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein the Contract Price or such other sum as may become payable under the provisions of the contract at the time and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with Laws of India on the day, month & year indicated above.

**SIGNED, SEALED AND DELIVERED**

For and on behalf of the WAPCOS

For and on behalf of the Contractor

NAME \_\_\_\_\_  
Designation

NAME \_\_\_\_\_  
Designation

**in the presence of witness:**

**in the presence of Witness**

1 \_\_\_\_\_

1 \_\_\_\_\_

2 \_\_\_\_\_

2 \_\_\_\_\_

**NOTE: Contractor shall submit the Original Power of Attorney on Non-Judicial Stamp Paper for this particular Work / Project, in the name of Person who will sign the Contract with WAPCOS after award of Work.**

**Annexure – II****(To be submitted on non-judicial stamp paper of Rs. 100)****FORMAT FOR PERFORMANCE BANK GUARANTEE**

To,  
**The WAPCOS Limited,**  
**76-C, Sector 18, Institutional Area**  
**Gurugram, 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 / Project**" (hereinafter called "the contract") and the Contractor having agreed to provide a Contract Performance Security for the faithful performance of the entire contract equivalent to Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) (5% 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.

**Authorized Signatory of ..... Bank**

**Signature**

**Signature**

**Name.....**

**Name.....**

**Signature Code/ S.S no. ....**

**Signature Code/ S.S no.**

.....



**ANNEXURE – III****(To be submitted on non-judicial stamp paper of Rs. 100)****FORMAT FOR MOBILIZATION ADVANCE PAYMENT BANK GUARANTEE**

To,  
**The WAPCOS Limited,**  
**76-C, Sector 18, Institutional Area**  
**Gurugram, Haryana-122015**

In consideration of WAPCOS LTD. (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) with its Registered /Head Office at \_\_\_\_\_ (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 \_\_\_\_\_ (hereinafter called “the contract”) and the Employer having agreed to make an advance payment to the Contractor for performance of the above Contract amounting to Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) as an advance against bank guarantee to be furnished by the Contractor.

We, \_\_\_\_\_ (name & address of bank) having its Head Office at \_\_\_\_\_ (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 immediately 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. 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. We agree that the Guarantee herein contained shall be irrevocable and shall continue to be enforceable till the Employer discharges this guarantee. We further agree that no change in the constitution of the Bank or of the Employer shall affect this 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 vary the advance or 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 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 does hereby certify the genuineness and appropriateness of the Stamp paper and stamp value used for issuing the guarantee. We the said bank does 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 limited to Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) and it shall remain in force upto and including \_\_\_\_\_ and shall be extended from time to time for such period (not exceeding one year), as may be desired by M/s \_\_\_\_\_ on whose behalf 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 months after the validity of the guarantee).**

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

**Authorized Signatory of ..... Bank**

**Signature**

**Signature**

**Name.....**

**Name.....**

**Signature Code/ S.S no. ....**

**Signature Code/ S.S no.**

.....

**ANNEXURE-IV****(On non-judicial stamp paper of Rs. 100 duly attested by Notary / Magistrate)****FORMAT FOR INDENTURE FOR SECURED ADVANCES**

THIS INDENTURE made the..... day of .....20..... BETWEEN ..... (hereinafter called the Contractor which expression shall where the context so admits or implies be deemed to include his executors administrators and assigns) of the one part and the WAPCOS (hereinafter called the WAPCOS which expression shall where the context so admits or implies be deemed to include his successors in office and assigns) of the other part.

WHEREAS by an agreement dated..... (hereinafter called the said agreement) the Contractor has agreed AND WHEREAS the Contractor has applied to the WAPCOS that he may be allowed advances on the security of materials absolutely belonging to him and brought by him to the site of the works the subject of the said agreement for use in the construction of such of the works as he has undertaken to execute at rates fixed for the finished work (inclusive of the cost of materials and labour and other charges) AND WHEREAS the WAPCOS has agreed to advance to the Contractor the sum of Rupees ..... on the security of materials the quantities and other particulars of which are detailed in Accounts of Secured Advances attached to the Running Account Bill for the said works signed by the Contractor on .....and the WAPCOS has reserved to himself the option of making any further advance or advances on the security of other materials brought by the Contractor to the site of the said works. Now THIS INDENTURE WITNESSETH that in pursuance of the said agreement and in consideration of the sum of Rupees .....on or before the execution of these presents paid to the Contractor by the WAPCOS (the receipt whereof the Contractor doth hereby acknowledge) and of such further advances (if any) as may be made to him as aforesaid the Contractor doth hereby covenant and agree with the WAPCOS and declare as follows: -

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

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

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

**SIGNED, SEALED AND DELIVERED**

**For and on behalf of the Contractor**

**For and on behalf of the WAPCOS**

**NAME** \_\_\_\_\_

**NAME**\_\_\_\_\_

**Designation** \_\_\_\_\_

**Designation**\_\_\_\_\_

**in the presence of witness:**

1 \_\_\_\_\_

2 \_\_\_\_\_

**in the presence of Witness**

1 \_\_\_\_\_

2 \_\_\_\_\_

**ANNEXURE-V****(To be submitted on non-judicial stamp paper of Rs. 100)****FORMAT FOR BANK GUARANTEE OF EMD**

To,  
**The WAPCOS Limited,**  
**76-C, Sector 18, Institutional Area**  
**Gurugram, Haryana-122015.**

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).

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

**Authorized Signatory of ..... Bank**

**Signature**

**Signature**

**Name.....**

**Name.....**

**Signature Code/ S.S no. ....**

**Signature Code/ S.S no. ....**

**ANNEXURE-VI****(To be submitted on Contractor's original Letter Head)****FORMAT FOR SEEKING EXTENSION OF TIME**

1. Name of Contractor:
2. Name of work:
3. Agreement No. and Date:
4. Date of commencement of work as per Agreement:
5. Period and Stipulated date of completion as per Agreement:
6. Period for which extension of time already given:

<b>Extension</b>	<b>Period</b>	<b>Reasons Stated earlier for seeking EoT</b>
(a) 1 <sup>st</sup> extension		
(b) 2 <sup>nd</sup> extension		
(c) 3 <sup>rd</sup> extension		
(d) 4 <sup>th</sup> extension		
(e) 5 <sup>th</sup> extension		

9) Reasons for present extension

10) Period for which extension is applied for

It is understood that we will not claim any additional cost due to above extension of time and also understand that WAPCOS have rights to act in accordance with provisions in relevant clauses of Contract Agreement.

Dated.....

**Contractor's Signature and Stamp**

**Annexure – VII**

**(On Rs. 100 non- Judicial Stamp Paper duly attested by Notary / Magistrate and will be signed by the person who sign the Original Agreement)**

**FORMAT FOR GUARANTEE BONDS**

**To Be Executed by Contractor for Structural Stability, Removal of Defects after completion of work**

This Supplementary Agreement made this \_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_ between (Name of Contractor firm & address) \_\_\_\_\_ (hereinafter called the CONTRACTOR / GUARANTOR of the one part) and the WAPCOS LIMITED, 5<sup>th</sup> floor, Kailash Building, 26, K. G. Marg, New Delhi (hereinafter called WAPCOS of the other part) for the Work **“Name of Work / Project”** in respect of Contract Agreement (hereinafter called the “Original Agreement” signed between .....(Name of Contractor firm) and WAPCOS on..... dated .....), whereby the contractor inter alia, under look to render the work in the said contract recited structurally stable workmanship and use of sound materials.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said work will remain structurally stable and guarantee against faulty workmanship, manufacturing defects of materials etc.

NOW THE GUARANTOR hereby guarantee that work executed by him will remain structurally stable, for the minimum life of ten years, to be reckoned from the date of start of Defect Liability Period or Maintenance Period whichever is later, prescribed in the Contract.

The decision of the WAPCOS with regard to nature and cause of defects shall be final. During the period of guarantee the Guarantor shall make good all defects to the satisfaction of the WAPCOS calling upon him to rectify the defects, failing which the work shall be got done by the WAPCOS by some other agencies at the Guarantor's cost and risk. The decision of the WAPCOS as to the cost payable by the Guarantor shall be final and binding.

That if the Guarantor fails to make good all the defects, commits breach thereunder then the guarantor will indemnify the Principal and his successor against all loss, damage cost expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this Supplementary Agreement. As to the amount of loss and / or damage and / or cost incurred by the WAPCOS the decision of the WAPCOS will be final and binding.

IN WITNES WHEREOF those presents have been executed by the GUARANTOR .....(Name and Designation who sign the Original Contract Agreement) on behalf of .....( Name of Contractor Firm) and WAPCOS on the day, month and year first above written.

**SIGNED, SEALED AND DELIVERED**

For and on behalf of the Contractor

NAME \_\_\_\_\_

Designation \_\_\_\_\_

**in the presence of witness:**

1 \_\_\_\_\_

2 \_\_\_\_\_

For and on behalf of the WAPCOS

NAME \_\_\_\_\_

Designation \_\_\_\_\_

**in the presence of Witness**

1 \_\_\_\_\_

2 \_\_\_\_\_



**Annexure – VIII**

**(On Rs. 100 non- Judicial Stamp Paper duly attested by Notary / Magistrate and will be signed by the person who sign the Original Agreement))**

**FORMAT FOR GUARANTEE BONDS****To Be Executed by Contractor for Water Proofing after Completion of Work**

This Supplementary Agreement made this \_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_ between (Name of Contractor firm & address) \_\_\_\_\_ (hereinafter called the CONTRACTOR / GUARANTOR of the one part) and the WAPCOS LIMITED, 5<sup>th</sup> floor, Kailash Building, 26, K. G. Marg, New Delhi (hereinafter called WAPCOS of the other part) for the Work **“Name of Work / Project”** in respect of Contract Agreement (hereinafter called the “Original Agreement” signed between .....(Name of Contractor firm) and WAPCOS on..... dated .....), whereby the contractor inter alia, under look to render the buildings and structures in the contract recited completely water and leak-proof for Toilets, Shower , Under Ground Tank, Roof, Over Head Tank, Basement and any other allied areas of building.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said structures will remain water and leak-proof for **ten years** from the date after the Defect Liability Period or Maintenance Period whichever is later, prescribed in the contract. NOW THE GUARANTOR hereby guarantees that water proofing treatment given by him will render the structures completely leak proof and the minimum life of such water proofing treatment shall be **ten years** to be reckoned from the date after the Defect Liability Period / Maintenance Period whichever is later, prescribed in the contract.

Provided that the Guarantor will not be responsible for the leakage caused by earthquake or structural defects or misuse of roof or alteration and for such purpose:

- a. Misuse of roof shall mean any operation which will damage proofing treatment, like chopping of firewood and things of the same nature which might cause damage to the roof.
- b. Alteration shall mean construction of an additional storey or a part of the roof or construction adjoining to existing roof whereby proofing treatment is removed in parts.
- c. The decision of the Principal Employer with regard to cause of leakage/seepage shall be final.

During this period of guarantee the Guarantor shall make good all defects and in case of any defect being found, render the building water proof to the satisfaction of the Principal Employer at his cost and shall commence the work for the rectification within seven days from the date of issue of the notice from the Principal Employer calling upon him to rectify the defects failing which the work shall be done by the Principal Employer by some other agency at the GUARANTOR's risk and cost. The decision of the Principal Employer as to the cost payable by the Guarantor shall be final and binding. That if Guarantor fails to make good all defects or commits breach there under then the Guarantor will indemnify the principal and his successors against all loss, damage, cost expense otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this Supplementary Agreement. As to the amount of loss and/or damage and/or cost incurred by the Principal Employer the decision of the owner will be final and binding on the parties.

IN WITNES WHEREOF those presents have been executed by the GUARANTOR .....(Name and Designation who sign the Contract) on behalf of .....( Name of Contractor Firm) and Principal Employer on the day, month and year first above written.

**SIGNED, SEALED AND DELIVERED**

For and on behalf of the Contractor	For and on behalf of the Principal Employer/Employer
-------------------------------------	--

NAME \_\_\_\_\_  
Designation

**in the presence of witness:**

1 \_\_\_\_\_  
2 \_\_\_\_\_

NAME \_\_\_\_\_  
Designation

**in the presence of Witness**

1 \_\_\_\_\_  
2 \_\_\_\_\_

**ANNEXURE VIII (a)****FORM OF BANK GUARANTEE BOND FOR WATER PROOFING WORK**

1. In considerable of the .....(Name of Principal Employer) (hereinafter called "The Owner") having agreed to exempt..... (Hereinafter called the said contractor(s)) from the demand, under the terms and conditions of the Agreement No..... dated.....Made between ..... and ..... For the work of..... (hereinafter called "The said Agreement") security deposit for the due fulfillment by the said contractor(s) of the terms & conditions contained in the said Agreements for the work of Anti water proofing work on production of an irrevocable Bank Guarantee for Rs. 10 Lakhs for ten years we ..... (Indicate the name of the bank) (Hereinafter referred to as "the Bank) hereby undertake to pay to the Owner an amount not exceeding Rs. ....(Rupees .....only) on demand by the Owner
2. We..... (indicate the name of the bank) do hereby undertake to pay the amounts due and payable under this Guarantee without any demure, merely on a demand from Principal Employer stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the bank under the Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. ....(Rupees .....only).
3. We..... (indicate the name of the bank) further undertake to pay to Principal Employer any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.  
The payment so made by as under this bond shall be a valid discharge of our liability for payment there under and the contractor(s) shall have no claim against us for making such payment.
4. We..... (indicate the name of the Bank) further agree that the guarantee hereinafter contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of Principal Employer under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Principal Employer certified that the terms and condition of the said agreement have been fully and properly carried out by the said contractor(s) and accordingly discharges this guarantee.
5. We..... (indicate name of the bank) further agree with Principal Employer that Principal Employer shall have the fullest liberty without our consent and without effecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by Principal Employer against the said contractor(s) and to for bear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said contractors(s) or for any bearance, act of commission of the part of Principal Employer or any indulgence by Principal Employer to the said contractor(s) or by any such matter of thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.
6. This guarantee will not be discharged due to the change in the constitution of Bank or the contractor(s).

7. We..... (indicate the name of the Bank) lastly undertake not to revoke this guarantee except with the previous consent of Principal Employer in writing
8. This guarantee shall be valid upto ..... unless extended on demand by Principal Employer. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. ....(Rupees .....only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged

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

**Authorized Signatory of .....**

**Bank**

**Signature**

**Signature**

**Name.....**

**Name.....**

**Signature Code/ S.S no. ....**

**Signature Code/ S.S no. ....**

**Annexure - IX****(On Rs. 100 non- Judicial Stamp Paper duly attested by Notary / Magistrate)****FORMAT FOR GUARANTEE BONDS FOR ANTI-TERMITE TREATMENT**  
**To Be Executed by Contractor for Anti Termite Treatment after Completion of Work**

This Agreement made on this \_\_\_\_ day of \_\_\_\_\_ 20\_\_ between \_\_\_\_\_ (Name of Contractor firm & address) \_\_\_\_\_ (hereinafter called the CONTRACTOR / GUARANTOR of the one part) and the \_\_\_\_\_ (hereinafter called Principal Employer/Employer of the other part) for Anti Termite Treatment Works for **“Name of Work / Project”**

WHEREAS This Agreement is Supplementary, to a Contract (hereinafter called the Contract) Contract no. \_\_\_\_\_ dated \_\_\_\_\_ and made between the \_\_\_\_\_ (Name of Contractor) and WAPCOS LIMITED, 5<sup>th</sup> floor, Kailash Building, 26, K. G. Marg, New Delhi, whereby the contractor, inter alia, undertook to render the wooden work in the said contract recited completely Termite proof.

THE GUARANTOR hereby guarantee that the anti-termite treatment given by him will render the wooden works completely Termite proof and the minimum life of such Anti-Termite treatment shall be five years to be reckoned from the from the date after the Defect Liability Period or Maintenance Period whichever is later, prescribed in the contract.

During the period of guarantee the Guarantor shall make good all defects and in case of any defects being found render the wooden works termite proof to the satisfaction of the Principal Employer at his cost and shall commence the work for such rectification within seven days from the date of issue of notice from the Principal Employer calling upon him to rectify the defects, failing which the work shall be got done by the Principal Employer through some other Agency at the Guarantor's cost and risk. The decision of the Principal Employer as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to execute the Anti-termite works, or commits breach thereunder then the guarantor will indemnify the Principal and his successor against all loss, damage, cost of expenses or otherwise which may be incurred by him by reason of any of any default on the part of the GUARANTOR in performance and observance of this Supplementary Agreement. As to the amount of loss and / or cost incurred by the Principal Employer on the decision of the Principal Employer will be final and binding.

IN WITNES WHEREOF those presents have been executed by the GUARANTOR .....(Name and Designation who sign the Contract) on behalf of .....(Name of Contractor Firm) and Principal Employer on the day, month and year first above written.

**SIGNED, SEALED AND DELIVERED**

<b>For and on behalf of the Contractor</b>	<b>For and on behalf of the Principal Employer/Employer</b>
--	---

NAME \_\_\_\_\_  
Designation \_\_\_\_\_

NAME \_\_\_\_\_  
Designation \_\_\_\_\_

**in the presence of witness:****in the presence of Witness**

1 \_\_\_\_\_

1 \_\_\_\_\_

2 \_\_\_\_\_

2 \_\_\_\_\_

**ANNEXURE - X****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 helmets 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.

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.

**ANNEXURE - XI****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 sterilised dressings.
    - 2) 3 medium size sterilised dressings.
    - 3) 3 large size sterilised dressings.
    - 4) 3 large sterilised burn dressings.
    - 5) 1 (30 ml.) bottle containing a two per cent alcoholic solution of iodine.
    - 6) 1 (30 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.
    - 7) 1 snakebite lancet.
    - 8) 1 (30 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 tablets (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 equipments.
    - 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.) packets 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 tablets (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 metres (10 ft.) from the floor level to the lowest part of the roof. These shall be kept clean and the space provided shall be on the basis of 0.6 sqm (6 sft) per head. Provided that the Engineer-in-Charge may permit subject to his satisfaction, a portion of the building under construction or other alternative accommodation to be used for the purpose.

## **8. CRECHES**

- (i) At every work place, at which 20 or more women worker are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years. One room shall be used as a play room for the children and the other as their bedroom. The rooms shall be constructed with specifications as per clause 19H (ii) a,b & c.
- (ii) The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean.
- (iii) The contractor shall supply adequate number of toys and games in the play room and sufficient number of cots and beddings in the bed room.
- (iv) The contractor shall provide one ayaa to look after the children in the creche when the number of women workers does not exceed 50 and two when the number of women workers exceed 50.
- (v) The use of the rooms earmarked as creches shall be restricted to children, their attendants and mothers of the children.

## 9. CANTEENS

- a. 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.
- b. The canteen shall be maintained by the contractor in an efficient manner.
- c. The canteen shall consist of at least a dining hall, kitchen, storeroom, pantry and washing places separately for workers and utensils.
- d. The canteen shall be sufficiently lighted at all times when any person has access to it.
- e. The floor shall be made of smooth and impervious materials and inside walls shall be limewashed or colour washed at least once in each year.  
Provided that the inside walls of the kitchen shall be lime-washed every four months.
- f. The premises of the canteen shall be maintained in a clean and sanitary condition.
- g. Waste water shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance.
- h. Suitable arrangements shall be made for the collection and disposal of garbage.
- i. The dining hall shall accommodate at a time 30 per cent of the contract labour working at a time.
- j. 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 metre (10 sft) per diner to be accommodated as prescribed in sub-Rule 9.
- k. (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.
- l. Sufficient tables stools, chair or benches shall be available for the number of diners to be accommodated as prescribed in sub-Rule 9.
- m. (a) 1. There shall be provided and maintained sufficient utensils crockery, furniture and any other equipments 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 equipments.
- n. The food stuffs and other items to be served in the canteen shall be in conformity with the normal habits of the contract labour.
- o. 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.
- p. 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.
- q. 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.

**ANNEXURE-XII****Contractor's Labour Regulations****1. GENERAL**

These Labour regulations shall be followed by the Contractor.

**2. DEFINITIONS**

- (i) Workman means any person employed by contractor directly or indirectly through a subcontractor with or without the knowledge of the WAPCOS to do any skilled, semiskilled or unskilled manual, supervisory, technical or clerical work for hire or reward, whether the terms of employment are expressed or implied but does not include any person :-
    - (a) Who is employed mainly in a managerial or administrative capacity: or
    - (b) Who, being employed in a supervisory capacity draws wages exceeding five hundred rupees per mensem or exercises either by the nature of the duties attached to the office or by reason of powers vested in him, functions mainly of managerial nature: or
    - (c) Who is an out worker, that is to say, person to whom any article or materials are given out by or on behalf of the Employer/ Principal Employers to be made up cleaned, washed, altered, ornamental finished, repaired adopted or otherwise processed for sale for the purpose of the trade or business of the Employer/ Principal Employers and the process is to be carried out either in the home of the out worker or in some other premises, not being premises under the control and management of the principal employer.
  - (i) No person below the age of 14 years shall be employed to act as a workman.
  - (ii) Fair Wages means wages whether for time or piece work fixed and notified under the provisions of the Minimum Wages Act from time to time.
  - (iii) Contractors shall include every person who undertakes to produce a given result other than a mere supply of goods or articles of manufacture through contract labour or who supplies contract labour for any work and includes a subcontractor.
  - (iv) Wages shall have the same meaning as defined in the Payment of Wages Act.
3. (i) Normally working hours of an adult employee should not exceed 9 hours a day. The working day shall be so arranged that inclusive of interval for rest, if any, it shall not spread over more than 12 hours on any day.
- (ii) When an adult worker is made to work for more than 9 hours on any day or for more than 48 hours in any week, he shall be paid over time for the extra hours put in by him at double the ordinary rate of wages.
  - (iii) Every worker shall be given a weekly holiday normally on a Sunday, in accordance with the provisions of the Minimum Wages (Central) Rules 1960 as amended from time to time irrespective of whether such worker is governed by the Minimum Wages Act or not.
  - (iv) Where the minimum wages prescribed by the Government under the Minimum Wages Act are not inclusive of the wages for the weekly day of rest, the worker shall be entitled to rest day wages at the rate applicable to the next preceding day,
  - (iv) provided he has worked under the same contractor for a continuous period of not less than 6 days.



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

**4. DISPLAY OF NOTICE REGARDING WAGES ETC.**

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

**5. PAYMENT OF WAGES**

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

**6. FINES AND DEDUCTIONS WHICH MAY BE MADE FROM WAGES**

- i) The wages of a worker shall be paid to him without any deduction of any kind except the following:-
  - a. Fines
  - b. Deductions for absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.

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

## 7. LABOUR RECORDS

- i) The contractor shall maintain a Register of persons employed on work on contract in Form XIII of the CL (R&A) Central Rules 1971 (Appendix IV)
- ii) The contractor shall maintain a Muster Roll register in respect of all workmen employed by him on the work under Contract in Form XVI of the CL (R&A) Rules 1971 (Appendix V).
- iii) The contractor shall maintain a Wage Register in respect of all workmen employed by him on the work under contract in Form XVII of the CL (R&A) Rules 1971 (Appendix VI).
- iv) Register of accident - The contractor shall maintain a register of accidents in such form as may be convenient at the work place but the same shall include the following particulars:
  - a. Full particulars of the labourers who met with accident.
  - b. Rate of Wages.
  - c. Sex
  - d. Age
  - e. Nature of accident and cause of accident.
  - f. Time and date of accident.
  - g. Date and time when admitted in Hospital,
  - h. Date of discharge from the Hospital.
  - i. Period of treatment and result of treatment.
  - j. Percentage of loss of earning capacity and disability as assessed by Medical Officer.
  - k. Claim required to be paid under Workmen's Compensation Act.
  - l. Date of payment of compensation.
  - m. Amount paid with details of the person to whom the same was paid.
  - n. Authority by whom the compensation was assessed.
  - o. Remarks
- v) The contractor shall maintain a Register of Fines in the Form XII of the CL (R&A) Rules 1971 (Appendix-XI) The contractor shall display in a good condition and in a conspicuous place of work the approved list of acts and omissions for which fines can be imposed (Appendix-X)

- vi) The contractor shall maintain a Register of deductions for damage or loss in Form XX of the CL (R&A) Rules 1971 (Appendix-XII)
- vii) The contractor shall maintain a Register of Advances in Form XXIII of the CL (R&A) Rules 1971 (Appendix-XIII)
- viii) The contractor shall maintain a Register of Overtime in Form XXIII of the CL (R&A) Rules 1971 (Appendix-XIV)

**8. ATTENDANCE CARD-CUM-WAGE SLIP**

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

**9. EMPLOYMENT CARD**

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

**10. SERVICE CERTIFICATE**

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

**11. PRESERVATION OF LABOUR RECORDS**

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

**12. POWER OF LABOUR OFFICER TO MAKE INVESTIGATIONS OR ENQUIRY**

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

**13. REPORT OF LABOUR OFFICER**

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

- (i) The Engineer-in-charge shall arrange payments to the labour concerned within 45 days from the receipt of the report from the Labour Officer as the case may be.

**14. APPEAL AGAINST THE DECISION OF LABOUR OFFICER**

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

**15. PROHIBITION REGARDING REPRESENTATION THROUGH LAWYER**

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

**16. INSPECTION OF BOOKS AND SLIPS**

The contractor shall allow inspection of all the prescribed labour records to any of his workers or to his agent at a convenient time and place after due notice is received or to the Labour Officer or any other person, authorised by the Central Government on his behalf.

**17. SUBMISSIONS OF RETURNS**

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

**18. AMENDMENTS**

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

**NOTE: APPENDICES** mentioned in above “Contractor’s Labour Regulation” will be as per the General Conditions of Contract-2020 – Construction Works of CPWD.

**ANNEXURE - XIII****NO CLAIM CERTIFICATE****Address to :****The Engineer- in-Charge  
WAPCOS Ltd.,****Sub: "Name of work / Project": Reg. No Claim Certificate****Ref: 1. Work Order no.:-****2. Contract Agreement no.:-**

Sir,

We have submitted -----nos. of bills including final bill total gross amounting for the subjected project of Rs. -----/- (Rupees ----- only).

However, following payment are due with Employer:

1. Balance Net amount (if any) of Rs. -----/- against RA Bill No.-----
2. Balance GST (if any) of Rs. -----/- against RA Bill No.-----
3. Performance Guarantee no. -----dated ----- amounting to Rs.-----  
-----/- issued by -----Bank which will be released by Employer as per tender conditions.
4. Security Deposit amounting to Rs.-----/- which will be released by Employer as per tender conditions

We declare unequivocally that the above payments are full and final amount for execution of subjected works against referred Contract Agreement with WAPCOS. We will not raise any further claim and have no dispute of any description whatsoever, regarding the amounts worked out as payable to us and that we shall continue to be bound by the terms and conditions of the Contract Agreement, as regards Performance of the Contract.

Yours faithfully,

Date:

(Signature, name and designation  
of the Authorized signatory)

Place:

**Name and seal of Bidder**

## **SECTION - IX**

---

### **SCOPE OF WORK & TECHNICAL SPECIFICATIONS**

---

## **SECTION IX**

### **SCOPE OF WORK**

The Scope of SITC of Flood Light Work shall be as per given below and any other item/items as per site requirement which is not covered under the above lists but as per the directions of the Engineer- In-Charge.

Tenderers are advised to see the area to get acquainted with the actual features of the land, area, location, etc. where work is to be executed and get other related information before quoting their rates for carrying out the work successfully.

#### **GENERAL COMMERCIAL & TECHNICAL CONDITIONS:**

**1.0** All the relevant electrical works shall be carried out as per CPWD General specification for Electrical Works, Part-I (Internal) 2013 & Part-II (External) 1994, amended up to date and should also comply with relevant provisions of the Indian Electricity Rules and Acts as applicable, amended up to date.

**2.0** The contractor is advised to visit the site of work to have an idea of the execution of the work; failure to do so shall not absolve their responsibility to do the work as specified in agreement.

#### **3.0 Completeness of Tender:**

All sundry fittings, assemblies, accessories, hardware items, foundation bolts, termination lugs for electrical connections as required, and all other sundry items which are useful and necessary for proper assembly and efficient working of the various components of the work shall be deemed to have been included in the tender, whether such items are specifically mentioned in the tender documents or not.

#### **4.0 Storage and Custody of Materials:**

The contractor has to make his own arrangement for the storage of the material at site & necessary watch and ward of the electrical installation during the execution of work till the same is handed over to the department. No extra payment will be made on this account. The storage space shall however be arranged by the department at site, if available.

The main contractor shall arrange for proper storage of the electrical fittings at site and that double lock system shall be arranged for the fittings after receipt at site until the time they are taken for installation. The contractor shall however be responsible for proper storage and safe custody of the same till their installation and handing over to the department.

#### **5.0 Tools for handling and Erecting:**

All tools and tackles required for handling of equipment's and materials at site of work as well as for their assembly and erection and also necessary test instruments shall be the responsibility of the contractor.

#### **6.0 General requirements of components:**

**6.1. Quality of material:** All materials and equipment's supplied by the contractor shall be new. They shall be of such design, size and materials as to satisfactorily function under the rated conditions of operation and to withstand the environmental conditions at site.

#### **7.0 Ratings of components:**

**7.1.** All components in an electrical installation shall be of appropriate ratings of voltage, current and frequency, as required at the respective sections of the electrical installations in which they are used.

7.2. All conductors, switches and accessories shall be of such size as to be capable of carrying the maximum current, which will normally flow through them, without their respective ratings being exceeded.

#### **8.0 Conformity to standards:**

8.1. All components shall conform to relevant Indian Standard Specifications wherever existing. Materials with ISI certification mark shall be preferred.

8.2. Relevant Indian Standards including amendments or revisions thereof up to the date of tender acceptance shall be applicable in the respective contracts for respective items, firm to ensure its compliance.

#### **9.0 Workmanship:**

9.1. Good workmanship is an essential requirement to be complied with. The entire work of manufacture/fabrication, assembly and installation shall conform to sound engineering practice.

9.2. Proper supervision/skilled workmen: The contractor shall be a licensed electrical contractor of appropriate class suitable for execution of the electrical work. He shall engage suitably skilled/licensed workmen of various categories for execution of work supervised by supervisors / Engineer of appropriate qualification and experience to ensure proper execution of work. They will carry out instruction of Engineer-in-charge and other senior officers of the Department during the progress of work.

9.3. Use of quality materials: Only quality materials of reputed make as specified in the tender will be used in work.

#### **10.0 Commissioning on completion:**

After the work is completed, it shall be ensured that the installation is tested and commissioned.

#### **11.0 Guarantee**

The installation will be handed over to the department after necessary testing and commissioning. The installation will be guaranteed against any defective design/workmanship. Similarly, the materials supplied by the contractor will be warranted against any manufacturing defect, inferior quality. The guarantee period will be for a period of 36 months from the date of handing over to the department. Installation/ equipment's or components thereof shall be rectified/ repaired to the satisfaction of the Engineer-in-charge. The firm will be required to submit guarantee of material from the manufacturer to the department. The Guarantee/Defect Liability Period shall commence from the date of issue of the Taking Over Certificate or Completion Certificate whichever is later. The Guarantee/Defect Liability Period shall be provided as per the manufacturer norms or 36 months whichever is more. When the items is under Guarantee/Defect Liability Period, it shall be the sole responsibility of the Contractor/Supplier to rectify defect of items, spare parts, replacement items as deemed necessary by the Employer/Owner and install the same without any cost implications to Employer/ Owner. In case of manufacturing defects repair and maintenance of product during guarantee period will not be accepted and the same should be replaced with new item/items with same specification or higher specification without any cost.



**Design Document & Technical specifications for Sports  
Lighting for Upper Cricket Ground in campus IIT ISM  
Dhanbad India**

**(CLASS II Non-Televised Level 500 Lux)**

**(High mast, Man rider, Foundation, Sports LED flood Light Fixture, Mast  
Rider Panel, Mast Lighting Panel, Earthing etc)**

### **Introduction:**

This document outlines the comprehensive technical specifications governing the design, fabrication/manufacturing, transportation, loading/unloading, supply, installation, testing, commissioning, and handover procedures for the High Mast Installation equipped with LED sports lighting, dedicated to the Upper Cricket Ground at the esteemed campus of the Indian Institute of Technology (IIT) ISM Dhanbad.

Prepared with meticulous attention to detail and adherence to industry standards, these specifications aim to ensure the seamless integration of cutting-edge lighting infrastructure to enhance the sporting experience and safety within the designated area. From conceptualization to implementation, each phase of this project is meticulously detailed to achieve optimal performance, durability, and sustainability.

By delineating precise requirements and procedures, this document serves as a guiding framework for all stakeholders involved, including designers, manufacturers, transporters, installers, testers, and commissioning Successful Bidder/Contractor, fostering clarity, accountability, and quality assurance throughout the project lifecycle.

Through rigorous adherence to these technical specifications, the HI Mast Installation with LED sports lighting promises to illuminate the Upper Cricket Ground at IIT Dhanbad, not just with vibrant light but with excellence in design, engineering, and execution.

### **Shop Drawings:**

The contractor shall prepare and submit to the Construction Manager/Consultants for his approval six (6) sets of detailed layout drawings of all High-Mast & LED Sports Flood Lights and Electrical Works equipment's and piping layouts.

He shall prepare shop drawings incorporating the details given by manufacturers for the items included in his contract and also Client supplied items and any other items which need to be coordinated with other contractors for interfacing.

Before starting the work, the contractor shall submit to the Construction Manager/Consultants for his approval in the prescribed manner, the shop/execution drawings for the entire installation.

The Construction Manager/Consultants reserves the right to alter or modify these drawings if they are found to be insufficient or not complying with the established technical standards or if they do not offer the most satisfactory performance or accessibility for maintenance. Contractor shall supply in eight (8) sets of all approved shop drawings for execution.

**Shop drawings shall be submitted under the following conditions:**

- Large scale drawings showing fixing detail equipment and showing coordination with other services.
- Showing any change in layout in the High-Mast & LED Sports Flood Lights and Electrical Works drawings.
- Equipment layout, Panel, DWC piping, LT cabling and wiring/control diagram.
- Manufacturers or Contractor's fabrication drawings for any materials or equipment supplied by him.
- No work will be carried out without approval of shop drawings by the Engineer-In charge.

**"AS BUILT" DRAWINGS:**

At the completion of work and before issuance of certificate of completion the contractor shall submit eight (8) sets to the Construction Manager/Consultants, layout drawing drawn at appropriate scale indicating the complete High-Mast & LED Sports Flood Lights and Electrical Works drawings system "as installed" and the same shall be approved by the Consultants before handing over to the Client.

**Instruction/Maintenance Manual:**

The Contractor shall prepare and produce instruction, operation and maintenance manuals in English for the use, operation and the maintenance of the supplied equipment and installations and submit to the Construction Manager/Consultants in (8) copies at the time of handing over. The manual shall generally consist of the following:

- Description of the project.
- Operating instructions.
- Maintenance instructions including procedures for preventive maintenance.
- Manufacturers catalogues.
- Spare parts list.
- Trouble shooting charts.
- Drawings.
- Type and routine test certificates of major items.
- One (1) set of reproducible 'as built' drawings.
- Completion Certificate:

On completion of the High-Mast & LED Sports Flood Lights and Electrical Works installation a certificate shall be furnished by the contractor countersigned by the licensed supervisor, under whose direct supervision the installation was carried out. This certificate shall be in the prescribed form as required by the local supply authority. The contractor shall be responsible for getting the High-Mast & LED Sports Flood Lights and Electrical Works installation inspected and approved by the local concerned authorities and for obtaining the necessary clearance certificates from the authorities.



**Guarantee:**

At the close of the work and before issuance of final certificate of completion by the Construction Engineer-In Charge, the contractor shall furnish written guarantee indemnifying the Client against defective materials and workmanship for a period of one year and as per tender Criteria mentioned Defect Liability period after completion. The contractor shall hold himself fully responsible for reinstallation or replacement, free of cost to Client, the following:

- Any defective work or material supplied by the Contractor.
- Any material or equipment supplied by the Client which is damaged or destroyed as a result of defective workmanship by the contractor.
- Any material or equipment damaged or destroyed as a result of defective workmanship by the contractor.

**Staff:**

The contractor shall employ competent fully licensed qualified, full time High-Mast & LED Sports Flood Lights and Electrical Works engineers to direct the work of High-Mast & LED Sports Flood Lights and Electrical Works installation in accordance with the drawings and specifications.

The engineers shall be always available at site to receive instructions from the Construction Manager., in the day-to-day activities throughout the duration of contract. The engineer shall correlate the progress of the work in conjunction with all the relevant requirements of the supply authority.

**Safety Barriers and Construction Safety:**

The Contractor shall at his own cost provide for the protection and safety of the persons working in the area, safety barriers around all openings in every location and at the periphery and edges of all slabs, staircases and stairwells, lift shafts, ducts etc., all to the approval and satisfaction of the Construction Manager. However, the contractor shall take appropriate safety precautions suitable for specific locations/ situations and as instructed by the Construction Managers.

The Contractor shall, in general, be fully responsible for all matters with regard to every form of safety during construction and in connection with the execution of the Works, and the Contractor shall take all necessary precautions and provide at his cost everything necessary to ensure such safety at all times. Should any accidents occur due to the Contractor's failure to comply with such safety requirements and to take all other safety measures necessary, the Contractor shall be fully responsible for all such accidents, and he shall bear and pay for all costs and damages in connection therewith and as a consequence thereof.

**Disposal Of Rubbish from The Works and The Site and Provision of Safety Netting/Screens By Contractor:**

The Contractor shall at all times keep the Works and the site in clean, neat and tidy condition. All rubbish from the Works and the site shall be collected and deposited in large bins provided on the site for such purposes by the Contractor at his own cost. The rubbish from such bins shall be regularly carted away by the Contractor to rubbish tips and dump yards beyond the site.

At no time or stage shall any rubbish be thrown over the edges of slabs or through any openings or shafts or ducts or stairwells.

The Contractor shall, at his own cost and to the approval and satisfaction of the Construction Manager, provide safety netting/screens at the periphery of all slabs and at all openings, shafts, ducts and stairwells and/or canopies to prevent any rubbish or material falling over or into such areas and endangering the safety of the persons working below. Should the Contractor fail to provide such safety measures and to take other necessary precautions in accidents that may occur, he shall bear all costs and damages as decided by the Construction Manager in connection therewith and as a consequence thereof.

The Construction Manager shall have powers to withhold amounts from payment certificates in case of Contractor's persistent noncompliance with provisions of this clause. Also the construction Manager is empowered to employ another agency at Contractor's cost after one week's notice to implement this Clause in case of Contractor's noncompliance with provisions of this Clause.

#### **Space For Contractor's Construction Yard, Stores Etc.:**

The Client shall provide adequate storage/office space to the contractor for his use. However, if space not available contractor should make provisions for his Material storage/office space required Portacabins to be procured by contractor. The space has to be maintained/constructed by the contractor as per his usage requirements.

All spaces allotted to the contractor, as described above shall be vacated and all structures removed from site at any time as and when required and directed by the relevant authorities or by the Client, unconditionally and without any reservation. The authorities or the Client will not be obliged to give any reason for such removal. Upon receiving instructions to vacate the space, the contractor shall immediately remove all his structures, materials, etc., from the spaces and clear and clean up the site to the satisfaction of the Construction Manager.

It shall be the specific responsibility of the Contractor to safeguard the site and ensure that no illegal encroachments are made by outside elements within the area allotted to the Contractor. Upon completion of the work or earlier as required by Client/Authorities, the Contractor shall vacate the land totally without any reservations. The necessary Bond to this effect on a stamp paper shall be signed by the contractor in a prescribed form.

The Performance Bond and/or guarantees towards retention amount furnished by the Contractor shall not be released until the spaces allotted to the contractor are fully vacated and handed over to the Client as per the instructions of the Client.

#### **Carrying Out Work Beyond Normal Working Hours Or In Shifts**

In order to achieve the milestone and completion dates and to keep pace with the approved construction programme, the Contractor shall be permitted to carry out his work beyond the normal working hours or in shifts. The Contractor shall be responsible for obtaining any necessary permission from the relevant authorities that may be required for him to carry out the work beyond the normal working hours or in shifts. Also, the Contractor shall give prior



notice to and make arrangements with the Construction Manager for the supervision of work carried out beyond the normal working hours or in shifts. The Contractor shall make his own arrangements in respect of the provision of adequate lighting and any other facilities that may be required for carrying out the work beyond the normal working hours or in shifts. No extra payments shall be made to the Contractor for or in connection with any such overtime or shift work. The Contractor will not be required to bear the overtime expenses of the Construction Manager in respect of the supervision of such overtime or shift work of the Contractor.

**Period And Time Limit for Completion of Works:**

The period and time limit for Completion of the Works shall be as per client's requirement from the date of issue of Work Order to commence works or handing over of site in respect of the award of Contract. This time period shall be inclusive of the mobilization period and monsoon period.

**Professional Integrity and Team Spirit:**

It is the intent of the Client, Architect / Engineer In charge and Construction Manager that this project will be executed in a spirit of team and full professional integrity. The contractor is expected to cooperate with all the agencies involved in the project to fulfil this objective.

**List Of Approved Makes:**

Unless otherwise specified and expressly approved in writing by the Engineer in Charge/only material of makes and specifications as mentioned in the list of approved makes attached with the specification shall be used.

The contractor shall clearly indicate the list of materials proposed to be used by him & enclose the same with the tender.

On Instruction of Engineer in Charge the Contractor shall submit samples of materials proposed to be used in the works. Approved samples shall be kept in the office of the Engineer in Charge and returned to the Contractor at the appropriate time.

Before procurement, Contractor will discuss with Client for preferred makes.

Water and electricity shall be supplied at one point.

**Reference Points:**

Contractor shall provide permanent benchmarks, flag tops and other reference points for the proper execution of works and these shall be preserved till the end of the work.

All such reference points shall be in relation to the levels and locations, given in the architectural and High-Mast & LED Sports Flood Lights and Electrical Works drawing.

**Reference Drawings:**

The Contractor shall maintain one set of all drawings issued to him as reference drawings. These shall not be used on Site. All-important drawings shall be mounted on boards and placed in racks indexed, no drawings shall be rolled.

All correction, deviations and changes made on the site shall be shown on these reference drawings for final incorporation in the completion drawings. All changes to be made shall be initiated by Engineer in Charge or Architect.

Vendor shall prepare Shop Drawings with all details after checking the feasibility at Site which shall be approved by the Consultants before execution. No work will be carried out without approval of Shop drawing by the Consultant.

### **Handing Over:**

Contractor will be responsible for following:

Entire System shall be commissioned and tested as per design parameter in coordination with Client & consultant.

Complete certificate has to be obtained from the consultant to certify the quality of work and performance of the system.

Contractor has to hand over 4 sets of as Built Drawings, LUX Level Report Physically measured at site on grid Marking standards duly approved by consultants along with 2 soft copy in CD's.

Contractor has to handover operator manual of the system with catalogue and Technical Data of equipment supplied.

### **Applicable Standards & Guidelines:**

The work shall be executed on Design, Fabrication/Manufacture, Supply, Installation, testing commissioning & handing over basis of E & M services.

- Material and method of construction of the electrical installation works carried out as per CPWD/DSR shall be conforming to below mentioned standards and specifications.
- Guide to the Artificial Lighting of Indoor & Outdoor Sports venue.
- General Association of International Sports Federation. (amended up to date)
- Sports Authority of India (SAI) (amended up to date)
- Relevant standards from Bureau of Indian Standards (BIS) / International Electrotechnical Commission (IEC) (amended up to date)
- Central Electricity Authority (Measures relating to Safety and electric Supply) Regulations 2010 (amended up to date) (amended up to date)
- General Specifications for Electrical Works (Part-I) Internal Work-2023, CPWD Amended & Latest revision. (amended up to date)
- General Specifications for Electrical Works (Part-II) External – 2023 CPWD & Latest revision (amended up to date)
- General Specifications for Electrical Works (Part-III) LIFTS & Escalators –2003 CPWD & Amendment No. 1 Latest revision. (amended up to date)
- National Electrical Code 2023 (amended up to date).
- National Building Code 2016 (amended up to date)
- RoHS compliant products shall be preferred.
- Material used on government installations will be liable for testing from Central / State Government test laboratory / Regional test laboratories/ Government approved NABL accredited laboratory for confirmation of the relevant parameters.



- ISI marked material shall be used for execution of the works. If the same is not available, then the material which is in the list of materials approved by Superintending Engineer or Electrical Engineer IIT Dhanbad, shall be used in its place. Substandard material shall not be used in any case on Government installations.

#### Relevant IS standards.

Sr No	IS standards
A	IS: 732 – 1989 Code of Practice for Electrical wiring installations.
B	IS: 4648 – 1968 Guide for Electrical layout in residential buildings
C	IS: 80614 – 1976 Code of Practice for Design, installation, and maintenance of service lines up to and including 650V.
D	IS: 7752 (Part-1) – 1976 Code of Practice for interior illumination: General requirements and Recommendations for welding interiors.
E	IS: 4347 – 1967 Code of Practice for hospital lighting
F	IS: 6665 – 1972 Code of Practice for industrial lighting
G	IS: 2672 – 1966 Code of Practice for Library lighting
H	IS: 10118 (Part-1) – 1982 Code of Practice for selection, installation and maintenance of switcher and Control gear: Installation.
I	IS: 4146 – 1983 Application guide for voltage transformers.
J	IS: 3043 – 1987 Code of practice for earthing.
K	IS: 5216 (Part-2) – 1982 Guide for safety procedures and practices in electrical work General.
L	IS: 4237 – 1982 General requirements for switchgear and control gear for voltages not exceeding 1000 V AC or 1200 V DC.
M	IS: 6875 - (Part-1) – 1973 Control switches (Switching devices for control and auxiliary circuits including. 1000 V AC and 1200 V DC: General requirements and tests.
N	IS: 10027 – 2000 Composite units of Air-Break switches and rewirable type fuses for voltages not exceeding 650 V AC.
O	IS: 4064 (Part-1) – 1978 Composite units of Air-Break disconnecter, Air-Break switch disconnecter and fuse- combination units for voltages not exceeding 1000 V AC or 120 V DC: General requirements.
P	IS: 8828 – 1996 Electrical accessories - circuit breakers for over current protection for household and similar installation.
Q	IS: 2516 (Part-1/Sec01)- 1985 Circuit-Breaks: Requirements and tests : Voltages not exceeding 100 V AC or 1200V DC.
R	IS: 5039 – 1983 Distribution pillars for Voltages not exceeding 1000 V AC or 1200 V DC.
S	IS: 8544 (Part-4) – 1979 Motor starters for voltages not exceeding 1000 V : Reduced voltage AC starters, two- step auto transformer starters.
T	IS: 9537 (Part-1) - 1980 Conduits for electrical installations General requirements
U	IS: 9537 (Part-4) – 1983 Conduits for electrical installations: Pliable self-recovering conduits of insulating materials.
V	IS: 3854 – 1997 Switches for domestic and similar purposes.



W	IS: 1293 – 1988 Plugs and sockets outlets of rated voltage up to and including 250 Volts and current up to and including 16 Amperes.
X	IS: 2418 (Part-1) – 1977 Tubular Fluorescent lamps for general lighting services: Requirements and tests.
Y	IS: 9900 (Part-1) – 1981 High pressure mercury vapor lamps: Requirements and tests.
Z	IS: 1913 (Part-1) – 1978 General and safety requirements for luminaires: Tubular fluorescent lamps.
AA	IS: 10322 (Part-1) – 1982 Luminaires: General requirements
AB	IS:3975-1990 Code for Number of Strips in armouring construction.
AC	IS: 7098/II/85 XLPE insulated HT & AB Cables. For working voltage 6.35/11KV.
AD	IS:14255-1995 Code for Aerial Bunched Cables. For working voltage upto 1.1KV.
AE	IS:13573/VDE 0278/IEC 60502/HD 629.1.S2 CENELEC Code of Type tests for HT termination jointing kit.
AF	IS 7569:1987 Cast Acrylic Sheets for use in Luminaires
AG	IS 8030:1976 Specifications for Luminaires for Hospitals
AH	IS 10242: Part 3: Sec 6: 1986 Electrical installations in ships: Part 3 Equipment, Section 6 Luminaires & accessories
AI	IS 10322: Part 2 1982 Specification for Luminaires - Part 2: Constructional Requirements
AJ	IS 10322: Part 3 1984 Specification for Luminaires - Part 3: Screw & Screw Less Terminals
AK	IS 10322: Part 4 1984 Specification for Luminaires - Part 4: Method of Tests
AL	IS 10322: Part 5: Sec 1: 2012 Luminaires: Part 5particulars requirements, Sec 1 General Purpose Luminaires
AM	IS 10322: Part 5: Sec2: 2012 Specifications for Luminaires - Part 5 : Particular Requirements - Section 2: Recessed Luminaires
AN	IS 10322: Part 5: Sec4: 1987 Luminaires: Part 5 Particulars requirements, Section 4 Portable general- purpose luminaires
AO	IS 13383: Part 1 : 1992 Photometry of Luminaires - Method of Measurement - Part 1: Luminaires for use in interior Lighting
AP	IS 13383: Part 2 : 1992 Methods of Photometry of luminaires: Part 2 Luminaires for road & street lighting
AQ	IS 13383: Part 3 : 1992 Photometry of Luminaires - Method of Measurement - Part 3: Luminaires for Floodlighting
AR	BSEN 10025 Grade 5, 355JO (or)ASTM A 572-50 Steel sheet thickness
AS	IS 875 Part 3 Wind Velocity
AT	IS 2062 (or) ASTM A 572-50 Base Plate
AU	BSEN ISO 1461 (or) ASTM A123 (or) IS 2629 Galvanized in single hot dip / With Average 70 Microns
AV	BS 5135 Welded Single L-Seam Joint
AW	AISI 304 Grade Stainless Steel Wire Rope (Factor of Safety: TR No. 7)
AX	IS 1239 Maximum Load Carrying Capacity (Lantern)
AY	IS 9595 (or) IS 10178 AWS Single Section & Single Joint welded
AZ	ASTM - A 123 and 153 Hot dip Galvanized in Single dipping with not less than 65 Microns

1	IS 371 :1999 Ceiling Rose-Specification
2	IS 694 :2010 PVC insulated cables for voltage up to including 1100 V
3	IS 732 :2019 Code of practice for electrical wiring installations
4	IS 1293: 2005 Plug and socket outlets of rated voltage up to and including 250 volt and rated up to and including 16 Amperes- Specification.
5	IS 3854: 1997 Switches for Domestic and similar purposes -specification.
6	IS 4648: 1968 Guide for electrical layout in residential building
7	IS 9537 (Part 1): 1980 Conduits for electrical installations-Part I General
8	Is 9537 (Part 2) :1980 Specification for conduits for electrical Installation Part-II Rigid Steel Conduit.
9	IS 9537(Part-3) :1980 Specification for conduits for electrical installations Rigid plain conduit of insulating material
10	IS 11037 :1984 Specification for electronic type Fan Regulator
11	IS 14772: 2000 General requirements for enclosures for accessories for household and similar fixed electrical installations-Specification.
12	IS 14927 :2001 Cable Trunking and ducting systems for electrical installations
13	IS 17048:2018 Halogen Free Flame Retardant (HFFR) Cables for Working Voltages up to and including 1100 Volts — Specification
14	Is 9537 (Part 2) :1980 Specification for conduits for electrical Installation Part-II Rigid Steel Conduit.
15	IS 9537(Part-3) :1980 Specification for conduits for electrical installations Rigid plain conduit of insulating material
16	IS 15885(Part2/Sec13) - Control gear for Led Modules
17	IS 16101: 2012 - General Lighting - LEDs and LED modules – Terms and Definitions
18	IS 16102(Part 1): 2012 - Self- Ballasted LED Lamps for General Lighting Services Part 1 Safety Requirements
19	IS 16102(Part 2): 2012 - Self-Ballasted LED Lamps for General Lighting Services Part 2 Performance Requirements
20	IS 16103(Part 1): 2012 - Led Modules for General Lighting Part 1 Safety Requirements
21	IS 16103(Part 2): 2012 - Led Modules for General Lighting Part 2 Performance Requirements
22	IS 16104: 2012 - d.c. or a.c.. Supplied Electronic Control Gear for LED Modules - Performance Requirements
23	IS 16105: 2012 - Method of Measurement of Lumen Maintenance of Solid State Light (LED) Sources
24	IS 16106: 2012 - Method of Electrical and Photometric Measurements of Solid- State Lighting (LED) Products
25	IS 16107 (Part 1):2012 - Luminaires Performance Part 1 General Requirements



26	IS 16108: 2012 - Photo biological Safety of Lamps and Lamp Systems
27	Doc: ET 31(6128) Part 3 Method of Specifying the Performance and Test Requirements
28	IS 10500 (1991) Drinking water
29	IS 10555 (2002) Exfoliated Vermiculite (Thermal Insulation)
30	IS 10556 (1983) Code of Practice for Storage and Handling of Thermal Insulation Materials (Thermal Insulation)
31	IS 11338 (1985) Thermostats for Use in Refrigerators, Air Conditioners, Water Coolers and Beverage Coolers
32	IS 13369: Stationary lead acid batteries (with tubular positive plates) in Monoblock containers
33	IS 1391 (Part 2) Vacuum Test, General Running Test, Pressure Test or Leakage Test, High Voltage Test
34	IS 1391 (Part 2) Vacuum Test, General Running Test, Pressure Test or Leakage Test, High Voltage Test
35	IS 1391 (Part 2) Acceptance Tests
36	IS 1391 (Part 2) Acceptance Tests
37	IS 1391 (Part 2) Power Consumption Test for Cooling
38	IS 1391 (Part 2) Room Air Conditioners- Specifications
39	IS 1391 Part 2 (Amendment 1)
40	IS 1391-1 (1992) Thermostats for Use in Refrigerators, Air Conditioners, Water Coolers and Beverage Coolers
41	IS 1391-2 (1992) Room air conditioners, Part 2: Split air conditioners
42	IS 1475-1(2001) Self-Contained Drinking Water Coolers, Part 1: Energy Consumption and Performance
43	IS 1476-1 (2000) Performance of Household Refrigerating Appliance - Refrigerators with or Without Low Temperature Compartment, Part 1: Energy Consumption and Performance
44	IS 15750 (2006) Household frost-free refrigerating appliances - Refrigerators cooled by internal forced air circulation -Characteristics and test methods
45	IS 16242 (Part 1): 2014 PART 1 GENERAL AND SAFETY REQUIREMENTS FOR UPS
46	IS 1651 - 1991 - Stationary cells and batteries, lead-acid type (Tubular)
47	IS 16678 (part 2) Safety Conditions for units using A3 refrigerants ISO 5149(Part 2)
48	IS 2082:1993 Stationary Storage type Water heater
49	IS 302 (Part 1) Safety of household and similar electrical appliances.
50	IS 3412 (1994) Electric water boilers
60	IS 4578 (1997) Lubricating oils for refrigeration machinery
70	IS 4831 (1968) Recommendation on units and symbols for refrigeration (Refrigeration and air conditioning)
80	IS 5111 (1993) Testing of refrigerant compressors
81	IS 7613 (1975) Method of testing panel type air filters for air conditioning and ventilation purposes
82	IS 8978-1992 Specification of Instantaneous water Heater
83	Specifications of Inverter (As per MNRE Specifications)
84	Specifications of Inverter (As per MNRE Specifications)



85	Doc: ET 31(6128) Part 3 Method of Specifying the Performance and Test Requirements
86	IS 10500 (1991) Drinking water
87	IS 10555 (2002) Exfoliated Vermiculite (Thermal Insulation)
88	IS 10556 (1983) Code of Practice for Storage and Handling of Thermal Insulation Materials (Thermal Insulation)
89	IS 11338 (1985) Thermostats for Use in Refrigerators, Air Conditioners, Water Coolers and Beverage Coolers
90	IS 13369: Stationary lead acid batteries (with tubular positive plates) in Monoblock containers
91	IS 1391 (Part 2) Vacuum Test, General Running Test, Pressure Test or Leakage Test, High Voltage Test
92	IS 1391 (Part 2) Vacuum Test, General Running Test, Pressure Test or Leakage Test, High Voltage Test
93	IS 1391 (Part 2) Acceptance Tests
94	IS 1391 (Part 2) Acceptance Tests
95	IS 1391 (Part 2) Power Consumption Test for Cooling
96	IS 1391 (Part 2) Room Air Conditioners- Specifications
97	IS 12933-1 (2003): Solar flat plate collector, Part 1: requirements
98	IS 12933-2 (2003): Solar flat plate collector, Part 2: components
99	IS 12933-5 (2003): Solar flat plate collector, Part 5: Methods
100	IS 12976 (1990): Solar water heating systems - code of practice
101	IS 15450 (2004): Polyethylene/ aluminium / polyethylene composite pressure pipes for hot and cold-water supplies
102	IS 14286: Crystalline silicon terrestrial photovoltaic (PV) modules
103	IS 2062 (1992): Mounting structure steel
104	IS 4759: Galvanization of mounting structure
105	IS:1239 Part-I (2004): Steel tubes, tubular and other wrought steel fittings
106	IEC 61701: Salt mist corrosion testing for PV modules
107	IEC 61215/ IS 14286: Design Qualification and Type Approval for Crystalline Silicon Terrestrial Photovoltaic (PV) Modules
108	IEC 61853- Part 1 /IS 16170: Part 1 Photovoltaic (PV) module performance testing and energy rating
109	IEC 62716: Photovoltaic (PV) Modules
110	IEC 61730: Photovoltaic (PV) Module Safety Qualification
111	IEC 62109, IEC 62109-2: Safety of power converters for use in photovoltaic power systems
112	IEC/IS 61683: Photovoltaic Systems – Power conditioners:
113	IEC 62116/ UL1741/ IEEE 1547: Utility-interconnected Photovoltaic Inverters - Test Procedure of Islanding Prevention Measures
114	IEC 60255-27: Measuring relays and protection equipment – Part 27: Product safety requirements
115	IEC 60068- 2 /IEC 62093 (as applicable): Environmental Testing of PV System – Power Conditioners and Inverters.
116	IEC 60269-6: Low-voltage fuses
117	IEC 61643- 11: 2011 Low-voltage surge protective devices
118	BS EN 50618: 2014 Electric cables for photovoltaic systems (BT(DE/NOT)258), mainly for DC Cables



119	IEC 62561-7 Requirement and tests for earthing enhancing compound producing low resistance.
120	IEC 60529: Resistance of enclosures of electric and electronic devices.
121	Note- Equivalent standards may be used for different system components of the plants.
122	IS/IEC .60947.1.2007: Low-voltage switchgear and control gear, Part 1: General rules
123	IS/IEC:60947.2.2003: Low-Voltage Switchgear and Control gear, Part 2: Circuit Breakers
124	IS/IEC:60947.3.1999: Low voltage switchgear and control gear, Part 3: Switches, disconnectors, switch-disconnectors, and fuse combination units
125	IS/IEC:60947.4.1.2000: Low-Voltage Switchgear and Control gear, Part 4: Contractors and Motor-Starters, Section 1: Electromechanical Contactors and Motors-Starters
126	IS/IEC:60947.4.2.1999: Low-Voltage Switchgear and Control gear: Part 4 - Contractors and Motor-Starters, Section 2: AC Semiconductor Motor Controllers and Starters
127	IS/IEC:60947.4.3.1999: Low voltage switchgear and control gear, Part 4: AC semiconductor controllers and contactors for non-motor loads
128	IS/IEC:60947.5.1.2003: Low-Voltage Switchgear and Control gear, Part 5: Control Circuit Devices and Switching Elements, Section 1: Electromechanical Control Circuit Devices
129	IS/IEC:60947.5.2.2007: Low-Voltage Switchgear and Control Gear, Part 5: Control Circuit Devices and Switching Elements, Section 2: Proximity Switches
130	IS: 12640:1.2008: Residual Current Operated Circuit - Breakers for Household and Similar Uses, Part 1: Circuit-Breakers Without Integral Overcurrent Protection (RCCBs)
131	IS:12640.2.2008, IEC 61009-1: Residual Current Operated Circuit - Breaking for Household and Similar Uses, Part 2: Circuit - Breakers with Integral Overcurrent Protection (RCVOs)
132	IS:13703.1.1993: LV Fuses for voltages not exceeding 1000 V ac or 1500 V dc, Part 1: General requirements
132	IS:13703.2.1.1993: Low-voltage fuses for voltages not exceeding 1 000 V AC or 1 500 V DC, Part 2: Fuses for use by authorized persons, Section 1: Supplementary requirements
134	IS:13703.2.2.1993: Low-voltage fuses for voltages not exceeding 1 000 V AC or 1 500 V DC, Part 2: Fuses for use by authorized persons, Section 2: Examples of standardized fuses
135	IS:13703.4.1993: Low-Voltage Fuses for Voltages not Exceeding 1000 V AC or 1500 V DC, Part 4: Supplementary Requirements for Fuse Links for the Protection of Semiconductor Devices
136	IS:8623.1.1993: Low-Voltage Switchgear and Control gear Assemblies, Part 1: Requirements for Type-Tested and Partially Type-Tested Assemblies
137	IS:8623.2.1993: Low-voltage Switchgear and Control gear Assemblies, Part 2: Particular Requirements for Busbar Trunking Systems (Busway)
138	IS:8623.3.1993: Low-Voltage Switchgear and Control gear Assemblies, Part 3: Particular Requirements for Equipment Where Unskilled Persons have Access for Their Use



139	IEC 61439-1: General requirements.
140	IEC 61439-2: Power switchgear and control gear assemblies.
141	IEC 61439-3: Distribution boards.
142	IEC 61439-4: Assemblies for construction sites.
143	IEC 61439-5: Assemblies for power distribution.
144	IEC 61439-6: Busbar trunking systems.
146	IEC 62271-1: High Voltage Switchgear and Control gear common specifications
147	IS 2629:1985 for Galvanization process
148	IS 720:2010 for Waterproof Plywood
149	IS: 2551 :1982 - Danger notice plates.
150	IS 2551-1982 for Caution Board
151	IS 13779/1999: AC static Watt hour meters, class 1 and 2
152	IS: 13585 (Part – I) :1994 - Shunt power capacitors of the non-self-healing type for ac systems having a rated voltage up to and including 1000V.
153	IEC 61643- II - Low voltage surge protective device's part 32
154	IS / IEC:60947-1&3 Low-voltage switchgear and control gear - Part 3: Switches, disconnectors, switch-disconnectors, and fuse-combination units
155	IS 4237-1967: General requirements for switchgear and control gear for voltages not exceeding 1000 volts ac or 1200 volts DC
156	IEC 61439-6: Low-voltage switchgear and control gear assemblies - Part 6: Busbar trunking systems (busways)
157	IS 2629:1985 for Galvanization process
158	IS 720:2010 for Waterproof Plywood
159	IS: 2551 :1982 - Danger notice plates.
160	IS 2551-1982 for Caution Board
161	IS 13779/1999: AC static Watt hour meters, class 1, and 2
162	IS: 13585 (Part – I) :1994 - Shunt power capacitors of the non-self-healing type for ac systems having a rated voltage up to and including 1000V.
163	IEC 61643- II - Low voltage surge protective device's part 32
164	IS / IEC:60947-1&3 Low-voltage switchgear and control gear - Part 3: Switches, disconnectors, switch-disconnectors, and fuse-combination units
168	IS 4237-1967: General requirements for switchgear and control gear for voltages not exceeding 1000 volts ac or 1200 volts DC
169	IEC 61439-6: Low-voltage switchgear and control gear assemblies - Part 6: Busbar trunking systems (busways)
170	IS 7098 – 1: 1988 (Reaffirmed:2020): Specification for Cross Linked Polyethylene Insulated PVC Sheathed Cables, Part 1: For Working Voltages Up to And Including 1100 Volts
171	IS 7098 - 2: 1988 (Reaffirmed:2021): Specification for Cross Linked Polyethylene Insulated Thermoplastics Sheathed Cables, Part 2: For Working Voltages From 3.3 kV Up to And Including 1100 Volts
172	IS 3916 - 6: 2016: Recommended Current Ratings for Cables Part 6 Cross-linked Polyethylene Insulated PVC Sheathed Cables
173	IS 17048: 2018: Halogen Free Flame Retardant (HFFR) Cables for Working Voltages up to and Including 1100 Volts
174	IS - 7093 :1973: Straight through joint boxes and lead sleeves for paper insulated lead sheathed cables up to and including 11 kV.
176	IS 2713-1 to 3: 1980 -Tubular Steel Poles for Overhead Power Lines.



177	IS 2062 :2011 - Hot Rolled Medium and High Tensile Structural Steel.
178	IS 2633 :1986 - Methods for testing uniformity of coating of zinc coated articles.
179	IS 875-3: 1987 - Code of Practice for Design Loads (Other than Earthquake) for Buildings and Structures, Part 3: Wind Loads.
180	IS 4759: 1996 - Hot-dip zinc coatings on structural steel and other allied products.
181	IS 808: 1989 - Dimensions for Hot Rolled Steel Beam, Column, Channel and Angle Sections.
182	IS 1445: 1977 - Porcelain insulators for overhead power lines with a nominal voltage up to and including 1000 V.
183	IS 2486-1: 1993 - Metal fittings of insulators for overhead power lines with nominal voltage greater than 1000 V, Part 1: General requirements and tests.
184	IS 2486-2: 1989 - Insulator fittings for overhead power lines with nominal voltage greater than 1 000 V, Part 2: Dimensional requirements.
185	IS 2486-3: 1974 - Insulator Fittings for Overhead Power Lines with a Nominal Voltage Greater than 1000 Volts, Part III: Locking Devices.
186	IS 2486-4: 1981 -Insulator Fittings for Overhead Power Lines with a Nominal Voltage Greater than 1 000 V, Part IV: Tests for Locking Devices.
187	IS 785: 1998 - Reinforced Concrete Poles for Overhead Power and Telecommunication Lines.
188	IS 2713-1 to 3: 1980 - Tubular Steel Poles for Overhead Power Lines.
189	IS 7321: 1974 - Code of practice for selection, handling and erection of concrete poles for overhead power and telecommunication lines.
190	IS 398-1: 1996 - Aluminium conductors for overhead transmission purposes, Part 1: Aluminium stranded conductors.
191	IS 398-1 (B): 1996 - Aluminium Conductors for Overhead Transmission Purposes "Specification, Part 1: Aluminium Stranded Conductors.
192	IS 398-2: 1996 - Aluminium conductors for overhead transmission purposes, Part 2: Aluminium conductors, galvanized steel reinforced.
193	IS 13158: 1991 - Prestressed concrete circular spun poles for overhead power, traction, and telecommunication lines.
194	IS 1445: 1977 - Porcelain insulators for overhead power lines with a nominal voltage up to and including 1000 V.
195	IS 2486-1: 1993 - Metal fittings of insulators for overhead power lines with nominal voltage greater than 1000 V, Part 1: General requirements and tests.
196	IS 2486-2: 1989 - Insulator fittings for overhead power lines with nominal voltage greater than 1 000 V, Part 2: Dimensional requirements.
197	IS 2486-3: 1974 - Insulator Fittings for Overhead Power Lines with a Nominal Voltage Greater than 1000 Volts, Part III: Locking Devices.
198	IS 2486-4: 1981 -Insulator Fittings for Overhead Power Lines with a Nominal Voltage Greater than 1 000 V, Part IV: Tests for Locking Devices.
199	IS 785: 1998 - Reinforced Concrete Poles for Overhead Power and Telecommunication Lines.
200	IS 2713-1 to 3: 1980 - Tubular Steel Poles for Overhead Power Lines.
201	IS 7321: 1974 - Code of practice for selection, handling, and erection of concrete poles for overhead power and telecommunication lines.
202	IS 398-1: 1996 - Aluminium conductors for overhead transmission purposes, Part 1: Aluminium stranded conductors.



203	IS 398-1 (B): 1996 - Aluminium Conductors for Overhead Transmission Purposes "Specification, Part 1: Aluminium Stranded Conductors.
204	IS 398-2: 1996 - Aluminium conductors for overhead transmission purposes, Part 2: Aluminium conductors, galvanized steel reinforced.
205	IS 13158: 1991 - Prestressed concrete circular spun poles for overhead power, traction, and telecommunication lines.
206	IS 1445: 1977 - Porcelain insulators for overhead power lines with a nominal voltage up to and including 1000 V.
207	IS 2486-1 : 1993 - Metal fittings of insulators for overhead power lines with nominal voltage greater than 1000 V, Part 1: General requirements and tests.
208	IS 2486-2: 1989 - Insulator fittings for overhead power lines with nominal voltage greater than 1 000 V, Part 2: Dimensional requirements.
209	IS 2486-3: 1974 - Insulator Fittings for Overhead Power Lines with a Nominal Voltage Greater than 1000 Volts, Part III: Locking Devices.
210	IS 3043-1987: -Earthing Indian Standard Code of practice of earthing.
220	IS 1180 (Part 1): - 2014: -Outdoor type oil immersed distribution transformers up to and including 2500 KVA, 33 KV Specification, Part-1 Mineral Oil Immersed.
221	IS 1180 (Part 3):2021: -Outdoor/ Indoor type liquid immersed distribution transformers up to and including 2500 KVA. 33KV - Specification, Part-3 Natural/Synthetic organic ester liquid Immersed.
222	IS 1180 (Part 2): 2016: -Outdoor type three-phase distribution transformers up to and including 100 kVA 11 kV, Part 2: Sealed type
223	IS 2026 (Part 1): 2011: -Power transformers, Part 1: General
224	IS 2026 (Part 2): 2010: - Power transformers, Part 2: Temperature-rise
225	IS 2026 (Part 3): 2009: - Power Transformers Part - 3 Insulation Levels, Dielectric Tests and External Clearances in Air
226	IS 2026 (Part 4): 1977: - Power transformers, Part 4: Terminal marking, tappings and connections
227	IS 2026 (Part 5): 2011: - Power Transformers, Part 5: Ability to Withstand Short Circuit
228	IS 2026 (Part 7): 2009: - Power Transformers, Part 7: Loading Guide for Oil-Immersed Power Transformers
229	IS 2026 (Part 8): 2009: - Power Transformers, Part 8: Applications guide
230	IS 2026 (part 14): 2018 power transformer (part-14) Liquid immersed power transformer using high temperature insulation materials.
231	IS 2026-part IV 1977: Specification for terminal marking tapping and connections
232	IS 335: 2018: New Insulating Oils
233	IS 16659 :2017: Fluid for electro technical application- unused natural ester for transformer and similar electrical equipment.
234	IS 16081:2013: Insulating Liquid - Specification for unused synthetic organic ester for electrical purposes.
235	IS 16099: - Synthetic organic esters for electrical purposes - guide for maintenance of transformer ester in equipment.
236	IS 1180-part III 2021: Specification for outdoor type three phase distribution transformer
237	IS 10028 Part I 1985: Code of practice for selection installation and maintenance of transformers



238	IS 1180 (Part 1): - 2014: -Outdoor type oil immersed distribution transformers up to and including 2500 KVA, 33 KV Specification, Part-1 Mineral Oil Immersed.
239	IS 1180 (Part 3):2021: -Outdoor/ Indoor type liquid immersed distribution transformers up to and including 2500 KVA. 33KV - Specification, Part-3 Natural/Synthetic organic ester liquid Immersed.
240	IS 1180 (Part 2): 2016: -Outdoor type three-phase distribution transformers up to and including 100 kVA 11 kV, Part 2: Sealed type
241	IS 2026 (Part 1): 2011: -Power transformers, Part 1: General
242	IS 2026 (Part 2): 2010: - Power transformers, Part 2: Temperature-rise
243	IS 2026 (Part 3): 2009: - Power Transformers Part - 3 Insulation Levels, Dielectric Tests and External Clearances in Air
244	IS 2026 (Part 4): 1977: - Power transformers, Part 4: Terminal marking, tappings and connections
245	IS 2026 (Part 5): 2011: - Power Transformers, Part 5: Ability to Withstand Short Circuit
246	IS 2026 (Part 7): 2009: - Power Transformers, Part 7: Loading Guide for Oil-Immersed Power Transformers
247	IS 2026 (Part 8): 2009: - Power Transformers, Part 8: Applications guide
248	IS 2026 (part 14): 2018 power transformer (part-14) Liquid immersed power transformer using high temperature insulation materials.
249	IS 2026-part IV 1977: Specification for terminal marking tapping and connections
250	IS 335: 2018: New Insulating Oils
251	IS 4722: 2001- Rotating electrical machines (second revision)
252	Central Pollution Control Board (CPCB) norms - IV 4
253	IS 9079: 2002 Electric Moonsets Pumps for Clear, Cold Water for Agriculture and Water Supply Purposes.
254	IS 8034: 2002 Submersible Pump set- Specification.
256	IS 4722: 2001- Rotating electrical machines (second revision)
257	IS 1255: 1984 Code of practice for installation and maintenance of power cables up to and including 33 kV rating.
258	IS:1200.19: 1981 Method of Measurement of Building and Civil Engineering Works, Part XIX: Water Supply, Plumbing and Drains.
259	IS 10028: 2016 Code of practice for selection, installation, and maintenance of transformers: Part 2 Installation.
260	IS 1332: 1986 - Precast reinforced concrete street lighting poles.
261	IS 4091: Code of practice for design and construction of foundation for transmission line tower and poles.
262	IS 1239 Steel-I tubes, tubular and other wrought steel fittings specifications.
263	IS 3589: Steel Pipes for Water and Sewage (168.3 to 2 540 mm Outside Diameter)
264	IS 318: Lead Tin Bronze Ingots and Castings (For valve)
265	The applicable Indian Standards for Lifts are as follows
266	National Building Code 2016 - Part 8 Building Services Section 5 & 5A Installation of Lifts,
266	IS 8216:1976 Guide for Inspection of Wire Ropes
267	IS 14665 (Part 1) :2000 -Electric Traction Lifts Part 1 Guidelines for Outline Dimensions of Passenger, Goods, Service and Hospital Lifts

268	IS 14665 (Part 2/Sec 1 & 2): 2000 - Electric Traction Lifts Part 2 Code of Practice for Installation, Operation and Maintenance Section 1 Passenger and Goods Lifts Section 2 Service Lifts
269	IS 14665 (Part 3/Sec 1 & 2): 2000- Electric Traction Part 3 Safety Rules Lifts Section 1 Passenger and Goods Lifts, Section 2 Service Lifts
270	IS 14665 (Part 4/Sec 1 to 9) : 2001 -Electric Traction Lifts Part 4 Components Section 1 Lift Buffers, Section 2 Lift Guide Rails and Guide Shoes, Section 3 Lift Car frame, Car, Counterweight and Suspension, Section 4 Lift Safety Gears and Governors, Section 5 Lift Retiring Cam, Section 6 Lift Doors and Locking Devices and Contacts, Section 7 Lift Machines and Brakes, Section 8 Lift Wire Ropes, Section 9 Controller and Operating Devices for Lifts
271	IS 14665 (Part 5) :1999 -Electric Traction Lifts — Specification
272	Part 5 Inspection Manual
273	IS 15785: 2007 Installation and Maintenance of Lift without conventional Machine Rooms Code of Practice
274	IS 15330: 2003 Code of Practice for Installation and Maintenance of Lifts for differently abled Persons
275	IS 335 (1993): New insulating oils
	<b>Note- Equivalent standards may be used for different system components of the other system.</b>



## Technical Specification

### Scope of Works

The work shall be carried out as per CPWD Specification and relevant IS codes mentioned above Applicable standards & guidelines. In case of discrepancy between technical specification and BOQ, the BOQ prevails.

The specification covers the general requirement for Providing High Mast Flood Lighting for Cricket, grounds in IIT ISM DHANBAD.

- 1) Bidder should submit lighting design prepared by manufacturers of light fitting given in the tender document using AGI 32 or Dia-lux software.
- 2) The design should accomplish the average horizontal illumination requirements for sports fields like
  - Cricket pitch- Not less than 500 lux
  - Cricket outfield— Not less than 300 lux
  - As per Class-II Club competition use anticipates: Non-televised matches. Mentioned In Below table Mentioned in Applicable standards & guidelines & Below of this page Detailed LUX level & Artificial Lighting Standards for Outdoor Cricket Ground Lighting Standard for Non-televised Matches
- 3) Bidder should choose the wattage of light fixture not less than/nearest to the wattage mentioned in the tender document & BOQ with prior approval from the Engineer-in Charge.
- 4) The successful bidder shall produce structural design for stadium high masts vetted by IIT and such certificate shall be produced along with design plan before execution of work.
- 5) Soil testing report of the playground shall be Carried out by Bidder.
- 6) The steel grade of High Mast used shall be of S355J0 grade and final weight given in structural calculations of high mast vetted by IIT shall be checked during final factory inspection and compliance is mandatory for giving dispatch clearances of high mast. Else the masts shall be liable to be rejected by IIT ISM Dhanbad.
- 7) The bidder should conduct the aiming of lighting fixtures, ensuring proper marking of the grid on the field, and verify the desired lux levels as per the submitted lux report design in the presence of the Engineer In Charge. This verification should adhere to the standard lux calculation format, and the resulting copy should be certified by the Engineer in Charge. Additionally, three copies of physically taken lux measurements should be submitted in the prescribed/approved lux measurement report formats.

## Detailed LUX level & Artificial Lighting Standards for Outdoor Cricket Ground

### Lighting Standard for Non-televised Matches

Detailed Lux Level and LIGHTING STANDARDS FOR OUTDOOR CRICKET GROUND						
Cricket Court Lighting Standard for Non-televised Matches						
HORIZONTAL ILLUMINANCE (MAINTAINED)						
Class	Average Lux	SQUARE		OUTFIELD		
		Uniformities		Average Lux	Uniformities	
		Emin/Eave, U1	Emin/max, U2		Emin/Eave, U1	Emin/max, U2
I	750	0.7	0.5	500	0.5	0.4
II	500	0.7	0.5	300	0.5	0.4
III	300	0.5	0.5	200	0.3	0.3
MINIMUM COLOUR RENDERING, Ra8			MAXIMUM UNIFORMITY GRADIENT, U6		MAXIMUM GLARE RATING, GR	
>65; preferable ** >90			20% per 5m		50	
* Values of illuminance measured at the time of commissioning an installation (i.e. "day one") should be greater than the maintained illuminance values shown above – see maintenance clause. A nominal maintenance factor of 0.8 is recommended, the initial values will therefore be 1.25 times the values shown in the tables.						
* If future upgrading to a level suitable for television broadcasting is intended or likely; the selection of light sources with CRI Ra≥90 should be considered.						
* GR should be ≤40 for each batsman in direction of view towards the opposite wicket.						
OUTDOOR CRICKET LIGHTING CLASSIFICATIONS AND ASSOCIATED CONSIDERATIONS						
CRICKET FACILITY HIERARCHY	CRICKET PROFESSIONAL TELEVIEWED MATCHES	CLASS I (See Note A)	CLASS II (See Note B)	CLASS III (See Note C)	CRICKET TRAINING & MATCH PRACTICE (See Note C & D)	
INTERNATIONAL	YES	YES				
DOMESTIC/FIRST CLASS	YES	YES	YES			
PREMIER/REGIONAL		YES	YES	YES		
CLUB(HOME)			YES	YES	YES	YES
CLUB(SATELLITE)			YES	YES	YES	YES
A. Class I – Non-televised high level competition use anticipates:						
Non-televised matches.						
International / Domestic match and training use.						
Capacity for large spectator galleries and Long potential viewing distances.						
B. Class II – Club competition use anticipates:						
Non-televised matches.						
Domestic / First Class training use.						
Club (Home) or Club (Satellite) match and training use.						
Capacity for medium spectator galleries and Medium viewing distances.						
C. Class III – Local club competition (selective only), recreational, competition and training use anticipates:						
Non-televised matches.						
Club (Home) and Club (Satellite) training use.						
Junior and local senior competition and recreational level play.						
Generally involving small to no spectator galleries.						
D. Cricket training and match practice at a minimum 200 Lux installation anticipates:						
Playing & Competing – Junior and Senior Competition and Learning the Skills						
E. Cricket training at a minimum 100 Lux installation anticipates:						
Learning the Skills						
Cricket Court Lighting Standard for televised Matches						
Televised match – 1000 to 2000 lux						
4K televised match – 2500 to 3000 lux						

**Technical specifications for LED Luminaries (To be filled & submitted by the successful bidder):**

Flood lights mounted on high masts shall be High Power LED flood lights and shall be supplied complete with accessories such as driver, mounting brackets etc. The flood lights to be mounted on the high masts shall satisfy the following constructional requirements:

<b>Name of Equipment's / Items</b>	<b>Desired Technical Specifications as per NIT</b>	<b>Make / Model / Specifications Offered by the Bidder</b>
Make	Lighting Technologies / Philips-Signify / Trilux	
Make of LED Chip	Cree / Osram / Lumileds	
Model	Bidder to Specify	
Body of Fittings / Housing	Epoxy powder coated pressure die-cast aluminium housing (ADC12) in grey finish with elegantly designed heat sink for efficient thermal management, sturdiness & excellent corrosion resistance.	
Minimum System Wattage	400 W	
Available Beam Angle options (final beam angles to be decided as per actual site condition)	Ultra Narrow Beam, Narrow Medium Beam & Medium Beam (10° - 30°). As per site conditions and standards.	
Laser Locator	Laser Locator on fixture should be provided.	
Operating Voltage	140-270 VAC	
Lumens Maintenance L70 at 50 degrees	At least 50,000 burning hours at L70 B50 at +45° Centigrade. (Test report shall be submitted by the successful bidder.)	
LED Efficiency	>140-150 LPW	
System Efficiency	≥120 LPW	
CRI	>70	
Viewing Angle	120°	
Operating at Ambient Temperature range	-10 to +45 centigrade (Test report shall be submitted by the successful bidder.)	
IP/IK Protection	IP66 and IK08 Protection (Test report shall be submitted by the successful bidder.)	
Mandatory Test Report	LM-79 test report for luminaire from CPRI / NABL accredited lab.	

	LM80 test report for LED Module pertaining to Luminaire as specified make and model from third party international lab. Luminaires shall be BIS registered as per IS10322 Part 5 / SEC 5 and test certificate shall be submitted.  (The above test report shall be submitted by the successful bidder.)	
Power factor	$\geq 0.95$	
Luminaire Connectors	Integral male female waterproof connectors IP67	
<b>DRIVER</b>		
Approved Make of Driver	Lighting Technologies/Philip-Signify / Trilux / OEM of Light Fixture.	
Wattage	As per BOQ 1 (Minimum 400 Watt)	
Type of Driver	Potted IP67	
Efficiency of Driver	$\geq 85\%$	
THD (Total Harmonic Distortion)	Less than 10%	
IP Protection	IP 67	
Surge Protection	Shall be provided conforming to relevant IS Standard / IEC for LED driver (In built): EN61000-4-5 or shall be up to 10KV. Drivers will be BIS registered and certificate shall be submitted by the successful bidder. The Driver test report shall be submitted by the successful bidder.	
Control gear type	Integral / Non-integral	
Labelling / Identification mark	Manufacturer Name / Logo shall be engraved / Embossed on housing body or on aluminium plate labels or Screen Printed on housing body.	
Warranty Period	5 years warranty from actual date of completion work on complete luminaire including driver / control gear, Led all accessories etc.	
Testing of Light Fitting	Successful Bidder has to submit one sample fitting to IIT (ISM), DHANBAD. After awarding the work, the bidder shall arrange to get the fitting tested for LM79 test in	

	CPRI and cost of the testing charges shall be borne by bidder.	
--	--	--

**NOTE: Above Technical Specifications for LED Luminaries are minimum requirement however if there is any deviation in above specifications as per OEM (Original Equipment Manufacturer) Standard, same to be informed to Engineering in Charge for Approval by Competent Authority. OEM shall also provide the undertaking for the same that the light fixtures working, life span, warranty, energy efficiency, energy consumption, lumens, lux level etc. will not be effected due to change in specifications.**

**Technical specification for Stadium Masts:**

<u>Summary of Stadium Mast &amp; Head Frame detail for 30M mast Including Head frame Suitable for 24, No’s of 400 Watt LED fittings</u>			
			Make / Model / Specifications offered by the Bidder
Make			
Model			
<u>Stadium Mast Details</u>			
Height	25	Stadium Mast Details	
Wind Speed	50		
Top A/F	400		
Bottom A/f	1000		
Thk1	8		
Thk2	8		
Thk3	8		
Thk4	0		
Thk5	0		
Thk6	0		
<u>Foundation Bolt Details</u>			
Grade	8.8		
Bolt Nos.	20		
Bolt Dia.	36		
PCD	1130		
Length	1500		
Anchor Plate OD	1240	Anchor Plate Details	
Anchor Plate ID	1000		
Thk.	12		
Base Plate OD	1240	Base Plate Details	
Thk.	50		
Cross Arms	4 nos.		
Cross Arm Length	5 m.		



Head Frame Details			
Hight	5		
Wind Speed	50		
Top A/f	400		
Bottom A/f	400		
thk1	5		
<b>Connection Bolt Details</b>			
Bolt Nos	8		
Bolt Dia	24		
Bolte Grade	6.8		
PCD	480		
<b>Flange Details</b>			
Base Plate OD	560		
Thk.	30		
<b>Wight Calculations</b>			
Mast Wight	3998		
Head Frame Weight	1420		
Total Black Wight (Kg)	5417		
Material Of Shafts	S355J0		
Mast to be Supplied with Man rider The unit shall be suitable for safe load carrying capacity of 300kg with climb speed not exceeding 9m/min.A trouble free fall arrestor system shall be provided as protection against failure of the main wire rope. The fall arrestor system shall be operated automatically without any manual interference by the integral power tool system operated with the help integral power tool system operated with the help of suitable winch in the base section of the mast. The man rider cage shall be provided with suitable wheels for easy transportation from one mast to another.			
The details mentioned above are tentative. Bidders should submit exact designs of the HI mast and man rider, as well as general arrangement diagrams along with their bid submissions. The successful bidder should ensure that the design details and foundations are vetted by IIT.			

High masts shall be polygonal, continuously tapering, hot dip galvanized with suitable fixed type head frame for mounting the flood light fixtures.

Polygonal high masts offered shall have following special features:

- Masts shall be structurally designed in accordance with ILE Technical Report No 7 – latest edition considering the gust wind speed as per IS 875 prevailing in Pune region.



- The steel used in the construction of the masts shall comply with BSEN 10025EQ / ASTM A-572 grade 65 or equivalent with yield strength not less than 355MPA.
- All welding shall be undertaken and performed as per WPS/PQR in strict accordance with BS 5135.or AWS D1.1.
- The head frame cross arm brackets shall be of suitable steel construction.
- The mast manufacturer shall be accredited with ISO 9001, ISO 14001 and ISO 18001.
- All MS parts including hardware shall be hot dip galvanised as per BSEN-ISO1461 / ASTM 123 or equivalent.
- The high mast sections shall be galvanized in single sections at a time and no double dipping is allowed. The bottom section of the mast shall be galvanized along with base plate in single dip after welding.
- Sections of high mast shall be stress fitted at site. Length of overlap at each joint shall not be less than 1.5 x diameter at the point of penetration.
- The connection between the head frame and mast top shaft is by a flanged joint and bolted together. No slip joints in this position shall be used.
- Access to the mast head frame shall be by a detachable and mobile man rider unit with a minimum safe load carrying capacity of 300 Kg. The unit shall be of galvanized steel construction with twin cage arrangement along with spring loaded wheels encasing the mast shaft for proper balancing and to avoid swaying of cage while climbing. Suitably rated motor and double drum winch shall be installed in the base of mast. The hoisting arrangement shall comprise of marine grade stainless steel wire ropes and cast aluminium pulleys. The unit will have a climb rate not in excess of 9 metres per minute and shall contain required safety features.
- Access to the floodlights on the head frame shall be by a minimum number of four vertical ladders of the full head frame height.

## Technical Specification for Feeder Pillar Panel

### General Construction:

- The design and layout of pillar box shall be compact and convenient to provide ease of termination of cables and operation of fuse bases. It shall be designed for termination of cables and operation of fuse base shall be from the front end. The Feeder Pillar enclosure shall provide a degree of protection not less than IP-65 in accordance with IS-2147.
- The enclosure shall be suitable for Outdoor installation. The enclosure shall be made from cold rolled sheet steel of thickness 14 Gauge and shall be suitable to withstand rough usage and weather.
- Panels shall be rigid free standing & floor mounting type and comprise of structural frames enclosed completely with specially selected smooth finished cold rolled sheet steel of thickness not less than 14 Gauge for weight bearing members of the panels such as front sheet and door frames, sides, door top and bottom portions. The Angle structure for Leg 40x40x5mm.
- All joints to be made flush type and all edges shall be bent at right angles and rounded. All structural members shall be bolted or welded together. Necessary arrangement shall be provided for bolting together the adjacent panels. The doors, removable covers and panels shall be sealed with gasket all round with neoprene gaskets. Ventilating louvers if provided shall have screens and filters. The panels shall be designed for reception of external control cables (if any) from the bottom and shall have detachable gland plates. Cable gland plate, fitted on the bottom of panel shall be connected to earthing of panel.
- The enclosure shall be sized to facilitate easy maintenance at minimum height of 750 mm above FFL.
- The top of pillar shall be fitted with a sloping canopy, the design of which shall be such that rainwater shall not accumulate on the top.
- It shall have overhang and fascia of min. 100mm. 2 nos. lifting lugs of same material shall be provided.
- Three nos. heavy duty hinges shall be provided for each door such that they are not visible from outside and hence not removable. The hinge shall be of such construction that the door can be swung open by not less than 150°. The door shall be fitted with

integral handle, flushed with the surface of the door.

- Air ventilation arrangement shall be provided at top and all sides of the enclosure to facilitate air circulation.
- The door shall have three-point locking arrangement. Special type tamperproof heavy duty built-in inter-lock with appropriate key shall be provided. Locking system with handle up & down arrangement shall be provided on front side of the doors. The door shall be provided with pad- locking facility also.
- Proper support shall be provided for holding I/C& O/G cables. These, cable support arrangement shall be provided to take the load of the cable.
- The Busbar of all phases and neutral shall be provided with colour coded heat shrinkable insulation sleeves. Phase barriers shall be provided between the Busbars and all Busbars shall be in two equal sections with removable link.
- Cable termination arrangement shall be from bottom and suitable for external cables of type and sizes as mentioned in the specification.
- The pillar box shall be provided with a LED lamp rated for 230V, 1 Phase, 50 Hz supply for illumination inside the enclosure. A 230V, 1phase, 50 Hz, 5/15 Amps, 5 pin receptacle with switch shall be provided inside the enclosure at a convenient location.
- The design of pillar box shall ensure there is no possibility of the operator experience a shock during normal operation. Insulated barriers shall be provided wherever necessary so as to ensure that no accidental contact with live parts inside the pillar box is possible.
- The Pillar box shall be provided with an Aluminium Earth bus at the bottom, suitable for the rated short time current of the pillar. The earth bus shall provide Earthing to all the components inside the pillar and the metallic enclosure including the armour of the cables. The earth bus shall be internally connected to two separate earth terminals located outside on either side of the pillar. The Busbar shall not be visible or removable from the outside of the cubicle. Door Earthing shall also be provided with bolted lugs at both ends. The neutral shall be insulated from the earth.
- The paint on the pillar box shall have good colour retention properties and shall be weather and UV resistant. The Retro reflective paint strip shall be provided on the four faces of the pillar box which shall withstand the temperature conditions and



reflect vehicular light at nighttime providing safety to traffic. All sheet steel work shall be phosphate in accordance with IS: 6005 "Code of practice for phosphating iron and steel". Oil, grease, dirt and swart shall be thoroughly removed by emulsion cleaning. Rust and scale shall be removed by pickling with dilute acid followed by washing with running water rinsing with slightly alkaline hot water and drying. After phosphating, thorough rinsing to be carried out with clean water followed by final rinsing with diluter dichromate solution. After that the powder spray with spray gun to be used and to put into the oven for drying in 200deg.C. for 40min

- The pillar box shall be provided with durable and legible Aluminium nameplates containing all technical parameters and manufacturing details. The pillar box shall be provided with a plate 'Danger' mark for 430V AC as per IS 2551-1982. Property plate mentioning "Feeder Pillar for High Mast" and project name if any shall also be provided.
- All routine, acceptable & type tests shall be carried out in accordance with the relevant IS/IEC. All routine/acceptance tests shall be witnessed by the Purchaser/his authorized representative.
- Equipment shall be subject to pre-dispatch inspection by a duly authorized representative of the Purchaser. Inspection may be made at any stage of manufacture at discretion of the purchaser and the equipment, if found unsatisfactory as to workmanship or material, the same is liable to rejection.
- The material received at Purchaser store will be inspected for acceptance and shall be liable for rejection, if found different from the reports of the pre- dispatch inspection.
- Supplier shall stand guarantee for five years from the date of supply towards design, materials, workmanship, and quality of process/manufacturing of items under this contract.
- Supplier shall ensure that all the equipment covered under this specification shall be prepared for transport in a manner so as to protect the equipment from damage in transit.
- Supplier shall provide Instruction Manuals covering erection & maintenance instruction and all relevant information & drawings with complete BOM pertaining to main equipment and also list of complete set of accessories and tools required for

erection and maintenance with each of the pillar boxes.

**Special Requirement:**

- Fuse blown indication with LED for Easy identification for the operations which phase fuse has blown, saving time and operation of different poles.
- Mechanism of Fuse removal without touching fuse so that there is no need to touch blown fuse which is quite hot.
- Stainless steel spring material at contacts so that material corrosion is avoided and also losses/temperature at contacts are reduced.
- Wider Spacing at terminals for connecting cable so that it is easy for operators to connect/disconnect cables.

**Tests: Type Tests on Complete Piller Box:**

The equipment offered in the tender should have been successfully type tested at NABL laboratories in India or equivalent international laboratories in line with the relevant standard and technical specification, within the last 5 (five) years from the date of offer. The bidder shall be required to submit complete set of the type test reports along with the offer.

The list of type tests is as follows:

Following type tests as per IS: 5039/1983 shall be carried out on complete.

L.T. feeder Pillars.

- Temperature rise test: -The temperature rise test should be carried out as per IS: 8623 –1993.
- High voltage test shall be carried out as per IS: 8623/ 1993 amended up to date.
- Short Time Withstand Current Test on L.T. Pillar shall be carried out as per IS 8623: or latest version.
- Degree of protection for IP- 65 on complete L.T. Pillar shall be carried out as per IS: 13947/1993 or the latest version thereof.
- Verification of clearance & creepage distances.

**Acceptance Test: On Complete Piller Box:**

Following tests shall be carried out as per acceptance tests in addition to routine tests on one random sample of each rating out of the lot offered for inspection:

- Temperature rise test on one sample of each rating.

**Routine Tests: On Complete Piller Box**

- Routine and acceptance tests as per relevant IS. Standards shall be carried out at the manufacturers' works.
- Overall Dimensions Checking.
- Insulation Resistance Tests.
- High Voltage Test at 2500 V, 50 Hz AC for one minute.

**Inspection:**

All routine & acceptance tests and inspection of material shall be carried out at the place of manufacturer. The manufacturer shall offer the Inspector (representing the purchaser) all reasonable facilities, free of charge at the time of Inspection.

The supplier shall offer inspection of the material at his works before dispatch. If required, the supplier shall also offer inspection of manufacturing painting and assembly processes and quality control system. If any material is not found in line with relevant specification the supplier shall carry out the modification and offer for re-inspection.

Inspection and acceptance shall not absolve the supplier of his responsibility to supply the material in accordance with the specifications. Engineer In Charge IIT ISM DHANBAD reserves the right to reject the material not confirming the relevant specifications.

**Drawings And Documentation:**

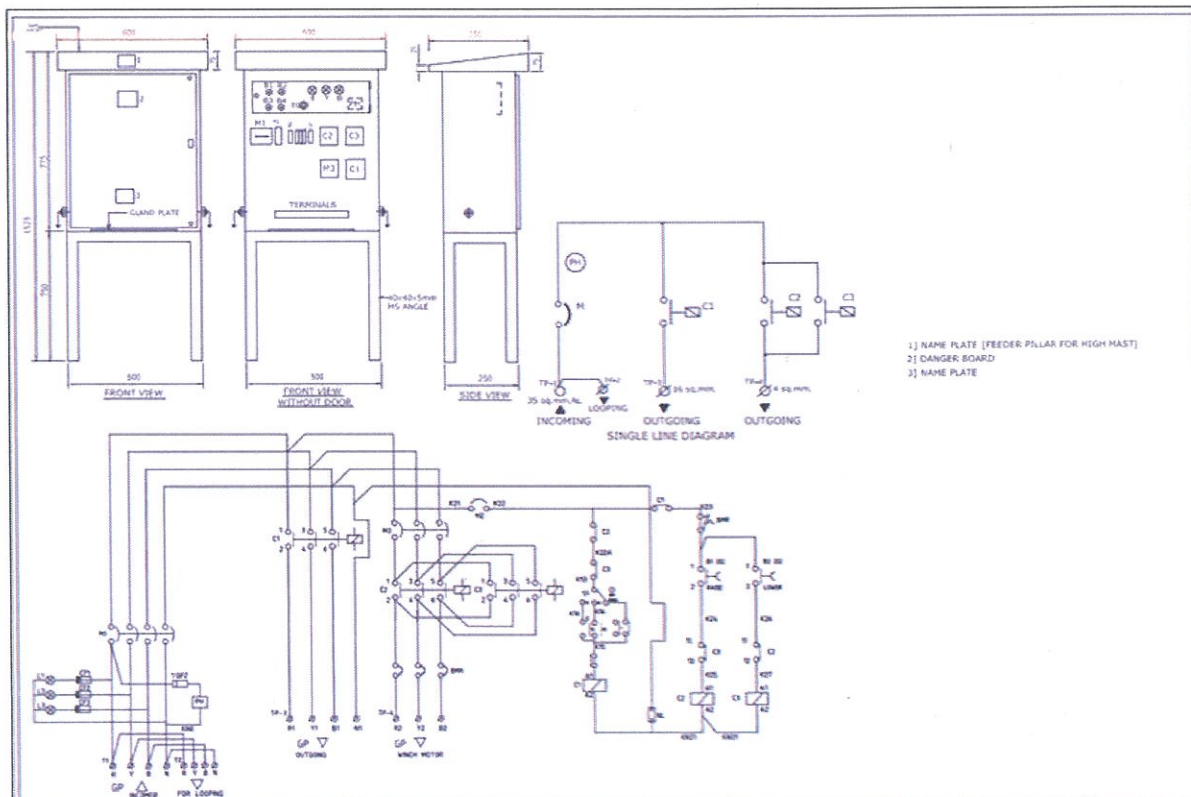
- The successful bidder shall submit set of all drawings of the L.T. Pillar Boxes and its components in triplicate and get the same approved before commencement of production.
- The tenderer shall furnish all details and clarifications required if any for scrutiny and evaluation of the offer.



- Manufacture of material to be supplied shall be done strictly as per approved drawing.
- Approval of drawing shall not absolve the supplier of his liability for ensuring correctness according to applicable standards & regulations.

#### Sample SLD for High mast Feeder Pillar Panel

**Successful Bidder should submit Detailed General Arrangement Diagram as per standards for Approval of Engineer In Charge of IIT ISM DHANBAD**



**SYSTEM:** 415V, 32A, TPN, 50HZ SUPPLY.

**CONSTRUCTION:** FABRICATED OUT OF 14 G CRCA SHEET STEEL. OUTDOOR TYPE, STAND MOUNTING, DUST & VERMIN PROOF, IP-65. WITH 3MM THICK FRP CANOPY.

**PAINTING:** PANEL CUBICLE WILL BE POWDER COATED AFTER PRETREATMENT. SHADE OF PAINT 631 OF IS 5. STAND WILL BE POWDER COATED BLACK.

**CABLE ENTRY:** BOTTOM [DETACHABLE GLAND PLATE]

**CABLE SIZE FOR:** 32A CIRCUIT 6 SQ.MM [GREY], FOR STARTER 2.5 SQ.MM

[GREY] FOR CONTROL 1.5 SQ.MM [GREY]

**STAND:** 40x40x5 M.S. ANGLE

**TOERANCE ON DIMENSION:** IS +/-5MM.

(32A TPN MCB 01, 25A TP CONTACTOR 01, 9A TP CONTACTOR 02, 20A Fuse Base with 02A Fuse Link 3 Nos, 6A Control SPMCB 1No, Overload relay -Range 2-3.3A 1No, Photo Switch with Sensor 1 No, Glass Fuse 1 No, Toggle Switch 1 Nos, Bush Button 4 Nos, Neutral Link 1 Nos, Terminals, Incoming 35Sqmm Al Busbars 2 Sets, Outgoing 16 Sqmm.(Close) 4 Nos, Outgoing 6 Sqmm.(Close) 4 Nos, LED indicating Lamp R.Y.B. Trip, On, Off, 3 Nos each Set, 16 A TPMCB 1 Nos Etc Complete ( If any required material needs to complete the job Bidder should mentioned in the General Arrangement Diagram (GAD).

### **Main Power Panel And High Mast Panel**

Main Power Panel (MPP) and High mast Panel (HMP) shall be outdoor type, floor mounted, metal enclosed, single front, vermin proof with degree of protection IP55 with suitable canopy as per IS2147. The frames shall be enclosed with sheet steel of not less than 2.0 mm thickness with rubber gaskets all-round the perimeter of removable covers and doors.

Bus bars shall be air insulated and made up of electrolytic grade aluminium. Bus bars shall be PVC sleeved with colour strips of red, yellow, blue and black and the same shall be arranged in accordance with IS375.

The incoming and outgoing feeders shall be as described in the bill of quantities.

### **CABLES**

Following cables shall be included in the bidder's scope:

From Existing sub-station to Main Panel at Upper Ground Cricket.

From Main Power Panel to 04 Nos High Mast Panels.

From High Mast Panels to 04 Nos of Outdoor Type-High Mast Man rider.

From High Mast Panels to 04 Nos of Outdoor Type LED flood Light Panel.

Cable under a) and b) shall be 1100V grade, XLPE insulated, PVC sheathed, aluminium conductor, armoured cable. Cables under c) shall be 1100V grade, XLPE insulated copper conductor, unarmoured cables.



### Preferred Make List

Sl.No.	Item Description	Make
1	LED Sports Flood Light Fixtures Manufactures with Laser Locator.	Lighting Technologies /Philips-Signify/Trilux.
1.1	Potted Driver	Lighting Technologies /Philips-Signify/Trilux.. As per BOQ 1(400Watt)
1.2	Make of LED Chip	Cree/Osram/Lumileds
2	High Mast Manufactures	Valmont/ Philips/ Liscsoote
2.1	Civil Foundation (Material)	As per Civil Make Work Approved Make List
2.1.2	Sand	River Sand As per Civil Make Work Approved Make List
2.1.3	Cement	Ambuja/Ultratech/ ACC Cement/ Birla
2.1.4	Foundation Bolts	As per High mast Manufacture standards & as per IS standards
3	Air circuit breaker	Schneider / L&T / ABB /
4	MCCB	Schneider / L&T / ABB /
5	Relays	ABB / L&T /Schneider
6	Power factor relay	Epcos / Ducati / Beluk / Enercon / Meher
7	Change over switch	Schneider / L&T / ABB
8	Power contactors	L&T / ABB / SCHNEIDER
9	Instrument transformers	Kappa / Kalpa / Instrans /Voltamp
10	Capacitor banks with series reactors with harmonic filters	Epcos / Ducati / Meher
11	LT panel fabrication including Bus duct	Power Control Equipment's / Lotus Power gear / CPRI Approved
12	Meters	Conserv/ L&T/ AE/Elmeasure
13	Panel accessories / terminal block	As per manufacturer specified make
14	MCB / MCB DB	Legrand / Schneider / L&T / ABB
15	ELCB / ELMCB / RCBO	Legrand / Schneider / L&T / ABB
16	LT Cable	PolyCab / Havells /KEI/RR kable
17	End Termination Materials	Dowels / SMI / Wago
18	MS Powder coated Cable Tray	As per panel fabricator
19	PVC Conduits – FRLS	Avon / Precision / Universal
20	PVC Wires& Flexible Cables - FRLS	Polycab/ Havells/ RR kable/ KEI
21	Modular switches and socket	Crabtree / MK Honeywell / Legrand / L&T Entice/ABB
22	Industrial sockets	Legrand / L&T / ABB
23	Light fixtures - working area Indoor Building Only	Philips-Signify / Arraystorm By RR kable/ Lighting Technologies/ K-light/ Jaquar

24	Light fixtures – decorative in Landscape and surrounding outside Building Perimeter Only	Philips-Signify / Arraystorm By RR kable/ Lighting Technologies/K-light/Jaquar
25	Street light pole	Klite / Shubham / Jindal/Volmont/ Bajaj
26	Glands - Single / Double Compression	Dowells/Comet/
27	Aluminium / Copper Lugs	Dowells Comet/
28	Aviation Light	Bajaj / eq.
29	Surge Arrestors	L&T / ABB / OBO Betterman
30	Earthing	Jeff Techno/ Seema/ Ashlok

-----XOX-----

## **IIT ISM Upper Ground**

LUMINAIRE USED Considered ->LT make 400W FLOODLIGHT - 96 NOS30M MAST -

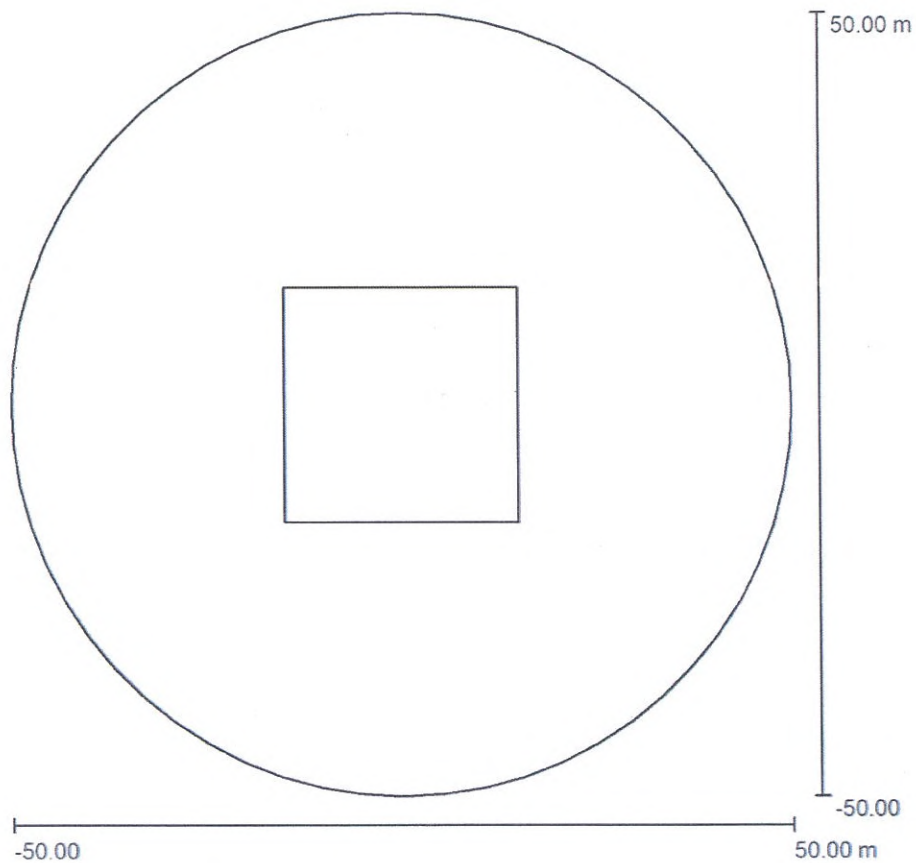
(CENTRE OF HEADFRAME) = 4 NOS LUMINAIRES/MAST = 24 NOS

ILLUMINANCE ON PITCH > 500 LUX, UNIFORMITY > 0.8

ILLUMINANCE ON FIELD > 300 LUX, UNIFORMITY > 0.6

<b>Exterior Scene 1</b>	
Planning data	3
Luminaires (coordinates list)	4
3D Rendering	8
False Color Rendering	9
<b>Exterior Surfaces</b>	
<b>Playing Area @ 100 mtr Dia Circular</b>	
<b>Playing Area @ 100 mtr Dia Circular</b>	
Isolines (E)	10
Greyscale (E)	11
Value Chart (E)	12
<b>30mtr x 30 mtr playing area</b>	
<b>Surface 1</b>	
Isolines (E)	13
Greyscale (E)	14
Value Chart (E)	15

## Exterior Scene 1 / Planning data



Light loss factor: 0.85, ULR (Upward Light Ratio): 5.5%

Scale 1:927

## Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	Φ (Luminaire) [lm]	Φ (Lamps) [lm]	P [W]
1	52	LIGHTING TECHNOLOGIES TRANSFORMER FL 400W CW 10D (Type 1) * (1.000)	52000	52000	400.0
2	44	LIGHTING TECHNOLOGIES IFT0G40057NDBKP030 TRANSFORMER G20 400W 30D (Type 1)* (1.000)	58070	58070	400.0

\*Modified Technical Specifications

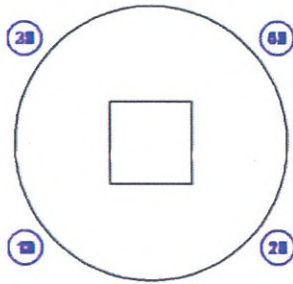
Total: 5259061 Total: 5259080 38400.0



## Exterior Scene 1 / Luminaires (coordinates list)

**LIGHTING TECHNOLOGIES TRANSFORMER FL 400W CW 10D (Type 1)**

52000 lm, 400.0 W, 1 x 1 x User defined (Correction Factor 1.000).



No.	Position [m]			Rotation [°]		
	X	Y	Z	X	Y	Z
1	-46.375	-38.119	30.000	58.7	0.0	-58.3
2	-46.375	-38.119	30.000	46.0	0.0	2.1
3	-46.375	-38.119	30.000	56.4	0.0	-55.2
4	-46.375	-38.119	30.000	55.6	0.0	-60.3
5	-46.375	-38.119	30.000	54.7	0.0	-47.3
6	-46.375	-38.119	30.000	53.5	0.0	-40.6
7	-46.375	-38.119	30.000	58.5	0.0	-61.6
8	-46.375	-38.119	30.000	54.9	0.0	-45.2
9	-46.375	-38.119	30.000	56.6	0.0	-42.2
10	-46.375	-38.119	30.000	53.5	0.0	-52.7
11	-46.375	-38.119	30.000	56.3	0.0	-52.1
12	-46.375	-38.119	30.000	51.3	0.0	-102.4
13	-46.375	-38.119	30.000	54.9	0.0	-50.8
14	46.375	-38.119	30.000	58.7	0.0	58.3
15	46.375	-38.119	30.000	46.0	0.0	-2.1
16	46.375	-38.119	30.000	56.4	0.0	55.2
17	46.375	-38.119	30.000	55.6	0.0	60.3
18	46.375	-38.119	30.000	54.7	0.0	47.3
19	46.375	-38.119	30.000	53.5	0.0	40.6
20	46.375	-38.119	30.000	58.5	0.0	61.6
21	46.375	-38.119	30.000	54.9	0.0	45.2
22	46.375	-38.119	30.000	56.6	0.0	42.2
23	46.375	-38.119	30.000	53.5	0.0	52.7
24	46.375	-38.119	30.000	56.3	0.0	52.1
25	46.375	-38.119	30.000	51.3	0.0	102.4
26	46.375	-38.119	30.000	54.9	0.0	50.8
27	-46.375	38.119	30.000	58.7	0.0	-121.7
28	-46.375	38.119	30.000	46.0	0.0	177.9

## Exterior Scene 1 / Luminaires (coordinates list)

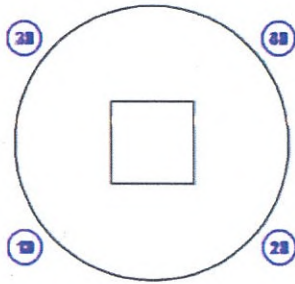
No.	Position [m]			Rotation [°]		
	X	Y	Z	X	Y	Z
29	-46.375	38.119	30.000	56.4	0.0	-124.8
30	-46.375	38.119	30.000	55.6	0.0	-119.7
31	-46.375	38.119	30.000	54.7	0.0	-132.7
32	-46.375	38.119	30.000	53.5	0.0	-139.4
33	-46.375	38.119	30.000	58.5	0.0	-118.4
34	-46.375	38.119	30.000	54.9	0.0	-134.8
35	-46.375	38.119	30.000	56.6	0.0	-137.8
36	-46.375	38.119	30.000	53.5	0.0	-127.3
37	-46.375	38.119	30.000	56.3	0.0	-127.9
38	-46.375	38.119	30.000	51.3	0.0	-77.6
39	-46.375	38.119	30.000	54.9	0.0	-129.2
40	46.375	38.119	30.000	58.7	0.0	121.7
41	46.375	38.119	30.000	46.0	0.0	-177.9
42	46.375	38.119	30.000	56.4	0.0	124.8
43	46.375	38.119	30.000	55.6	0.0	119.7
44	46.375	38.119	30.000	54.7	0.0	132.7
45	46.375	38.119	30.000	53.5	0.0	139.4
46	46.375	38.119	30.000	58.5	0.0	118.4
47	46.375	38.119	30.000	54.9	0.0	134.8
48	46.375	38.119	30.000	56.6	0.0	137.8
49	46.375	38.119	30.000	53.5	0.0	127.3
50	46.375	38.119	30.000	56.3	0.0	127.9
51	46.375	38.119	30.000	51.3	0.0	77.6
52	46.375	38.119	30.000	54.9	0.0	129.2

## Exterior Scene 1 / Luminaires (coordinates list)

## LIGHTING TECHNOLOGIES IFT0G40057NDBKP030 TRANSFORMER G20 400W 30D

(Type 1)

58070 lm, 400.0 W, 1 x 1 x User defined (Correction Factor 1.000).



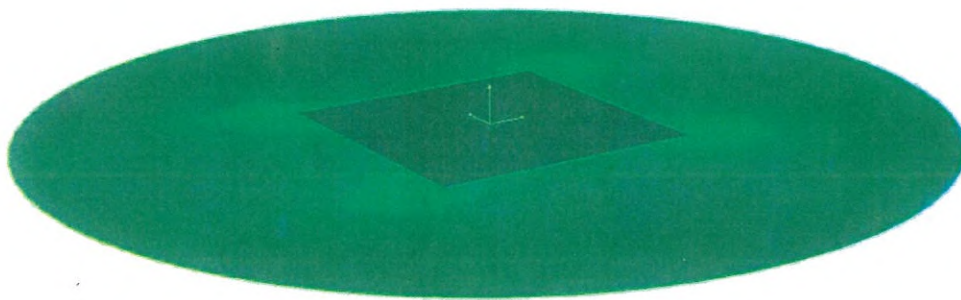
No.	Position [m]			Rotation [°]		
	X	Y	Z	X	Y	Z
1	-46.391	-38.051	30.000	49.6	0.0	-30.4
2	-46.391	-38.051	30.000	54.0	0.0	-81.6
3	-46.391	-38.051	30.000	50.0	0.0	-9.6
4	-46.391	-38.051	30.000	42.3	0.0	1.4
5	-46.391	-38.051	30.000	47.1	0.0	-4.2
6	-46.391	-38.051	30.000	49.2	0.0	-18.6
7	-46.391	-38.051	30.000	38.7	0.0	-66.2
8	-46.391	-38.051	30.000	46.3	0.0	-101.6
9	-46.391	-38.051	30.000	54.8	0.0	-88.6
10	-46.391	-38.051	30.000	57.6	0.0	-95.0
11	-46.391	-38.051	30.000	54.2	0.0	-98.8
12	46.391	-38.051	30.000	49.6	0.0	30.4
13	46.391	-38.051	30.000	54.0	0.0	81.6
14	46.391	-38.051	30.000	50.0	0.0	9.6
15	46.391	-38.051	30.000	42.3	0.0	-1.4
16	46.391	-38.051	30.000	47.1	0.0	4.2
17	46.391	-38.051	30.000	49.2	0.0	18.6
18	46.391	-38.051	30.000	38.7	0.0	66.2
19	46.391	-38.051	30.000	46.3	0.0	101.6
20	46.391	-38.051	30.000	54.8	0.0	88.6
21	46.391	-38.051	30.000	57.6	0.0	95.0
22	46.391	-38.051	30.000	54.2	0.0	98.8
23	-46.391	38.051	30.000	49.6	0.0	-149.6
24	-46.391	38.051	30.000	54.0	0.0	-98.4
25	-46.391	38.051	30.000	50.0	0.0	-170.4
26	-46.391	38.051	30.000	42.3	0.0	178.6
27	-46.391	38.051	30.000	47.1	0.0	-175.8
28	-46.391	38.051	30.000	49.2	0.0	-161.4



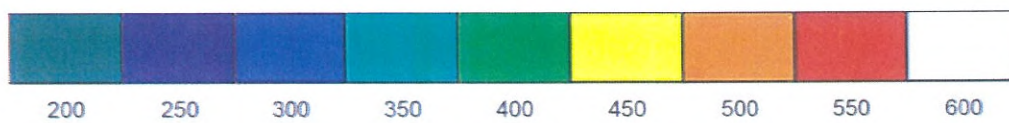
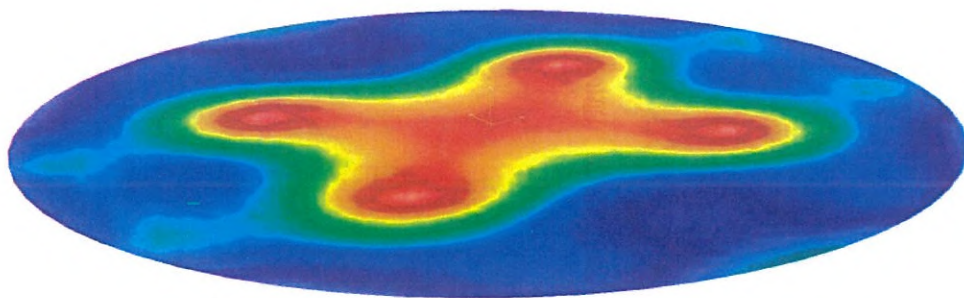
## Exterior Scene 1 / Luminaires (coordinates list)

No.	Position [m]			Rotation [°]		
	X	Y	Z	X	Y	Z
29	-46.391	38.051	30.000	38.7	0.0	-113.8
30	-46.391	38.051	30.000	46.3	0.0	-78.4
31	-46.391	38.051	30.000	54.8	0.0	-91.4
32	-46.391	38.051	30.000	57.6	0.0	-85.0
33	-46.391	38.051	30.000	54.2	0.0	-81.2
34	46.391	38.051	30.000	49.6	0.0	149.6
35	46.391	38.051	30.000	54.0	0.0	98.4
36	46.391	38.051	30.000	50.0	0.0	170.4
37	46.391	38.051	30.000	42.3	0.0	-178.6
38	46.391	38.051	30.000	47.1	0.0	175.8
39	46.391	38.051	30.000	49.2	0.0	161.4
40	46.391	38.051	30.000	38.7	0.0	113.8
41	46.391	38.051	30.000	46.3	0.0	78.4
42	46.391	38.051	30.000	54.8	0.0	91.4
43	46.391	38.051	30.000	57.6	0.0	85.0
44	46.391	38.051	30.000	54.2	0.0	81.2

Exterior Scene 1 / 3D Rendering

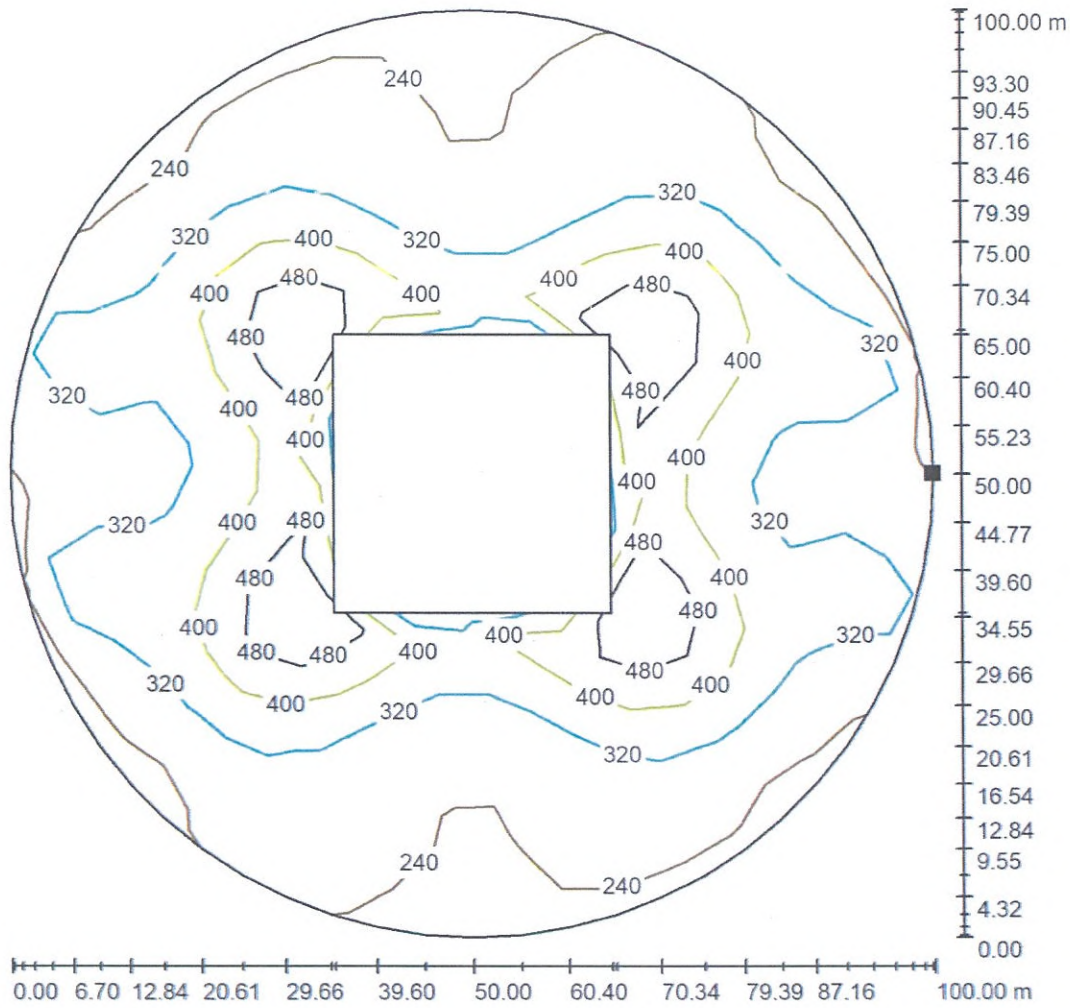


## Exterior Scene 1 / False Color Rendering



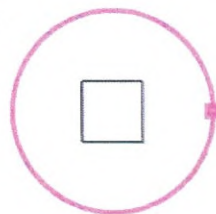
lx

# Exterior Scene 1 / Playing Area @ 100 mtr Dia Circular / Isolines (E)



Values in Lux, Scale 1 : 782

Position of surface in external scene:  
Marked point:  
(50.000 m, 0.000 m, 0.000 m)



Grid: 20 x 20 Points

$E_{av}$  [lx]  
337

$E_{min}$  [lx]  
207

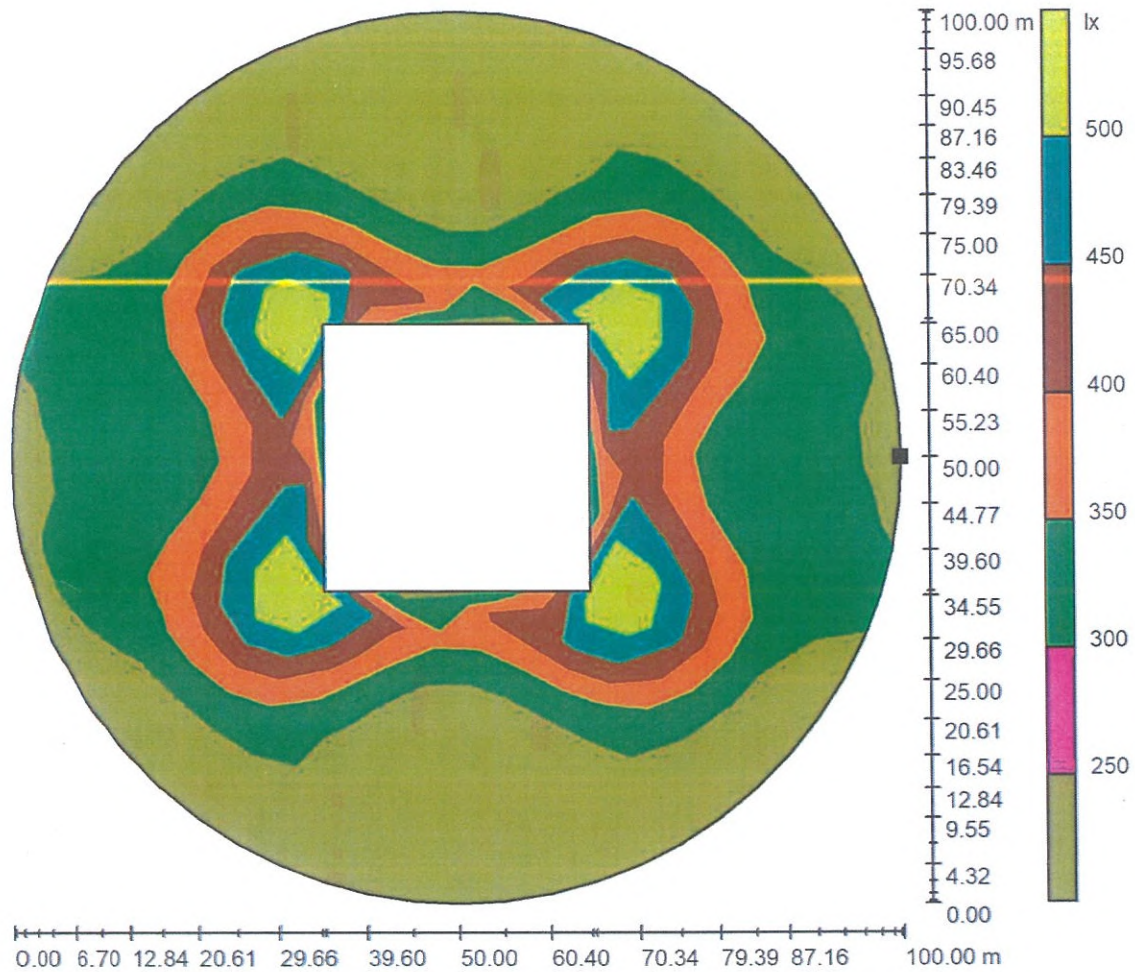
$E_{max}$  [lx]  
568

$u_0$   
0.614

$E_{min} / E_{max}$   
0.365

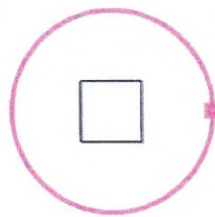


Exterior Scene 1 / Playing Area @ 100 mtr Dia Circular / Greyscale (E)



Scale 1 : 814

Position of surface in external scene:  
Marked point:  
(50.000 m, 0.000 m, 0.000 m)



Grid: 20 x 20 Points

$E_{av}$  [lx]  
337

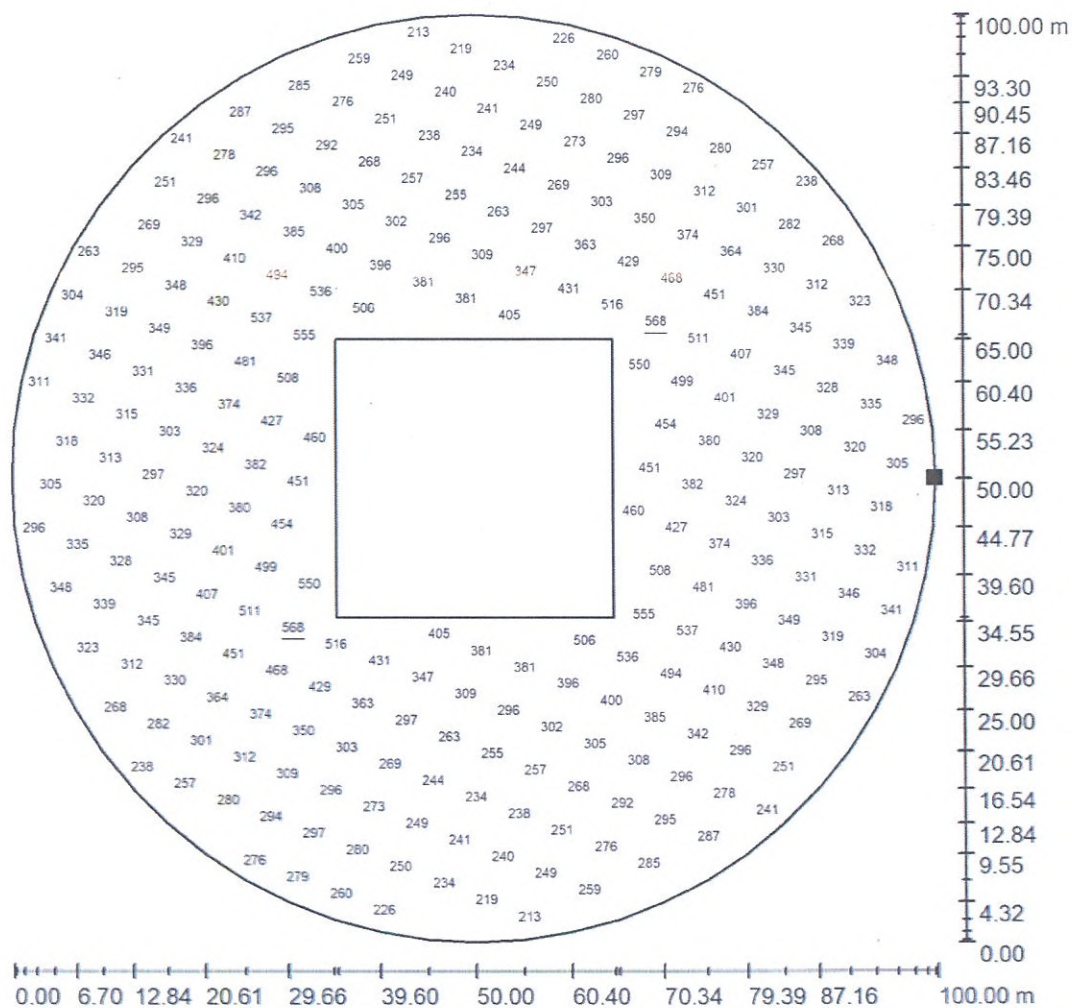
$E_{min}$  [lx]  
207

$E_{max}$  [lx]  
568

$u_0$   
0.614

$E_{min} / E_{max}$   
0.365

### Exterior Scene 1 / Playing Area @ 100 mtr Dia Circular / Value Chart (E)

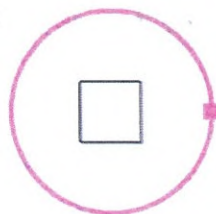


Not all calculated values could be displayed.

Position of surface in external scene:

Marked point:

(50.000 m, 0.000 m, 0.000 m)



Grid: 20 x 20 Points

$E_{av}$  [lx]  
337

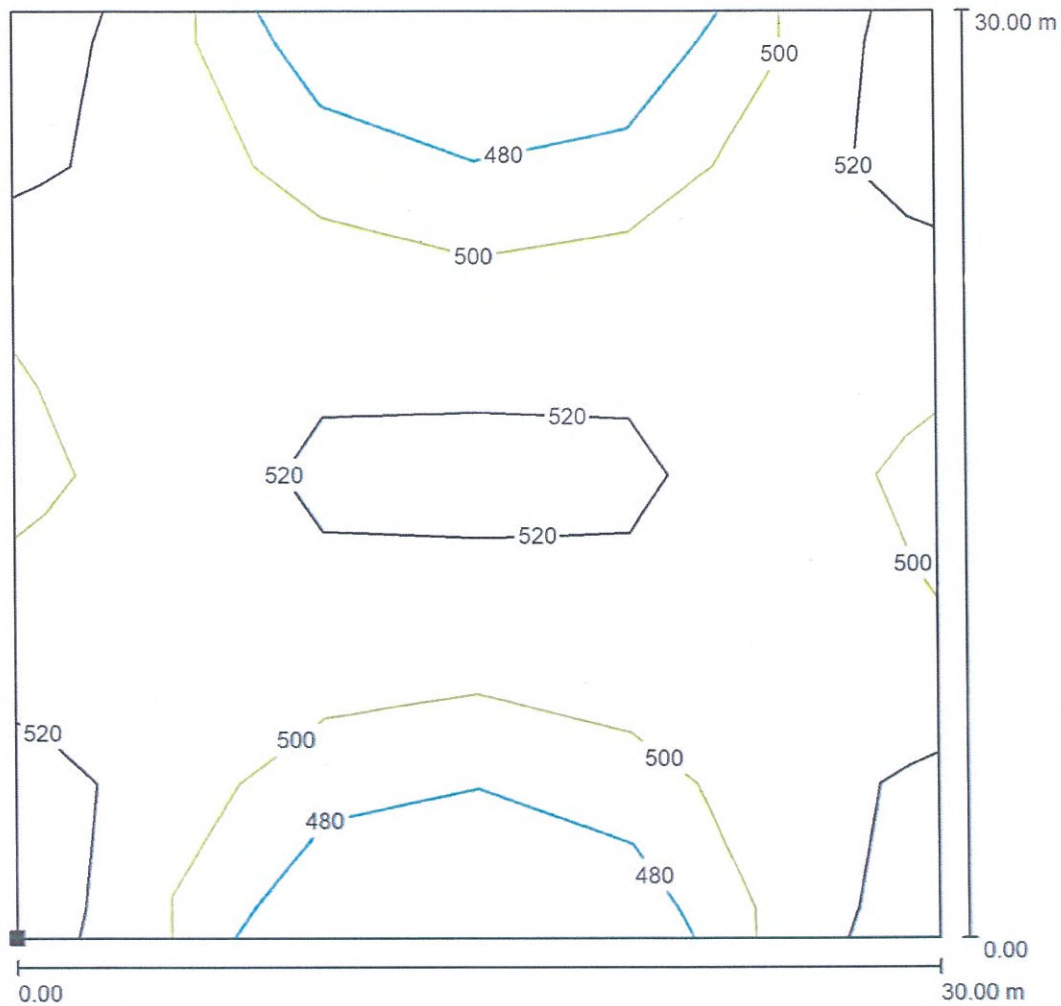
$E_{min}$  [lx]  
207

$E_{max}$  [lx]  
568

$u_0$   
0.614

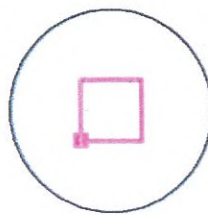
$E_{min} / E_{max}$   
0.365

### Exterior Scene 1 / 30mtr x 30 mtr playing area / Surface 1 / Isolines (E)



Values in Lux, Scale 1 : 235

Position of surface in external scene:  
Marked point:  
(-15.000 m, -15.000 m, 0.000 m)



Grid: 6 x 6 Points

$E_{av}$  [lx]  
508

$E_{min}$  [lx]  
461

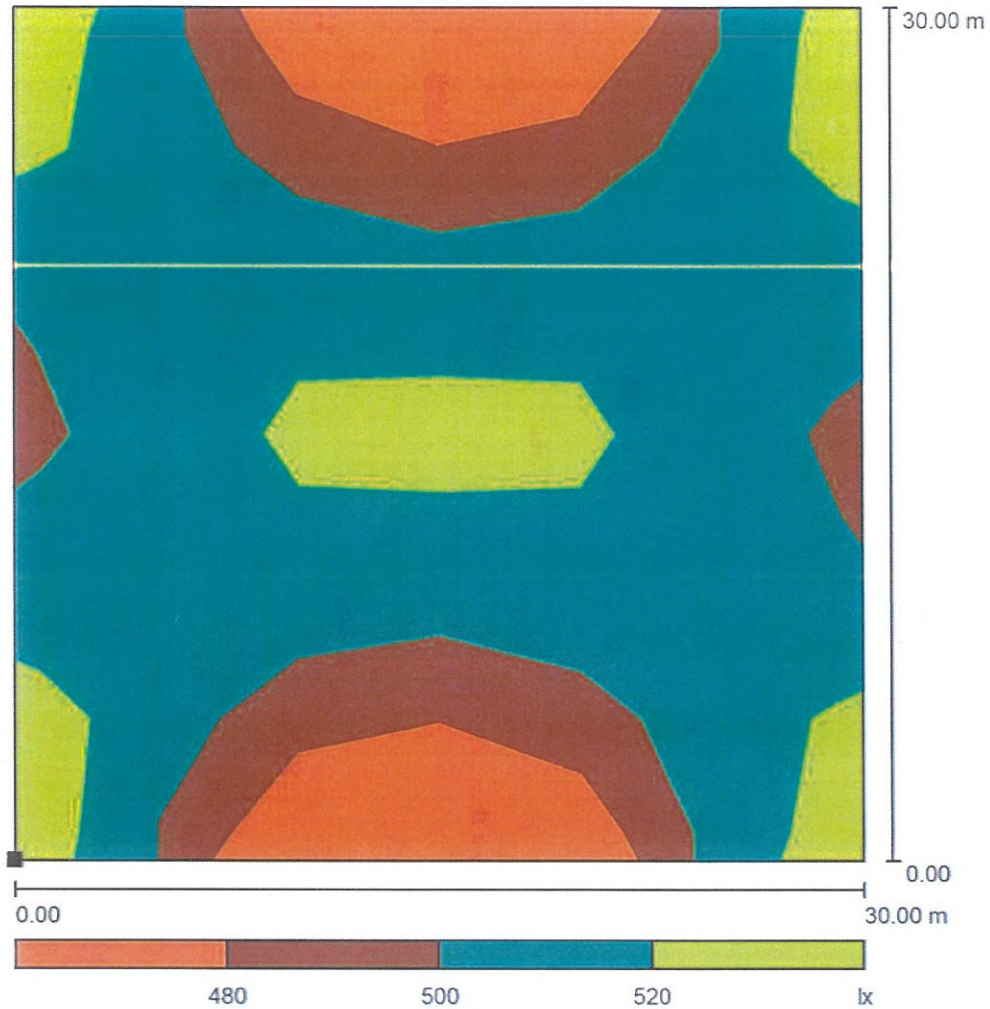
$E_{max}$  [lx]  
532

$u_0$   
0.907

$E_{min} / E_{max}$   
0.866

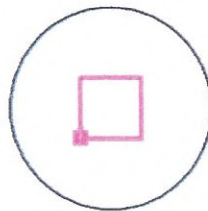


Exterior Scene 1 / 30mtr x 30 mtr playing area / Surface 1 / Greyscale (E)



Scale 1 : 255

Position of surface in external scene:  
Marked point:  
(-15.000 m, -15.000 m, 0.000 m)



Grid: 6 x 6 Points

$E_{av}$  [lx]  
508

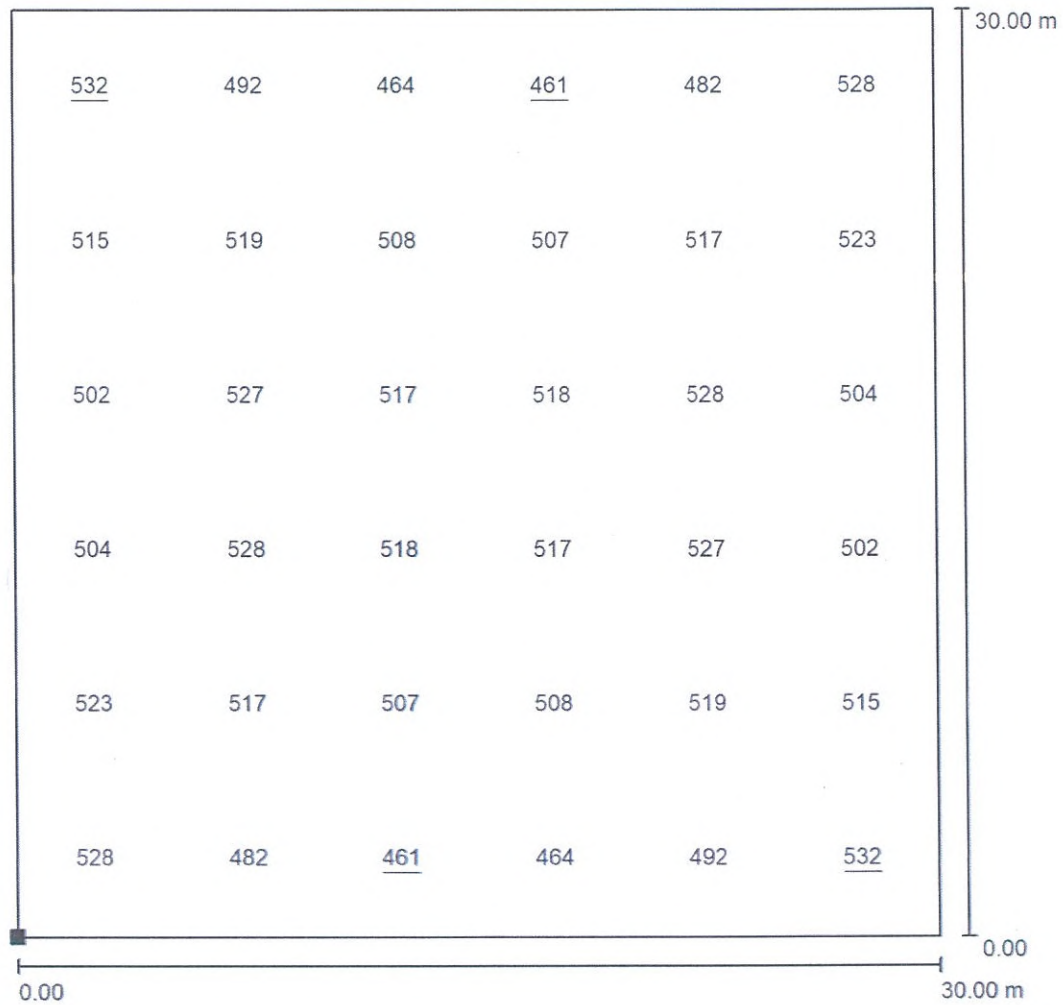
$E_{min}$  [lx]  
461

$E_{max}$  [lx]  
532

$u_0$   
0.907

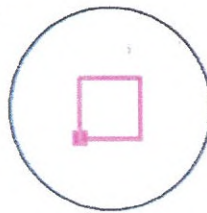
$E_{min} / E_{max}$   
0.866

### Exterior Scene 1 / 30mtr x 30 mtr playing area / Surface 1 / Value Chart (E)



Values in Lux, Scale 1 : 235

Position of surface in external scene:  
Marked point:  
(-15.000 m, -15.000 m, 0.000 m)



Grid: 6 x 6 Points

$E_{av}$  [lx]  
508

$E_{min}$  [lx]  
461

$E_{max}$  [lx]  
532

$u0$   
0.907

$E_{min} / E_{max}$   
0.866

## LT EXECUTIVE DESIGN SUMMARY:

Based on the details of tentative drawing and the type of sports shared. Fixtures has worked out the optimized design proposal for various sports as summarized below.

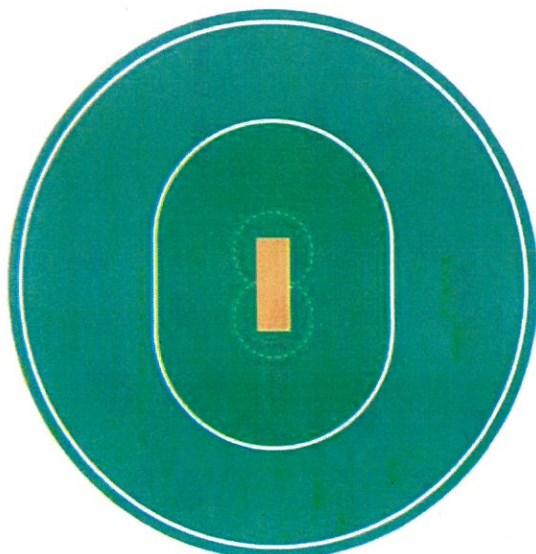
### CRICKET

#### Design Criteria

Size of FOP considered	100 Mtrs dia circular field.
Lighting Standard	AGFIS Guide for Artificial sports lighting Class II
Lux level requirement	<b>Pitch</b> Horizontal illuminance Avg >500 Lux,u2>0.70 <b>Outfield</b> Horizontal illuminance Avg >300 Lux,u2>0.50
Lighting quality requirements	<ul style="list-style-type: none"><li>• CRI &gt;70</li><li>• Maintenance factor 0.85</li><li>• Glare &lt;50</li></ul>

#### Design summary

High mast	30Mtr mast up to top of headframe – 4 Nos (suitable to fix 24 nos. of 400 W luminaries with 10% Additional Capacity
Reference Luminaire Considered.	LT Transformer G20 400W Sport Flood Light 24 Nos per Mast







## **SECTION - X**

---

### **PROFORMA OF SCHEDULES A, B, C, D, E AND F**

---

## SECTION X

### PROFORMA OF SCHEDULES A, B, C, D, E AND F

#### **SCHEDULE 'A'**

Schedule of quantities - ... As per BOQ .....

#### **SCHEDULE 'B'**

Schedule of material to be issued to the contractor.

SI. No.	Description of Item	Quantity	Rates in figures & words at which the material will be charged to the contractor	Place of Issue
.....Nil.....				

#### **SCHEDULE 'C'**

Tools and plants to be issued to the contractor.

SI. No.	Description	Hire charges per day	Rates in figures & words at which the material will be charged to the contractor
.....Nil.....			

#### **SCHEDULE 'D'**

Extra schedule for specific requirement/documents for the work, if any

.....Nil.....

#### **SCHEDULE 'E'**

1. Reference to General Conditions of Contract: General Conditions of contract as per SECTION IV.
2. **Name of work: Supply, Installation, Testing and Commissioning of Flood Light in Upper Ground at IIT (ISM) Dhanbad.**

Estimated Cost of Work:	Rs. 1,94,86,825/- including GST
i. Earnest Money	Rs. 3,89,736/-
ii. Performance Guarantee	5% of Contract Value
iii. Security Deposit	4% of Bill Amount

<b>SCHEDULE 'F'</b>		
	<b>General Rules &amp; Directions</b>	
	Officer inviting tender	Additional Chief Engineer
	Maximum percentage for quantity of items of work to be executed beyond which rates are to determined in accordance with Clause	See Below

	7	
	<b>Definitions</b>	
	Engineer-in-charge	Authorized Representative nominated by WAPCOS.
	Accepting Authority	Chief Executive Director
	Percentage on cost of materials and labour to cover all overhead & profits	15 %
	Standard schedule of Rates	PAR 2021 with correction slips up to last date of submission of bid and Market rate.
	Department	CMU-II
	Standard contract Form	General Conditions of contract as per SECTION IV.

#### Clause 1.

- i. Time allowed for submission of Performance guarantee, Programme Chart (Time and Progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board including Provident Fund Code No. or proof of applying thereof from date of issue of letter of acceptance. : 07 Days
- ii. Maximum allowable extension with late fee @ 0.1% per day of performance guarantee amount beyond the period provided in (i) above : 07Days
- iii. The lowest bidder shall have to execute MOU with OEM in case of lift and OEM/Authorized service centre of OEM for execution of comprehensive maintenance of E & M services. The lowest bidder shall have to submit all MOUs within 10 days from date of opening of Price bid. Only on receipt and verification of all MOUs, the engineerin- charge shall award the work. In case of Non submission or partial submission of MOUs the work shall not be awarded and the EMD will be forfeited. : 10 Days

#### Clause 2.

Authority for fixing compensation for not attending the complaint or non- deployment of labour as per time limit mentioned in Special Condition of Contract as per Section 4 Engineer-in-charge

#### Clause 3.

Number of days from the date of issue of letter of acceptance for reckoning date of start of work. 7 Days

Time allowed for execution of work 03 months



F 3.1			
<b>(a) Schedule of Handing over of site.</b>			
Part	Portion of Site	Description	Time period for handing over reckoned from date of issue of letter of acceptance
<b>1</b>	<b>2</b>	<b>3</b>	
Site is available			
<b>(b) Schedule of issue of Designs.</b>			
Part	Portion of Site	Description	Time period for handing over reckoned from date of issue of letter of acceptance
<b>1</b>	<b>2</b>	<b>3</b>	
	<b>NA</b>		

<b>F 3.2</b>		
Nature of Hindrance Register		Physical
<b>Clause 4</b>		
All measurements of all items having financial value shall be entered by the contractor and compiled in the shape of the Computerized Measurement Book		Yes
<b>Clause 5</b>		
Gross work to be done together with net payment/ adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment		Monthly payment shall be made to contractor on submission of monthly RA bill
<b>Clause 6</b>		
No Running Account Bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable are submitted by the contractor to the Engineer-in- Charge.		Yes

#### Clause 7

Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 7 :	
In the case of extra item(s) (items that are completely new, and are in addition to the items contained in the contract), the contractor may within fifteen days of receipt of order or occurrence of the item(s) submit market rate claim rates, supported by proper analysis which shall include invoices, vouchers etc. and Manufacturer's specification for the work failing which the rate approved later by the Engineer- in- charge shall be binding and the Engineer-in-Charge shall within prescribed time limit of the receipt of the claims supported by analysis , after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid	<b>100%</b>

<p>in accordance with the rates so determined, failing which it will be deemed to have been approved Deviation, Substituted Items.</p> <p>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</p> <p>(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).</p> <p>(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). 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 (as per invoice, vouchers from the manufacturers or suppliers submitted by the agency and duly verified by Engineer in Charge or his representative) and the contractor shall be paid in accordance with the rates so determined. The prescribed time limit for finalizing rates for Extra Item(s), Substitute Item(s) and Deviated Quantities of contract items is within 45 days after submission of proposal by the contractor without observation of the Engineer-in-Charge.</p>	
<p>The provisions of the preceding paragraph shall also apply to the decrease in the rates of items for the work in excess of the limits laid down in Schedule F, and the Engineer-in-Charge shall after giving notice to the contractor within one month of occurrence of the excess and after taking into consideration any reply received from him within fifteen days of the receipt of the notice, revise the rates for the work in question within one month of the expiry of the said period of fifteen days having regard to the market rates.</p>	
<p>Competent Authority for deciding reduced rates.</p>	<p>Chief Executive Director</p>

## Clause 8

<p>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 as decided by the authority</p>	<p>Engineer-in-charge to decide penalty for each default Clause</p>
--	---

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 9

<p>The contractor shall submit by the 4th and 19th of every month, to the Engineer-in-Charge, a true statement showing in respect of the second half of the preceding month and the first half of the current month respectively:-</p> <ol style="list-style-type: none"> <li>1. the number of labourers employed by him on the work,</li> <li>2. their working hours,</li> <li>3. the wages paid to them,</li> <li>4. the accidents that occurred during the said for night showing the circumstances under which they happened and the extent of damage and injury caused by them, and</li> <li>5. the number of female workers who have been allowed maternity benefit and the amount paid to them. Failing which the contractor shall be liable to pay to Government, a sum as decided by the authority for each default or materially incorrect statement. The decision of the Addl. Chief Engineer, WAPCOS shall be final in deducting from any bill due to the contractor, the amount levied as fine and be binding on the contractor.</li> </ol>	Engineer-in-charge or equivalent officer in charge of work authority to decide penalty for each default Clause
--	--

#### Clause 10

<p>In the event of the contractor(s) committing a default or breach of any of the provisions of the 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 as decided by the authority for every default, breach or furnishing, making, submitting, filing such materially incorrect statements and in the event of the contractor(s) defaulting continuously in this respect, the penalty may be enhanced to as decided by the authority per day for each day of default subject to a maximum of 5 percent 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.</p>	Engineer-in-charge or equivalent officer in charge of work authority to decide penalty for each default Clause
--	--

#### Clause 11

<p>The contractor shall, at all stages of work, deploy skilled/semi-skilled tradesmen who are qualified and possess certificate in particular trade from Training Institute/Industrial Training Institute/ National Institute of construction Management and Research (NICMAR)/ National Academy of Construction, CIDC or any similar reputed and recognized Institute managed/ certified by State/Central 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</p>	The Addl. Chief Engineer, WAPCOS Limited or equivalent officer in charge of work authority to decide penalty for each default Clause
---	--

<p>approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer-in- Charge. Failure on the part of contractor to obtain approval of Engineer-in-Charge or failure to deploy qualified tradesmen will attract a compensation to be paid by contractor at the rate specified 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. For work costing more than Rs. 10 Crores, and uptoRs. 50 Crores, the contractor shall arrange on site training as per National Skill Development Corporation (NSDC) norms for at least 20% of the unskilled workers engaged in the project in co-ordination with the National Skill Development Corporation (NSDC) for certification at the level of skilled/semi-skilled tradesmen. For work costing more than Rs. 50Crores, the contractor shall arrange on site training as per National Skill Development Corporation (NSDC) norms for at least 30% of the unskilled worker engaged in the project in coordination with the National Skill Development Corporation (NSDC) for certification at the level of skilled/semi-skilled tradesmen. The cost of such training as stated above shall be born by the Government. The necessary space and workers shall be provided by the contractor and no claim what so ever shall be entertained.</p>	
---	--

## Clause 12

<p>Constitution of Dispute Redressed Committee (DRC) - to be nominated by CMD, WAPCOS having jurisdiction of the work.</p>
--

## **SECTION - XI**

---

### **TENDER DRAWINGS**

---

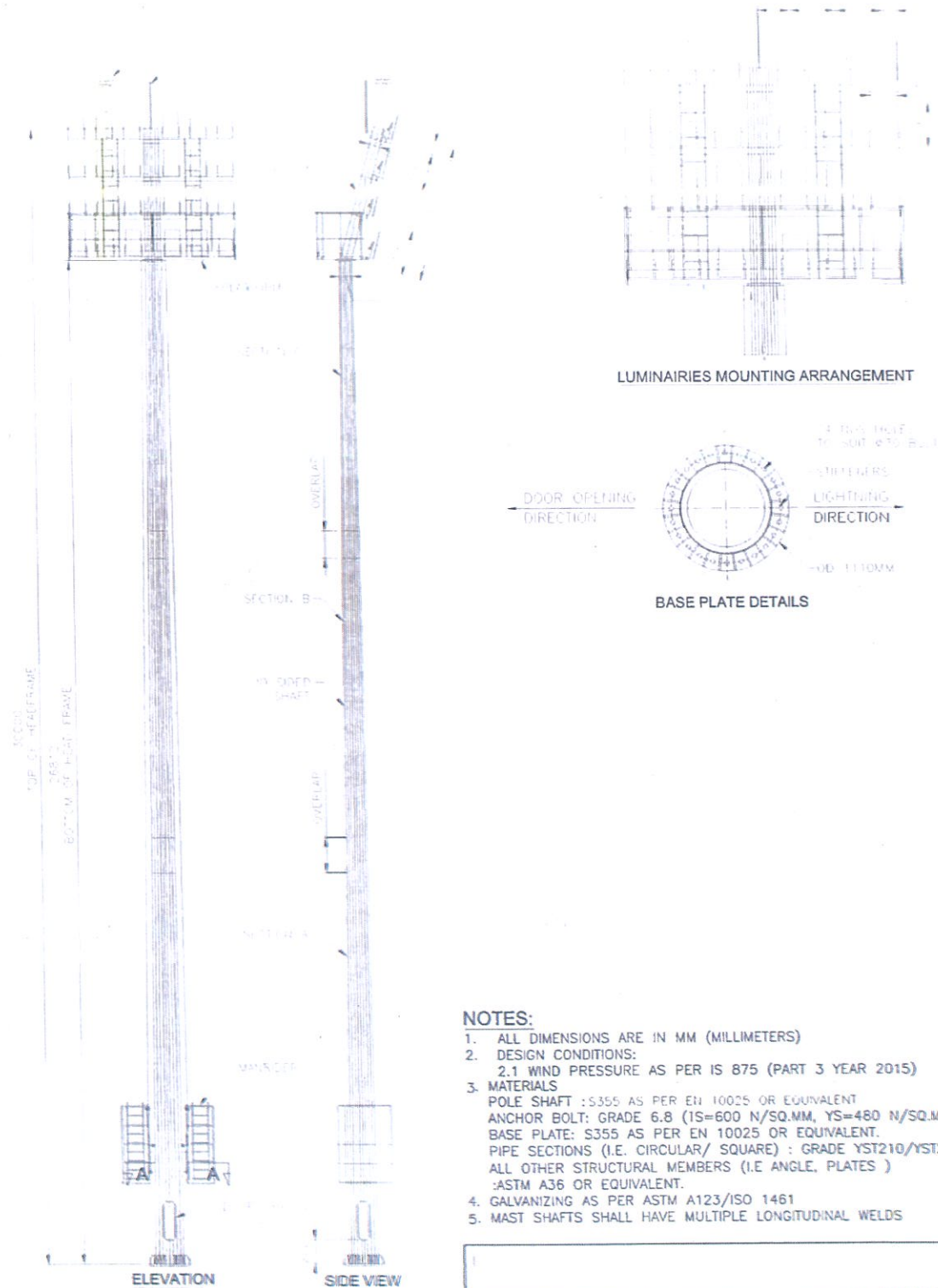






Pole Part. NO.	REV
Bracket Part. NO.	REV
Base Plate Temp. Part No.	REV

# **GENERAL ARRANGEMENT :**

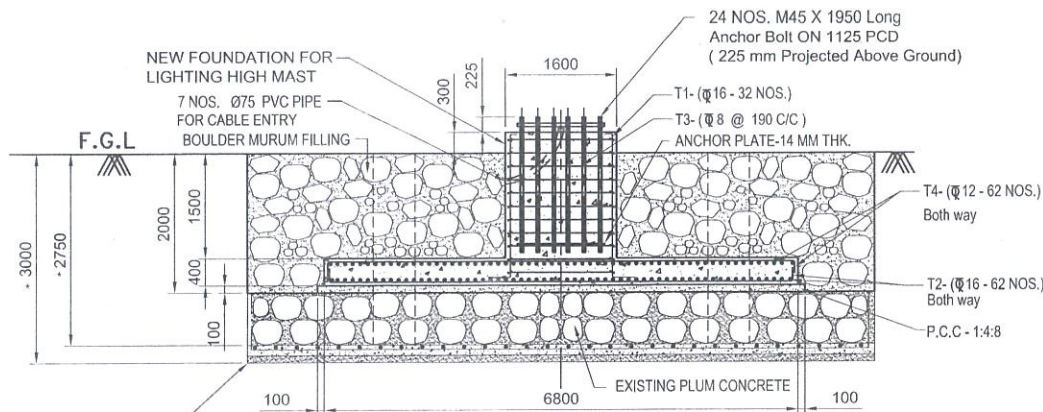


## **NOTES:**

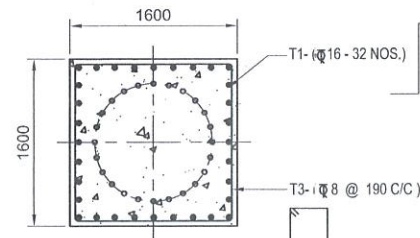
1. ALL DIMENSIONS ARE IN MM (MILLIMETERS)
2. DESIGN CONDITIONS:  
2.1 WIND PRESSURE AS PER IS 875 (PART 3 YEAR 2015)
3. MATERIALS  
POLE SHAFT : S355 AS PER EN 10025 OR EQUIVALENT  
ANCHOR BOLT: GRADE 6.8 (IS=600 N/SQ.MM, YS=480 N/SQ.MM)  
BASE PLATE: S355 AS PER EN 10025 OR EQUIVALENT.  
PIPE SECTIONS (I.E. CIRCULAR/ SQUARE) : GRADE YST210/YST240.  
ALL OTHER STRUCTURAL MEMBERS (I.E. ANGLE, PLATES )  
:ASTM A36 OR EQUIVALENT.
4. GALVANIZING AS PER ASTM A123/ISO 1461
5. MAST SHAFTS SHALL HAVE MULTIPLE LONGITUDINAL WELDS

ALL DIMENSION ARE IN mm	TITLE:	NAME	SIG.	DATE
TOLERANCE WHERE UNSPECIFIED IS: Follow ISO2768m	HIGH MAST 30000mm WITH 24 NOS. K-FLOOD 400W MOUNTING ARRANGEMENT	DGN. AT	AT	16.02.24
SCALE: NTS	PROJECT: Cricket Stadium - ITT ISM Dhanbad	CHK. SAN	TS	16.02.24
		APPD. TS		16.02.24
		DWG NO: 2024-02-HIT-L-012	REV: 1	





**SECTIONAL ELEVATION**



**DETAIL OF PEDESTAL**

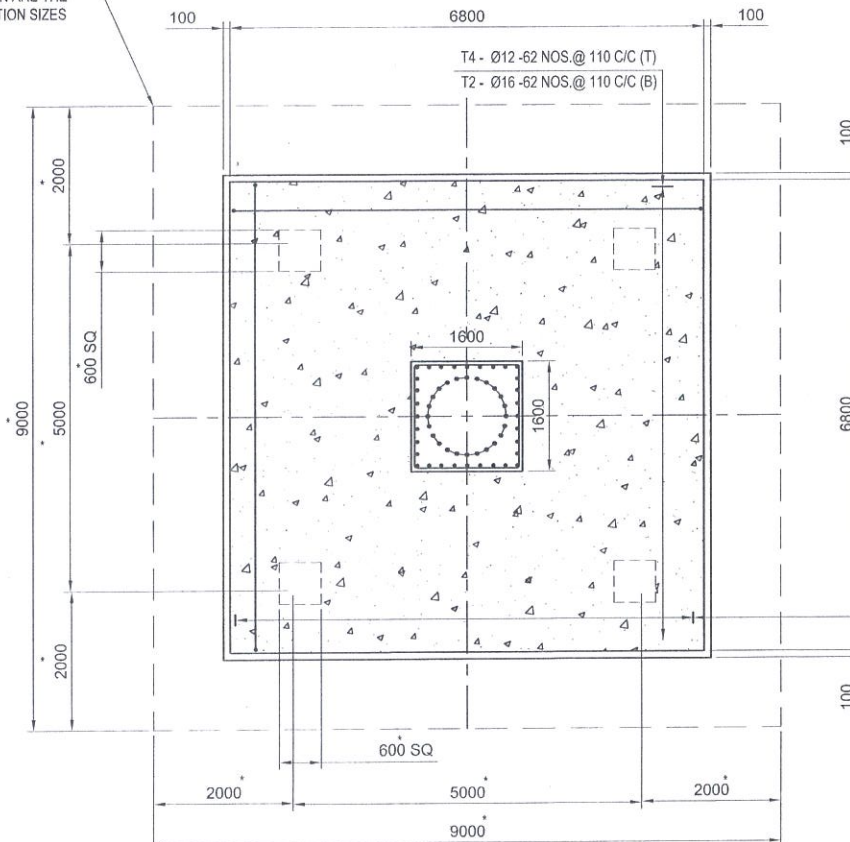
FOUNDATION LOADINGS PER PEDESTAL		
WIND SPEED	M/SEC	40
BENDING MOMENT	T.M	174.932
HORIZONTAL SHEAR	TONNE	4.481
VERTICAL LOAD	TONNE	15.339
NET GR.BEARING PRESSURE	TON/SQ.M	7.232
SAFETY FACTOR AGAINST OVERTURNING		2.838
CONCRETE MIX.	VIBRATED	M-25
MIN. COVER [MM]		50
STEEL		Fe-415
NET SOIL BEARING CAPACITY T/M <sup>2</sup>		10

**QUANTITIES**

RCC IN CUM	PCC IN CUM	WEIGHT IN KG
23.10	4.90	2441.57

**BAR BENDING SCHEDULE**

MK	QTY.	SIZE	LENGTH	SHAPE
T1	32	Ø 16 mm	2495	
T2	124	Ø 16 mm	7100	
T3	12	Ø 8 MM	6192	
T4	124	Ø 12 mm	7100	



**SECTIONAL PLAN**

\* MARKED DIMENSION ARE THE EXISTING FOUNDATION SIZES

REV.	DATE	BY	APPD.
1			

This drawing is the property of "BAAJ ELECTRICALS LTD." & must be returned on request. It is submitted as confidential information in connection with enquiry, tenders, orders or contracts. It is not to be used for any other purpose or order nor may it re-copied or text without our authority in writing.

PROJECT	FLOODLIGHTING for Cricket Field at Upper Ground
TITLE	GENERAL ARRANGEMENT DRAWING OF FOUNDATION
DRAWN BY	SK
CHECKED BY	SRS
APPROVED BY	
DATE	
SCALE	1 -
DRAWING FILE No.	

## **SECTION - XII**

---

### **FINANCIAL PROPOSAL**

---

---

## **SUMMARY OF COST**

---

**SUMMARY OF COST FOR PERCENTAGE RATE TENDER**

Description	Percentage Quoted (Excess / Less / at par)	Total Amount as per % Quoted (Including GST) (Rs.)
Supply, Installation, Testing and Commissioning of Flood Light in Upper Ground at IIT (ISM) Dhanbad.	<b>DO NOT FILL PERCENTAGE HERE</b>	<b>DO NOT FILL COST HERE</b>
Total amount in words:  <b>DO NOT FILL COST HERE AS IT IS TECHNICAL PROPOSAL FILE</b>		

**Note:-**

- *The Performa for filling the percentage rate is given in Microsoft excel sheet. Bidder shall fill the percentage only up to two decimal place in soft format. The bidder will upload same filled percentage quote in soft Microsoft Excel copy during uploading of financial bid.*
- *The Bidder shall quote Percentage up to two decimal only in bill of quantity of tender.*
- Prices quoted by the Bidder shall include all Materials, Tools & Plant, labour, supervision, profit; other levies together with all general risks, liabilities and obligations set out or implied in the contract, applicable Labour Cess, cost of insurance to this contract, all applicable tax liabilities like Income Tax & Surcharges, etc. Any other taxes /cess as per Government directives shall be deducted from each bill paid to the Contractor, from time to time. Prices quoted by the Bidder shall inclusive of GST. 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 Contractor shall issue Tax Invoices to the Employer showing (i) Basic amount (ii) GST amount separately in each bill. 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 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.

---

## DETAILED BILL OF QUANTITY

---

<b>Name of Work: Supply, Installation, Testing and Commissioning of Flood Light in Upper Ground at IIT (ISM) Dhanbad</b>		
<b>TOTAL COST OF WORKS</b>		
<b>Sl. No.</b>	<b>Description</b>	<b>Amount (in Rs.)</b>
A	High Mast Towers with Manrider and Manrider Panel Flood Light	₹ 1,94,86,825
B	<b>Total Amount (including GST)</b>	<b>₹ 1,94,86,825</b>

Bill of Quantities (BoQ)						
Name of Work: Supply, Installation, Testing and Commissioning of Flood Light in Upper Ground at IIT (ISM) Dhanbad						
Sports Lighting for Upper Cricket Ground (Class II Non Televised Level 500 Lux) (Highmast, Manrider, Foundation, Sports Light Fixture, Mast Rider Panel, Mast Lighting Panel, Earthing etc.)						
Sl. No.	Reference DSR 2022 (M&E) DSR2023 (Civil)	Description of Item	Quantity	Unit	Unit Rate (in Rs.)	Amount (in Rs.)
A		<b>Highmast Towers with Manrider and Manrider Feeder Panel</b>				
A.1	NDSR-01	Fabrication, Supply, Erection, Testing and Commissioning of 30 Mtrs Lighting High Mast including head frame height fabricated as per attached specifications suitable to fix 24 Nos. of 400 W luminaries with 10 % Additional Capacity, Lightening Arrestor, Double dome LED type aviation obstruction light and Earthing spikes in cricket ground, suitable for wind Velocity of 50 Mtrs / Sec. Total weight of the high mast including head frame weight and caged ladder shall be minimum 5417 KG and also provide Lightning arrester with Aviation obstruction light. The complete system shall be supplied with necessary accessories like foundation bolts, anchor plates etc. The manufacturing plant of high mast shall be accredited with ISO9001, ISO14001 and ISO18001 certification. Complete mast along with accessories as per technical specifications.	4.00	Each	1806829.00	7227316.00
A.2	NDSR-02	Supply, Installation, Testing & Commissioning of external power lift man rider unit for accessing the head frame suitable for 30 Mtr High Mast. The unit shall be suitable for safe load carrying capacity of 300 Kg with climb speed not exceeding 9m/min. A trouble free fall arrestor system shall be provided as protection against failure of the main wire rope. The fall arrestor system shall be operated automatically without any manual interference by the integral power tool system operated with the help of suitable winch in the base section of the mast. The Manrider cage shall be provided with suitable wheels for easy transportation from one mast to another.	4.00	Each	157790.00	631160.00
A.3	NDSR-03	Design, Manufacturing, Supply, Installation, Testing and Commissioning of Electrical feeder pillar for high mast with all accessories including required foundation. The feeder Pillar enclosure shall provide a degree of protection not less than IP-65 in accordance with IS-2147  System: 415V, 32A, TPN, 50Hz Supply. Construction: Fabricated Out of 14 G CRCA Sheet Steel Outdoor Type, Stand Mounting, Dust & Vermin Proof, IP-65, with 3mm thick FRP Canopy Painting: Panel Cubicle will be Powder coated After Pretreatment. Shade of paint 631 of IS 5. Stand will be Power Coated Black. CABLE ENTRY : BOTTOM [DETACHABLE GLAND PLATE]  Cable size for: 32A Circuit 6 Sq MM (GREY) For starter 2.5 SqMM (Grey)  For Control 1.5 SqMM (Grey) Stand 40 x 40 x 5 M.S. Angle TOLERANCE ON DIMENSION IS +/-MMM (32A TPN MCB 01, 25A TP CONTACTOR 01, 9A TP CONTACTOR 02, 20A Fuse Base with 02A Fuse Link 3 Nos, 6A Control SPMCB, Overload relay -Range 2-3.3A)	4.00	Each	115000.00	460000.00



Bill of Quantities (BoQ)						
Name of Work: Supply, Installation, Testing and Commissioning of Flood Light in Upper Ground at IIT (ISM) Dhanbad						
Sports Lighting for Upper Cricket Ground (Class II Non Televised Level 500 Lux) (Highmast, Manrider, Foundation, Sports Light Fixture, Mast Rider Panel, Mast Lighting Panel, Earthing etc.)						
Sl. No.	Reference DSR 2022 (M&E) DSR2023 (Civil)	Description of Item	Quantity	Unit	Unit Rate (in Rs.)	Amount (in Rs.)
<b>B</b>		<b>Sports LED Floodlight Fittings</b>				
B.1	NDSR-04	Supply, installation, testing and commissioning of Minimum 400W LED Flood light with 30 deg beam angle LED Floodlight with system power consumption of the following wattage ratings. Housing made of die cast aluminium for efficient thermal management, sturdiness & corrosion resistance. Laser locatar on fixture should be provided, SS hardware, silicon gasket for IP66 protection, IK08 rated and operating ambient temperature of -10°C to +45°C. Built-in, IP 67 potted electronic LED driver with APFC, 140-270V operating voltage, PF≥0.95, THD ≤10%, Surge Voltage Protection up to 10 kV With Built In SPD, other safety test as per IS 15885 Part-2/Sec 13 and CISPR 15 complied. High efficiency long life LED module mounted on MCPCB with average life shall be L70 B50 50000 hrs, LED efficiency> 145-150 LPW, system efficiency ≥120 LPW, CRI> 70. UV Stabilized symmetrical distribution polycarbonate lens. Tempered protective toughened glass 4 mm, thermal shock and impact resistant (IK-07) fixed to the housing with aluminium frame and SS screws. Wall or surface mounting using adjustable MS cradle of thickness 4 mm with SS angular dial is provided with the fixture for precise angular mounting of luminaire. LM 79 report as tested in NABL certified lab & LM 80 report from LED chip manufacturer. Luminaire manufacturers should have in-house facility accredited by NABL & any Government certified agency & Design & Development facility certified by ISO 9001:2008. Housing with supplier word mark /name shall be Engraved / Embossing on the die-cast housing/Body part. Warranty of 5 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer.	96.00	Each	45850.00	4401600.00
<b>C</b>		<b>Main Cricket Ground Panel &amp; Electrical Feeder pillar Himast Sports Lighting Panel.</b>				
C.1	NDSR-06	Design, Manufacture, Supply, Installation, Testing and Commissioning of Electrical feeder pillar for high mast Sports Lighting Panel with all accessories including required foundation. The Feeder Pillar enclosure shall provide a degree of protection not less than IP-65 in accordance with IS:2147. SYSTEM: 415V, SOHZ SUPPLY. CONSTRUCTION: FABRICATED OUT OF 14 G CRCA SHEET STEEL. OUTDOORTYPE, STAND MOUNTING, DUST& VERMIN PROOF, IP-65. WITH 3MM THICK FRP CANOPY WITH DOORS GASKET IP 65 NEOPRENE. PAINTING: PANEL CUBICLE WILL BE POWDER COATED AFTER PRETREATMENT. SHADE OF PAINT 631 OF IS 5. STAND WILL BE POWDERCOATED BLACK. CABLE ENTRY: BOTIOM (DETACHABLE GLAND PLATE 3.0 mm] STAND: 40x40x5 M.S.ANGLE TOERANCE ON DIMENSION IS +/-5MM Incomer - 1 No. 63A, 15kA FPMCCB with SC & OL releases Bus bar - 3 phase and neutral Aluminium busbars Outgoings - 05 nos. with each outgoing feeder comprising of  a) 1 No 20A TPNMCB + 1 No 20A TP Contractor b) 8 No . 10 A DPMCB  The panels shall be complete with all accessories, mounting arrangement	4.00	Each	135000.00	540000.00
<b>D</b>		<b>Cabling &amp; Terminology</b>				
D.1	NDSR-07	Supplying and erecting PVC insulated PVC round sheathed 4 sq.mm (56 no. x 0.30 mm dia.) 3 core flexible multi stranded copper Industrial cable for voltage grade upto 1.1KV (From Light fixture to Highmast Lighting Feeder Panel)	4200.00	Mtr.	145.00	609000.00

Bill of Quantities (BoQ)						
Name of Work: Supply, Installation, Testing and Commissioning of Flood Light in Upper Ground at IIT (ISM) Dhanbad						
Sports Lighting for Upper Cricket Ground (Class II Non Televised Level 500 Lux) (Highmast, Manrider, Foundation, Sports Light Fixture, Mast Rider Panel, Mast Lighting Panel, Earthing etc.)						
Sl. No.	Reference DSR 2022 (M&E) DSR2023 (Civil)	Description of Item	Quantity	Unit	Unit Rate (in Rs.)	Amount (in Rs.)
D.2	5.2	Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc with charcoal / coke and salt as required.	8.00	Each	6855.00	54840.00
D.3	5.11	Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe from earth electrode including connection with G.I. nut, bolt, spring, washer excavation and re-filling etc as required	135.00	Mtr.	706.00	95310.00
<b>E</b>		<b>Himast Civil Foundation Work</b>				
E.1	2.8	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5m in width or 10 sqm on plan), including dressing of sides and ramming of bottom lift upto 1.5 m including getting out the excavated soil and disposal of surplus excavated soil as directed within a lead of 50m				
E.1.1	2.8.1	All kinds of soil	526.77	Cu. M	260.30	137118.54
E.2	2.26	Extra for every additional lift of 1.5m or part thereof in excavation / banking excavated or stacked materials				
E.2.1	2.26.1	All kinds of soil	180.21	Cu. M	126.80	22850.78
E.3	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50m and lift upto 1.5m	349.63	Cu. M	196.00	68527.87
E.4	16.73	Dry stone pitching 22.5 cm thick laid in courses and required profile with hammer dressed stones having no side less than 15 cm, with minimum depth of 20 cm including preparing the bedding surface etc. all complete. (Payment for Stone to be made separately)	196.00	Cu. M	659.05	129173.80
E.5	16.72	Supplying and stacking of hard stone (for stone pitching ) 22.5 cm thick at site	53.14	Cu. M	995.85	52918.67
E.6	4.2	Providing and laying in position ready mixed or site batched design mix cement concrete for plain cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana/Ordinary Portland/Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering and finishing as per direction of the engineer-in-charge; for the following grades of concrete				
		Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the minimum specified cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement				
E.6.1	4.20.1	All works upto plinth level				
E.6.2	4.20.1.2	Concrete of M15 grade with minimum cement content of 240 kg / cum	23.10	Cu. M	8986.15	207616.01

Bill of Quantities (BoQ)						
Name of Work: Supply, Installation, Testing and Commissioning of Flood Light in Upper Ground at IIT (ISM) Dhanbad						
Sports Lighting for Upper Cricket Ground (Class II Non Televised Level 500 Lux) (Highmast, Manrider, Foundation, Sports Light Fixture, Mast Rider Panel, Mast Lighting Panel, Earthing etc.)						
Sl. No.	Reference DSR 2022 (M&E) DSR2023 (Civil)	Description of Item	Quantity	Unit	Unit Rate (in Rs.)	Amount (in Rs.)
E.7	5.33	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland/Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in- Charge for the following grades of concrete.				
		Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement				
	5.33.1	All works upto plinth level				
E.7.1	5.33.1.1	Concrete of M15 grade with minimum cement content of 330 kg / cum	89.34	Cu. M	9504.75	849192.38
E.8	5.9	Centering and shuttering including strutting, propping etc. and removal of form for				
E.8.1	5.9.1	Foundations, footings, bases of columns, etc. for mass concrete	107.52	sqm	392.15	42163.97
E.9	5.22	Steel reinforcement for R.C.C. work including straightening, cutting, bending , placing in position and binding all complete upto plinth level.				
E.9.1	5.22.6	Thermo-Mechanically treated bars of grade Fe-500D or more.	9702.40	kg	107.85	1046403.84
E.10	10.1	Structural steel work in single section, fixed with or without connecting plate, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	3461.36	kg	117.35	406190.81
F		Total amount of NON DSR ITEMS Excluding GST (Section-A= A.1+A.2+A.3, + Section-B =B.1, + Section-C= C.1, Section-D = D.1)				13869076.00
G		Add GST @18% on "F"				2496433.68
H		Total Amount of H (i.e. NON DSR ITEMS Including GST) = F+G				16365509.68
I		Total amount of DSR 2022 items including GST (Section-D= D.2 + D.3)				150150.00
J		Add Additional GSR @ 6% on "I"				9009.00
K		Total Amount of K (i.e. DSR 2022 items including 18%GST) = I+J				159159.00
L		Total amount of DSR 2023 items including GST (Section-E= E.1.1+E.2.1 +E.3+E.4+E.5 +E.6.2+E.7.1 +E.8.1 +E.9.1 +E.10)				2962156.68
M		Grand Total Amount of Work = H+K+L				19486825